Curriculum Prescription and Curriculum Constraint: Second-Year Teachers' Perceptions

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INTRODUCTION

The implementation of state standards and increased accountability measures have generated concerns about the effects of these policies on teachers and their work. Articles and reports describe teachers who lament that the intrinsic rewards of teaching are falling prey to anxiety over testing and excessive external controls over curriculum (Jones et al., 1999; Robertson, 2003; Wilgoren, 2000). Research points to teachers' concerns that they must adopt teaching strategies that conflict with their own views of what constitutes good instructional practice in response to high-stakes testing (Abrams, Pedulla, & Madaus, 2003; McNeil, 2000; Public Agenda & *Education Week*, 2002). Some researchers claim that these negative reactions to standards and accountability cause some teachers to leave the profession (Skinner, 2001; Tye & O'Brien, 2002). Since the policies and the studies documenting teachers' responses to them are relatively new, it is important to conduct research that seeks to better understand new teachers' reactions to curriculum standards and accountability policies.

Considerable attention has been given to the importance of supporting and retaining new teachers (e.g. Berry, Hopkins-Thompson, & Hoke, 2002; Johnson & The Project on the Next Generation of Teachers, 2004; U.S. Department of Education, 2004). It is thus especially important to understand how *new* teachers respond to standards and accountability. Reports of their experiences and perceptions vary. One study involving three new teachers in Virginia concluded that they appreciated standards and found sufficient flexibility within the system to teach the way they wanted (Winkler, 2002). In direct contrast, a study of new teachers in New York, New Jersey, and Connecticut found that many felt that their instructional practice was severely curtailed and that their best option was to leave the profession (Costigan, Crocco, & Zumwalt, 2004). A different set of findings emerged from a study of first- and second-year teachers in Massachusetts. Encountering limited support and faced with the pressures of standards and accountability, these novices wanted additional guidance regarding what and how to teach and were willing to exchange some curriculum freedom for it (Kauffman, Johnson, Kardos, Liu, & Peske, 2002).

These varied findings highlight a need for a systematic look at the perceptions of new teachers about their own level of control over curriculum decisions in the midst of standards and accountability across different states. In this paper, I examine new teachers' perceptions of what I call "curriculum prescription" and "curriculum constraint." I define curriculum prescription as *expectations or requirements regarding content, pedagogy, and assessments* and curriculum constraint as *the perception of having insufficient freedom to make decisions about content, pedagogy, and assessments.*[1] Prescription thus describes the parameters within which the teachers are

[1] Curriculum prescription and constraint are both distinct from curriculum specification, which I define as *detail provided regarding content, pedagogy, and assessments*. Together, these terms describe how much information teachers receive regarding what and how to teach and assess (specification), to what degree they are expected or required to work within those parameters (prescription), and whether they perceive they are unduly restricted by those expectations (constraint). In this framework, curriculum can be specified without being prescribed and prescribed without seeming to be constraining for a particular teacher.

expected to work, while constraint refers to teachers' negative response to those limitations.

BACKGROUND

The term "curriculum" has been defined in many ways. For purposes of this paper, curriculum broadly refers to what to teach, how to teach, and how to assess. Seen this way, curriculum encompasses content (what to teach), pedagogy (how to teach), and assessment (how to tell if students learned it), for these three components are inseparable as teachers make and implement instructional decisions (Wasley, 1994). The most basic decisions regarding curriculum pertain to topics or objectives to address, specific content to teach within those topics, the sequence in which to teach the content, instructional approaches to use, specific actions the teacher and the students will take during a particular lesson, and techniques for assessing students' learning.[2]

Curriculum Prescription and Teachers' Autonomy

Schools have been described as loosely-coupled organizations, meaning that teachers' daily work is largely sheltered from the hierarchy that governs it (Meyer & Rowan, 1978). Teaching typically happens in isolated classrooms behind closed doors (Lortie, 1975). This organizational structure has meant that teachers have traditionally exercised considerable autonomy in making decisions about the curriculum, both the content to teach and the pedagogy employed in teaching it (Schwille et al., 1983; Sosniak & Stodolsky, 1993).

Despite the mystique of teacher autonomy in American schools, teachers do accept many controls and influences over their curriculum decisions. They typically rely heavily on textbooks, which can influence both content and pedagogy (Brophy, 1982; Goodlad, 1984; Woodward & Elliott, 1990). Because of the central role they play in classrooms and their direct relationship to teaching and learning, textbooks and other curriculum materials are seen as a potentially powerful lever for improving teaching and learning (Ball & Cohen, 1996).

In fact, the history of American education is replete with attempts by education reformers to influence or improve teaching practice through the written curriculum (Elmore, 1996; McLaughlin, 1976; Schubert, 1991; Tyack, 1974). But these efforts have had limited success in substantially changing teachers' deeply entrenched beliefs and habits, an essential step in producing lasting change in their practice (Cohen, 1990). Instead, teachers adapt curriculum materials to their interests and skills as well as what they believe to be their students' needs, rarely following the materials precisely as written (McLaughlin, 1976; Schwille et al., 1983; Sosniak & Stodolsky, 1993).

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[2] I compiled this list from a variety of sources. Of course, the field of curriculum studies encompasses much more than this, but these elements of curriculum are sufficient for this study of prescription and constraint.

Various qualitative studies have documented teachers' interest in maintaining autonomy over curriculum, especially how they teach the material (Jackson, 1990; Johnson, 1990; Lortie, 1975). Large-scale quantitative studies have linked teacher control over school policymaking and autonomy in the classroom to greater teacher enthusiasm and commitment (Dworkin, 1987; Ingersoll & Alsalam, 1997). Researchers have noted that autonomy is valued most by the most highly-qualified teachers (Hart & Murphy, 1990; Schubert, Schubert, Thomas, & Carroll, 2002; Schwartz, 1991).

But these interests in maintaining autonomy are not universal. Teachers face different degrees of curriculum prescription and they respond to such requirements differently. Teachers in the same school may view the same curriculum materials and expectations differently; for some the materials provide helpful guidance, for others they are oppressive constraints (Archbald & Porter, 1994; Rowan, 1990). Furthermore, recent work by Richard Ingersoll (2003) suggests that, at least for secondary teachers, having control over instructional issues has little impact on school climate and teacher turnover. He found that secondary teachers' degree of control over social issues, such as discipline, retention, and classroom assignments has a greater effect.

One body of research suggests that, even if teachers voluntarily accept their use, prepared curricula devalue teachers and reduce the professional skill of teaching to a mechanical and joyless task (Apple & Teitelbaum, 1986; Griffin, 1991; McNeil, 1986; Zumwalt, 1988). These researchers argue that there are harmful effects of providing too much curriculum guidance even if following such guidance is not mandatory.

An additional critique along these lines is that new teachers lose the opportunity to develop professionally in meaningful ways if not allowed to grapple with the inherent uncertainties of teaching (McDonald, 1992). Decisions that allow teachers to cope day by day do not necessarily help them to develop (Bullough Jr., 1987). Some critics of textbooks and other forms of prepared curriculum materials warn of an "imprinting" effect, meaning that the curriculum experiences of the early years shape the type of experienced teacher a novice will become (McDonald, 1992; Tanner & Tanner, 1995). They argue that novices who follow a curriculum determined by others without critically examining it and shaping it according to their unique situation will not effectively learn to be more discerning consumers and shapers of curriculum later in their careers. Instead, the argument goes, they will lack the expertise to make good decisions about curriculum or they will develop the habit of uncritically following the designs of others.

Research on the professional life cycle of teachers suggests that new teachers' willingness to follow the plans of others may be part of their development, rather than a barrier to it. Huberman (1989) found that it is typically not until after their early years that teachers begin to assert greater autonomy over the curriculum. Thus, new teachers may closely follow a curriculum developed by others in their novice years, while they are working on other important aspects of teaching such as classroom management. As they develop as teachers, they may have a greater desire to make more of their own decisions.

Standards and High-Stakes Testing

The late 1980s and early 1990s marked a shift in the curriculum control literature from examining the effects on teachers of "teacher-proof" curricula, which provide detailed directions about how to teach, to the effects on teachers of high-stakes testing, which prescribes how students will be assessed. At that time, more states began to require the administration of standardized tests to determine whether students would graduate or, in some cases, whether they would advance to the next grade. These tests often had consequences for schools and educators as well, with schools' scores released publicly and rewards or sanctions given out based on student performance.

Recent national surveys of public school teachers indicate strong support for standards and high-stakes testing, two key components of the accountability policies that dominate current educational policy. According to the research organization Public Agenda, 80 percent of teachers say that "having guidelines for what students should learn helps improve academic performance" and 87 percent say that "students should pass a standardized test to be promoted" (Farkas, Johnson, & Duffett, 2003, p. 12). But the same surveys reveal teachers' concerns about who controls these decisions. Nearly all (93 percent) say that "education professionals, not elected officials" should set academic standards (p. 13).

Researchers have documented many negative effects of the culture of high-stakes testing on teachers. Although the state-mandated tests typically leave decisions about pedagogy, or how to teach, to districts, schools, or individual teachers, the imposition of tests may have a domino effect on pedagogy. Content, pedagogy, and assessment are interwoven in teachers' work, with decisions regarding one area influencing the range of options for the others (Wasley, 1994). For example, effective instruction may vary depending on whether a teacher is preparing students to write an open-ended essay or to complete a multiple-choice test. Therefore, if a particular form of assessment is required, a teacher may feel compelled to teach a certain way, even if that pedagogy is not officially specified or prescribed.

Researchers have documented the effects of external testing on teachers' instructional practice. Teachers report that testing causes their teaching to become less innovative and interesting (Gordon & Reese, 1997). When they feel compelled to engage in test preparation lessons, even though they do not consider that to be good instructional practice, they lose self-confidence and their sense of professionalism (Abrams et al., 2003; Haney, 2000; Jones et al., 1999; Lutz & Maddirala, 1990). It is interesting to note, however, that although 80 percent of teachers fear that "teachers will end up teaching to the tests instead of making sure real learning takes place," only 26 percent report that they themselves "have to spend so much class time preparing students for standardized tests that real learning is neglected" (Public Agenda & *Education Week*, 2002). Test teaching practices, as compared to inquiry-based teaching practices, occur more often in schools serving low-income students (Firestone, Camilli, Yurecko, Monfils, & Mayrowetz, 2000; McNeil & Valenzuela, 2000). Some researchers attribute teacher attrition to the high-stakes testing environment (Skinner, 2001; Tye & O'Brien, 2002) and suggest that these effects are more pronounced at low-income schools (Prince, 2002).

It is likely that new and experienced teachers respond differently to standards and accountability because experienced teachers face the challenge of adapting their practice to the new realities and new teachers are just beginning their careers. A study of six teachers in Virginia found that, while the experienced teachers felt threatened by the state standards and test, the new teachers appreciated the direction provided by the standards and the opportunities for collaboration with colleagues that it provided. These new teachers felt that they had sufficient pedagogical and content freedom within the guidelines of the standards (Winkler, 2002). In stark contrast to the findings from Virginia, researchers found in a study of several graduates of the same teacher education program that new teachers in New York, New Jersey, and Connecticut were deeply troubled by the high-stakes testing environment (Costigan et al., 2004). They reported that many new teachers found the high-stakes testing climate to be devastating as an introduction to teaching; mandated curriculum, scripted lessons, and the pressure to improve scores without adequate support for accomplishing this end are the chief factors driving them out of teaching (p. 133).

Interviews with new teachers in Massachusetts reflect a situation that falls between those described in the Virginia and New York studies. Many new teachers indicate that they desire greater guidance and are perhaps more willing than their experienced colleagues to accept constraints on their curriculum decisions (Kauffman et al., 2002). Nevertheless, they typically want to reserve the right to flexibly adapt curriculum to their own students' needs.

These varied findings raise several questions. How widespread are new teachers' concerns about curriculum constraint? Are these concerns about curriculum constraint more prevalent in schools serving predominantly low-income students? Is there evidence to suggest that new teachers' concerns about curriculum constraint are related to state testing requirements? To what degree do new teachers accept what they perceive to be tight curriculum prescription without feeling that they are constrained?

This paper addresses these questions based on quantitative survey data collected from a representative random sample of second-year elementary teachers in Massachusetts, North Carolina, and Washington—three states that have adopted academic standards and mandatory state tests for students. It is a corollary to another paper drawn from this study (Kauffman, 2005) and other writings in which I report the extent and nature of new teachers' concerns about having insufficient curricular guidance (Kauffman & Johnson, 2004; Kauffman et al., 2002). I use a representative random sample so the findings are generalizable to all second-year elementary classroom teachers in these three states. The decision to include only second-year teachers in a study of new teachers was practical—the availability of updated teacher lists early enough in the school year to allow questionnaire distribution and collection—but consistent with research on the professional life cycle of teachers. Teachers are typically in a mode of exploration and survival for their first two or more years before moving on to a stabilization stage in which they achieve a greater sense of instructional mastery (Huberman, 1989). The focus on elementary school teachers allows cross-subject comparisons, because these teachers are typically responsible for teaching several different academic subjects.

I selected Massachusetts, North Carolina, and Washington because these three states each had several common elements of standards-based reform in place in 2002-2003, but still had significant policy differences that make cross-state comparisons interesting (Doherty & Skinner, 2003). Each had adopted state standards and implemented criterion-referenced assessments aligned to those standards. Furthermore, each state placed pressure on schools and teachers by publicizing school-level student achievement data. However, each state had a different level of "high-stakes" at the time of this study, which may influence the pressure that new teachers at tested grade levels report.

Of the three states, North Carolina had the highest stakes. Since 2001-2002, students in grades three, five, and eight had to pass the state's end of grade (EOG) test each year to advance to the next grade, and starting with the class of 2005, students had to pass a comprehensive high school test in order to graduate. In addition, North Carolina schools were subject to sanctions and rewards based on student performance. In Massachusetts, the state's grade ten MCAS test became a graduation requirement starting with the class of 2003, but there were no immediate consequences for students in earlier grades who did not pass the MCAS. There were some sanctions for low-performing schools in Massachusetts, but no rewards for high-performers. Washington had the lowest stakes because the grade ten WASL test will not become a graduation requirement until 2008. Currently, there are no formal sanctions or rewards for schools in Washington, but results are widely published, as they are in North Carolina and Massachusetts.

The availability of state-level curriculum guidance varied across these states as well. The American Federation of Teachers (2001) reviewed the availability of state-level curriculum guidance and found that it varied considerably. They looked for five components of a well-developed system of curriculum support, comprised of grade-by-grade elaboration of: a learning continuum, illustrative instructional resources, diverse instructional strategies, performance indicators, and lesson plans. They reported that North Carolina and Massachusetts each had in place more than half of the components, compared to Washington, which had less than one fourth. Furthermore, of the three state agencies, only the North Carolina Department of Public Instruction produced and distributed lesson plans in language arts and mathematics, although it did not require their use.

METHODS

Sampling and Data Collection Procedures

One of the greatest challenges in conducting large-scale research about new teachers is generating the sample. Obtaining complete and accurate lists of new teachers, especially first-year teachers, is nearly impossible. In the three states included in this study, I obtained comprehensive lists of second-year teachers from the best available sources. Officials at the North Carolina Department of Public Instruction granted access to its state database of teachers. Because that list would not be updated until the Spring, I

instead used a list of first-year teachers from the prior year. Therefore, second-year teachers who had changed schools after their first year would not have been included. The state education departments in Massachusetts and Washington do not maintain teacher databases, so I obtained access to state teacher union membership lists from the Massachusetts Teachers Association, the Massachusetts Federation of Teachers, and the Washington Education Agency. Because charter school teachers in Massachusetts are not union members, I identified those teachers by contacting the schools directly. The only known groups not included on the Massachusetts and Washington lists are the 1.9 percent of certified educators in Washington working in districts not represented by the Washington Education Agency and teachers in five local union affiliates in Massachusetts whose officials did not respond to requests for membership lists.

The lists I received were not completely accurate or up to date, in that they included teachers who were not in their second year, who had left their schools, or were not elementary classroom teachers. Usually, this meant that they were secondary teachers or elementary specialists like art or physical education teachers. Some of these inaccuracies were expected because of conservative decisions about whom to include on the teacher lists. For example, the union lists in Massachusetts included many entries with the teacher's name and address, but no experience level or grade level listed. Rather than potentially exclude eligible teachers, I included the unknown teachers, aware that the ineligible ones would be sifted out during data collection.

I drew a disproportionate stratified random sample in order to ensure sufficient numbers from each state so that I could conduct within-state analyses (Levy & Lemeshow, 1999). To do so, I selected a separate simple random sample from each state, including 300 teachers from Massachusetts, 286 from North Carolina, and 286 from Washington.[3] After removing ineligible teachers, the sample consisted of 439 second-year, elementary, classroom teachers—91 in Massachusetts, 149 in North Carolina, and 199 in Washington.

Because the population of second-year teachers from which the sample was drawn differs in size across the three states, it was necessary in analyses of the full data set to apply sampling weights to account for the resulting over-sampling and under-sampling (Levy & Lemeshow, 1999). Except where noted, all reported data have been adjusted by the sampling weights (pweight = .172 for WA, .462 for MA, and .366 for NC).

To maximize the response rate, I used persistent data collection strategies (Dillman, 1991), modeled after techniques designed by Kardos (2004) and Liu (2004). In March 2003, I sent all teachers in the sample a letter briefly explaining the study and offering a fifteen-dollar gift certificate for an online bookseller to those who completed the questionnaire. Soon after, I sent the questionnaire with a cover letter, followed after approximately two weeks with a reminder to non-respondents. I subsequently sent an additional four reminders, sometimes with a copy of the questionnaire, at two to four week intervals until the school year ended. This resulted in the return of 295 eligible

[3] In order to include all possible second-year teachers, I included teachers from the Massachusetts Teachers' Association about whom I had limited information, knowing that I could purge them from the sample if they proved to be ineligible. To adjust for the possibility of some being ineligible, I drew an additional 14 teachers from the Massachusetts list.

surveys for a response rate of 67 percent. Table 1 displays a description of the respondents.

Table 1: Description of Respondents With Percentages and Counts. Total sample, weighted and unweighted (n=295)

	n	%	% weighted		n	%	% weighted
Gender				**Career Stage**			
Female	267	90.5	90.8	First-Career Entrant	185	62.7	61.7
Male	28	9.5	9.2	Mid-Career Entrant	110	37.3	38.3
Race				**Highest Degree Earned**			
American Indian	1	0.3	0.5	Bachelor's	218	73.9	73.8
Asian	9	3.1	2.2	Master's	77	26.1	26.2
African American	13	4.4	5.2				
Hispanic / Latino	6	2.0	2.5	**Grade Level**			
White	263	89.2	88.7	Primary (K-2)	113	38.3	37.1
Other	3	1.0	0.9	Intermediate (3-5)	168	57.0	58.1
				Primary/Intermediate	14	4.8	4.8
Age				**Type of class**			
22-29	195	66.1	64.3	Regular education	246	83.4	79.3
30-39	63	21.4	22.1	Special education	21	7.1	8.6
40-49	30	10.2	10.5	Inclusion	12	4.1	5.8
50-59	6	2.0	2.7	Bilingual education	10	3.4	4.6
60-63	1	0.3	0.4	Other	6	2.0	1.7

Due to the protection of teachers' identities by the unions, the only data available about all non-respondents were gender (inferred from their names) and the state in which they taught. There is no evident sample bias based on either of these factors. The response rate was almost identical across the three states: 66 percent in Massachusetts, 68 percent in North Carolina, and 67 percent in Washington. Additionally, a chi-square test revealed no statistically significant differences by gender between the respondents and non-respondents, either in the whole sample or within each state.

Measures and Data Analysis

Survey Instrument. I developed the survey instrument for this study based on two previous qualitative studies (Kauffman, 2002; Kauffman et al., 2002), a review of the curriculum and questionnaire design literature (Rea & Parker, 1997; Sudman & Bradburn, 1982), an inspection of questionnaires on related topics (Center for the Study of Teaching and Policy, 2001; Kennedy, Ball, & McDiarmid, 1993; National Center for Education Statistics, 1999), and several rounds of focus groups with current and former teachers. The questionnaire consists of 205 items in five sections. The first section

includes six questions about teaching assignments, such as grade level and subjects taught. The second section includes 33 items regarding the curriculum materials teachers have, how they use them, and their opinions about them. Each of these items requests a separate answer for each subject—mathematics, language arts, science, and social studies. The third section has nine items regarding the official curriculum expectations that teachers encounter, again repeated for each subject. The fourth section inquires about teachers' use of time with four items repeated for each subject. The final section asks nine questions about the teachers' background and personal information.

A final question was attached to the questionnaires for Massachusetts and Washington, asking respondents to identify their school and district. This information had already been provided on the North Carolina teacher list. I gathered school demographic data from the Common Core of Data, which is produced by the U. S. Department of Education's National Center for Education Statistics (NCES).

The analyses for this chapter draw on 50 items from the complete survey instrument, including those questions pertaining to the degree of curriculum prescription in each of the four core academic subjects and to the respondent's background and teaching assignment.

Curriculum Prescription. To create a single measure of curriculum prescription, meaning the expectations or requirements regarding content, pedagogy, and assessments for each subject area, I computed the average (arithmetic mean) of the responses to each of six items about the extent to which the respondent is encouraged or required to follow guidelines regarding certain curriculum components:

a) Cover certain general topics, objectives, or standards
b) Teach specific content (skills and/or knowledge)
c) Follow a particular timeline or sequence for the year – this could include following the textbook, teacher's guide, or curriculum guide
d) Use a particular approach to teach the subject
e) Follow prepared lesson plans from the teacher's guide, the textbook, a detailed curriculum guide, or another source
f) Periodically administer certain tests or other assessments (not including standardized tests)

I excluded item g from the composite because the survey allows respondents to opt out of the question for science and social studies if that subject is not tested in their state:

g) Explicitly prepare students for the state test or other standardized tests in this subject; for example, teach test-taking skills, practice sample test items, format classroom assessments like standardized tests, etc.

Response choices ranged from 1 to 4 on the following scale:

1 = "Left completely up to me"
2 = "Encouraged"
3 = "Required, but nobody checks" and
4 = "Required, and somebody checks"

Because they are simple averages of these six items, data in the composite variables also range from 1 to 4. To minimize the number of missing cases when creating the composite variables, I imputed missing values using Stata's impute command, which allows users to

regress the variable with missing values on one or more related variables. Table 2 displays teachers' average responses regarding prescription of each curriculum component. (See Table A1 in the Appendix for the percentage of teachers selecting each answer choice.)

Table 2: Average Level of Prescription Reported by Second-Year Teachers for Each Curriculum Component; Summary by Subject Area.
Weighted Averages. Standard Errors in Parentheses.

	Math (n=286)	Lang. Arts (n=290)	Science (n=272)	Soc. Stud. (n=272)
Topic	3.40	3.33	2.95	2.78
	(.04)	(.05)	(.05)	(.06)
Content	3.40	3.30	2.93	2.75
	(.04)	(.05)	(.05)	(.06)
Sequence	2.84	2.60	2.22	2.00
	(.06)	(.07)	(.07)	(.07)
Pedagogy	2.01	2.02	1.65	1.48
	(.07)	(.07)	(.06)	(.06)
Lesson Plan	2.03	1.92	1.70	1.54
	(.07)	(.07)	(.06)	(.06)
Assessment	2.95	3.02	1.97	1.88
	(.07)	(.07)	(.08)	(.08)
Test Preparation (not included in composite measure)	2.64	2.67	n/a	n/a
	(.07)	(.07)		
Average Prescription	2.77	2.70	2.23	2.07
	(.04)	(.04)	(.04)	(.05)

Answer choices: 1 = "Left completely up to me;" 2 = "Encouraged;" 3 = "Required, but nobody checks;" and 4 = "Required, and somebody checks."

The six prescription variables within each subject have a high degree of internal consistency (Cronbach's Alpha = .80 for mathematics, .79 for language arts, .81 for science, and .85 for social studies), reflecting a high degree of reliability for the composite variable. Furthermore, principal component analysis (Jolliffe, 1986) demonstrated that a single composite variable for each subject, with roughly equal weight given to each curriculum element, would capture approximately half of the variation that occurs in the six variables (see Tables A2, A3, A4, and A5 in the appendix for simple correlations; see Tables A6, A7, A8, and A9 for the Eigenvalues resulting from the principal component analysis and Tables A10, A11, A12, and A13 for the Eigenvectors for the first two components for each subject.)[4] By forming the composite variables with simple averages, I simplify the comparison of prescription across subject areas.

Curriculum Constraint. To measure teachers' experiences of curriculum constraint, meaning their perception that they have insufficient freedom to make

[4] The second component resulting from the principal component analysis would have captured approximately 20 percent more of the variation. This second component reflects high prescription of content but low prescription of pedagogy, or vice versa. For every analysis in which I used the prescription composite, I conducted parallel analyses using the two prescription components to see if the results differed.

decisions about content, pedagogy, and assessments, I used responses to the following question:

> Thinking about the curriculum expectations you described … on the previous page, how do you feel about the amount of FREEDOM you personally are given to decide what and how to teach in each subject?

Answers of "there is not enough" were coded as reports of curriculum constraint. Other answer choices were "there is the right amount" and "there is too much."

Other Measures. For questions about testing, I created a variable for each subject to reflect whether it was tested at the grade level the teacher taught. As shown in Table 3, the tested grades varied across the three states during the 2002-2003 school year when data collection for this study occurred.

To measure the socioeconomic status of schools, I used the percentage of students who participate in the federal free or reduced lunch program. Schools in which more than 50 percent of the students participate are coded as low-socioeconomic schools and schools with fewer than 15 percent as high-socioeconomic schools. These definitions are consistent with definitions used in other research (Education Trust, 2003; Johnson, Kardos, Kauffman, Liu, & Donaldson, 2004).

Table 3: Elementary Grade Levels Tested in Each Subject in Different States During the 2002-2003 School Year

	Math	Language Arts	Science	Social Studies
Massachusetts	4th	3rd and 4th	5th	None
North Carolina	3rd, 4th, and 5th	3rd, 4th, and 5th	None	None
Washington	3rd and 4th	3rd and 4th	None (5th starting in 2003-2004)	None

Analysis. I conducted descriptive analyses of the questionnaire data and constructed a series of comparative tables to summarize new teachers' responses in each of the four subject areas. Not all respondents reported teaching all four subject areas, so the sample size varies across the subject areas. Other discrepancies in sample size resulted in cases where there were insufficient data to impute a missing value. I conducted all statistical analyses using Stata 8.2.

FINDINGS

Curriculum Prescription

In this section I describe the extent of curriculum prescription, as reported by second-year teachers in the three states studied. To measure prescription, defined here as expectations and requirements regarding content, pedagogy, and assessments, the survey asked respondents to describe the extent to which they are encouraged or required to follow guidelines related to six different elements of the curriculum—topics, content, sequence, pedagogy, lesson plans, and assessment. In contrast to the questions about curriculum constraint, respondents were not asked for a judgment about whether they were satisfied with a particular level of prescription.

Math and Language Arts Prescribed More than Science and Social Studies. From the perspective of second-year teachers, the curricula for mathematics and language arts are more highly prescribed than those for science and social studies in the three states studied. Figure 1 shows the average level of prescription reported by second-year teachers. The average levels reported for mathematics (2.77) and language arts (2.70) round to the whole number 3, which represents the response "required, but nobody checks." The average levels reported for science (2.23) and social studies (2.07) round to the whole number 2, which represents the response "encouraged."

Content Prescribed More than Pedagogy. In each of the four core academic subjects, second-year teachers' reports of prescription are far more commonplace for academic content than for pedagogy. Teachers have been shown to be more accepting of prescription of content than of pedagogy. Other curriculum components, such as the sequence in which the content is presented and the types of assessments administered, fall in between.

It is informative to examine not just the requirements of what and how teachers are required to teach, but also which requirements are enforced through some form of monitoring. An unmonitored requirement leaves greater discretion to the teacher and thus represents a lower level of prescription. In Figure 2, each complete vertical bar represents the percentage of respondents who indicated that they are required to do something. The lower segment of each bar reflects the percentage of respondents who answered that it is "required, *but nobody checks*" and the upper segment reflects the response "required *and somebody checks*." Complete responses and standard errors are presented in Table A1 in the appendix.

Figure 1: Average Level of Prescription in Each Subject Reported by Second-Year Teachers. Weighted Averages. Standard Errors reported in Table 2 (above).

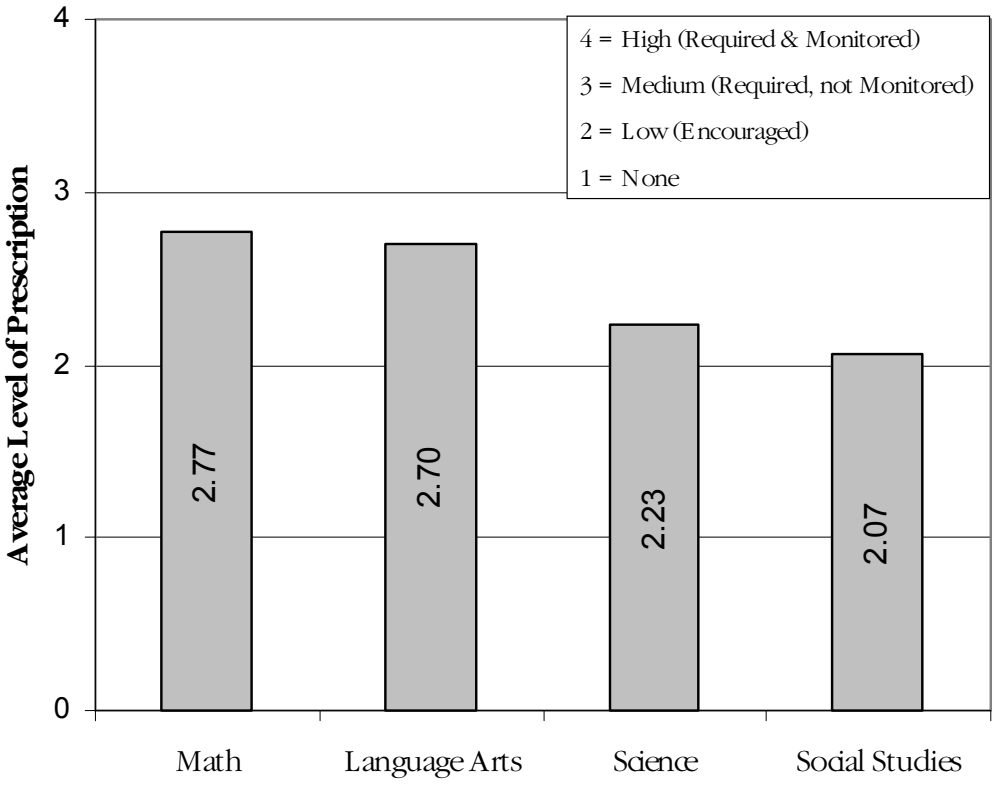
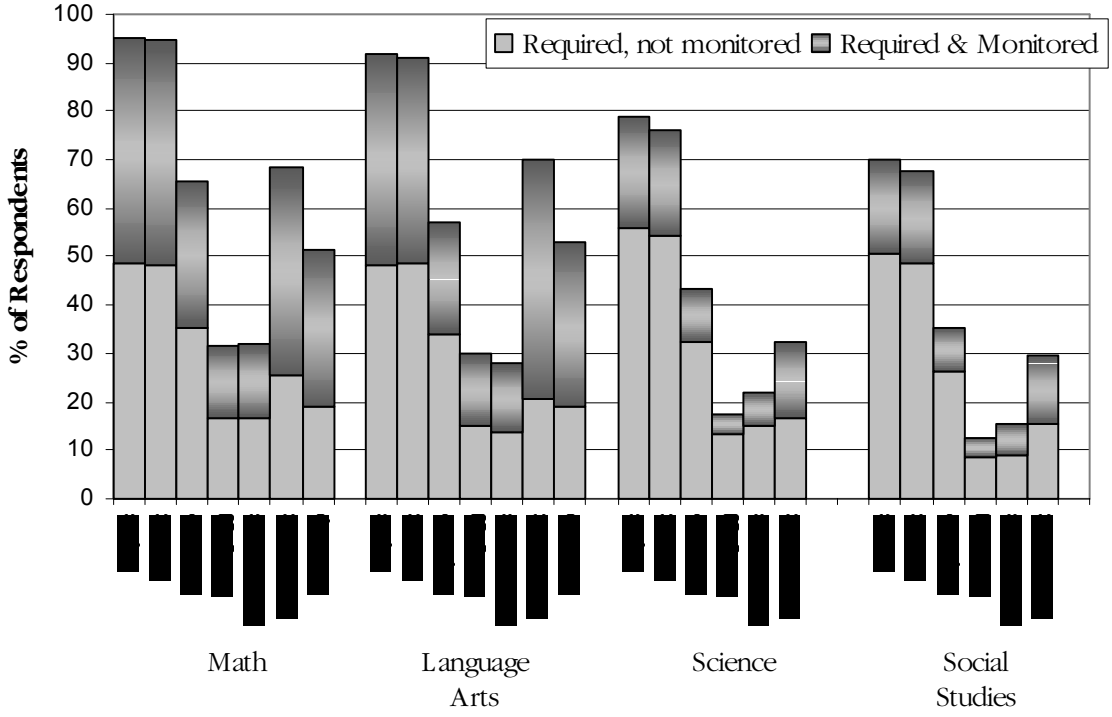


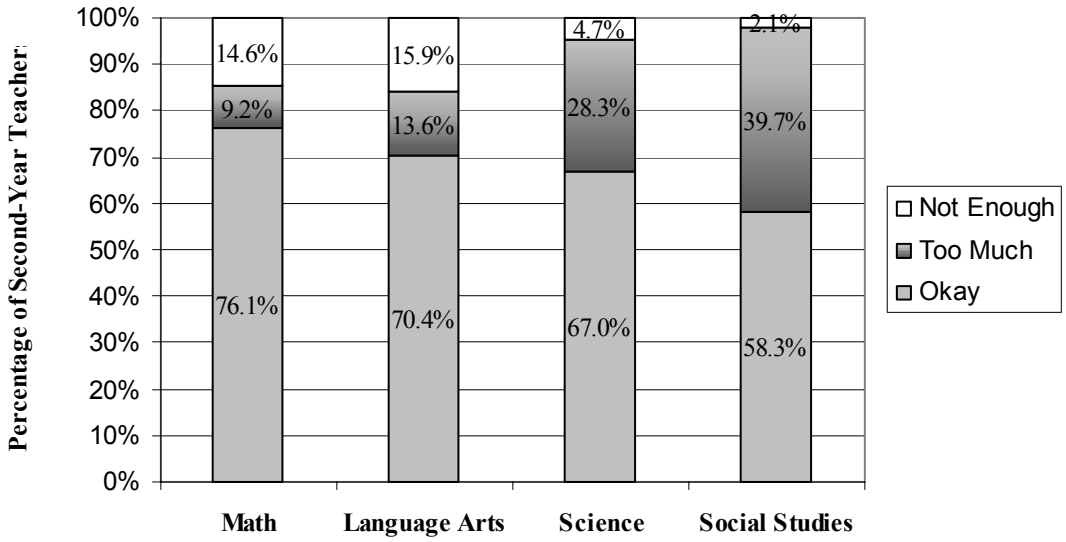
Figure 2: Percentage of Second-Year Teachers Reporting that a Particular Curriculum Component is Required and Monitored. Weighted Average



Curriculum Constraint

Second-year elementary teachers' reports of curriculum constraint, defined as the perception of having insufficient freedom to make decisions about content, pedagogy, and assessments, are subject-specific. Figure 3 shows that second-year elementary school teachers' reports of curriculum constraint are focused primarily on mathematics and language arts. Approximately 15 percent reported that they do not have enough freedom in mathematics (14.6 percent) and in language arts (15.9 percent), compared to a much smaller percentage in science (4.7 percent) and in social studies (2.1 percent). No respondents reported experiencing curriculum constraint in every subject they taught and only 9.5 percent (se=1.8) reported feeling constrained in multiple subjects. This is consistent with the finding presented above that new teachers are more likely to report curriculum prescription in mathematics and language arts.

Figure 3: Second-Year Elementary Teachers' Opinions Regarding the Amount of Curriculum Freedom They Have in Each of Four Subjects. Weighted Averages. See Table A14 in Appendix for Standard Errors and Sample Size.



A likely explanation for the very small percentage of new teachers reporting feelings of curriculum constraint in science and social studies is the relative inattention paid to these subjects in state accountability systems. When data for this study were collected in the school year 2002-03, nearly all states, including Massachusetts, North Carolina, and Washington, had state tests in mathematics, reading, and writing in at least one elementary grade. In contrast, none of the three had social studies tests at the elementary level and only Massachusetts tested science. The external accountability measures likely lead to greater scrutiny of teaching in the tested subjects. Individual differences among teachers, such as the comfort level with the subject area, and sampling errors are likely explanations as well.

Although very few second-year teachers reported experiencing insufficient curriculum freedom in either science or social studies, not all are satisfied with the amount of freedom they have. Actually, a considerable number reported that they have *too much* curriculum freedom in these two subjects – 28.3 percent in science and 39.7 percent in social studies.[5] There appears to be a trade-off between constraint and neglect. Perhaps the conditions responsible for fewer teachers reporting curriculum constraint in science and social studies are also responsible for teachers reporting too much freedom in those subjects. It is important to find the right balance between prescription and freedom.

One simple way to achieve that balance would be to pursue curriculum policies and practices that maximize the percentage of teachers who report that they have the right amount of freedom – neither too much nor too little. If so, one could argue on the basis of these data that for new teachers in the three states studied, the mathematics curriculum

[5] And even greater numbers reported that they lacked sufficient direction in these subjects—56.2 percent in science and 69.2 percent in social studies (Kauffman, 2005).

has a better balance of control and freedom than does the social studies curriculum. The percentage of second-year teachers reporting that they have the right amount of freedom to decide what and how to teach is highest in mathematics (76.1 percent) and lowest in social studies (58.3 percent), with language arts (70.4 percent) and science (67.0 percent) in between. In mathematics, the relatively high percentage of respondents reporting too little freedom is offset by the comparatively low percentage reporting too much. The lack of curriculum guidance, which underlies the reports of excessive curriculum freedom, is explored in detail elsewhere (Kauffman, 2005).

The Uneven Distribution of Reports of Curriculum Constraint

Reports of curriculum constraint among new teachers are not distributed evenly, as shown in Table 4. Reports of curriculum constraint among second-year teachers are more common in certain states, at tested grade levels, and in schools serving high proportions of low-income students.

State. In the three states studied, reports of curriculum constraint in language arts were least prevalent in Massachusetts. Only 5.4 percent of second-year teachers in that state said that they had insufficient curriculum freedom, compared to 16.5 percent in Washington and 23.0 percent in North Carolina. The differences between Massachusetts and each of the other two states are statistically significant. This is not surprising, given that almost half (48.2 percent) of the second-year teachers in Massachusetts report that they receive insufficient guidance in teaching language arts (Kauffman, 2005).

For both mathematics and language arts, reports of curriculum constraint are most common in North Carolina, although not by statistically significant margins. These differences justify a closer look at how variation in curriculum policy and practice across states affect new teachers' experiences. The greater frequency of testing and the stronger accountability system in North Carolina may partially explain the greater reporting of curriculum constraint in that state.

Testing. Second-year teachers reported greater constraint in the subjects that are most tested, mathematics and language arts, than in science and social studies, which are less often tested. More specifically, second-year teachers whose students take a state test in language arts and science reported experiencing curriculum constraint in those subjects at a higher rate than did their colleagues teaching untested grade levels, but the differences are not statistically significant. The biggest gap appears in science, with 16.7 percent of teachers whose students are tested in this subject reporting curriculum constraint compared to only 3.8 percent of others. These results are not conclusive, however, because of the limited number of teachers (n=12) in the sample whose students are tested in science—fifth grade teachers in Massachusetts. In language arts, 18.0 percent of second-year teachers who taught at grade levels where the subject was tested in their state reported curriculum constraint, compared to 13.7 percent at untested grades, but again the difference is not statistically significant. The difference is reversed in mathematics, with teachers at untested grades reporting curriculum constraint at a rate that is slightly higher than at tested grades, but not by a statistically significant margin.

Table 4: Percentage of new teachers reporting insufficient curriculum freedom according to certain school characteristics. Weighted Averages. Standard Errors in Parentheses.

	Math	L.A.	Science	Social Studies
ALL TEACHERS	**14.6%**	**15.9%**	**4.7%**	**2.1%**
	(2.3)	**(2.3)**	**(1.3)**	**(0.9)**
State				
Massachusetts	14.0%	5.4%	4.0%	1.9%
	(4.6)	(3.0)	(2.8)	(1.8)
North Carolina	17.7%	23.0%	4.2%	1.0%
	(3.9)	(4.2)	(2.0)	(1.0)
Washington	10.6%	16.5%	6.3%	4.1%
	(2.7)	(3.2)	(2.1)	(1.8)
Socioeconomic Status				
High (<15% free lunch)	6.8%	9.7%	2.4%	0.0%
	(3.5)	(3.4)	(2.4)	(0.0)
Middle (15-50% free lunch)	15.0%	16.4%	5.8%	1.6%
	(3.6)	(3.5)	(2.1)	(0.9)
Low (>50% free lunch)	19.6%	19.6%	5.1%	4.0%
	(4.3)	(4.2)	(2.4)	(2.1)
Location				
Urban (NCES locale code 1)	37.4%	39.8%	11.7%	6.4%
	(11.1)	(11.0)	(7.2)	(6.2)
Non-urban	12.5%	13.7%	4.0%	1.6%
	(2.2)	(2.2)	(1.3)	(0.7)
Grade Level				
Kindergarten	8.3%	12.8%	0.0%	0.0%
	(7.9)	(7.5)	(0.0)	(0.0)
1st grade	8.2%	5.6%	0.0%	0.0%
	(4.2)	(3.4)	(0.0)	(0.0)
2nd grade	31.5%	18.2%	11.7%	5.1%
	(8.3)	(6.9)	(5.3)	(3.7)
3rd grade	11.1%	18.6%	0.0%	1.1%
	(4.8)	(5.8)	(0.0)	(1.1)
4th grade	17.9%	12.3%	2.6%	1.2%
	(6.1)	(4.7)	(2.6)	(1.2)
5th grade	18.1%	19.6%	11.2%	5.1%
	(5.8)	(5.4)	(4.9)	(3.2)
Multiple grades	2.0%	23.8%	7.6%	0.0%
	(2.0)	(8.4)	(5.5)	(0.0)
State Testing Grade				
Testing grade	14.0%	18.0%	16.7%	n/a
	(3.4)	(3.4)	(10.8)	
Not testing grade	15.2%	13.7%	3.8%	n/a
	(3.1)	(2.9)	(1.2)	

State Test at Teacher's Grade Level: Mathematics: 4th grade in MA & WA, 3rd, 4th, & 5th in NC; Language Arts: 3rd & 4th in MA & WA, 3rd, 4th, and 5th in NC; Science: 5th in MA, none in NC or WA

Source of demographic data: Common Core of Data, National Center for Education Statistics, U.S. Department of Education

In general, second-year teachers at higher grade levels report curriculum constraint more often than do those teaching lower grades, although there is a sharp spike at second grade. Second-year teachers assigned to kindergarten or first grade reported curriculum constraint at lower-than-average rates in all four core subjects, but the difference is not statistically significant for mathematics or for kindergarten language arts. At second grade and fifth grades, reports of curriculum constraint occur at higher-than-average rates in all four core subjects, but the difference is statistically significant only for second grade mathematics. For second-year teachers assigned to third grade, fourth grade, or multiple grades, the comparison across grade levels is less clear. Reports of constraint occur more frequently than average for third grade teachers in language arts only and for fourth grade teachers in mathematics only, although these differences are neither large nor statistically significant.

Respondents did not, however, consistently report greater constraint in the intermediate grades, third through fifth, where testing typically takes place, as compared to the primary grades, kindergarten through second grade. This might suggest that the whole school gears up for tests in the intermediate grades.

Socioeconomic status. Reports of curriculum constraint are more prevalent in low-income schools, defined here as those schools in which more than 50 percent of the students are eligible for the federal free and reduced lunch program, than in high-income schools, meaning those schools in which fewer than 15 percent of the students qualify. For mathematics, 19.6 percent of second-year teachers in low-income schools reported having insufficient freedom compared to only 6.8 percent in high-income schools, a statistically significant difference. A similar difference exists for language arts, with 19.6 percent of second-year teachers in low-income schools reporting insufficient freedom compared to 9.7 percent for high-income schools, although this difference is not statistically significant. The same pattern holds for science and social studies, but again, the differences are not statistically significant.

The simplest explanation for this socioeconomic difference is the higher degree of curriculum prescription at low-income schools. In this study, second-year teachers reported a higher average level of prescription in low-income schools than in high-income schools.[6] More specifically, a greater emphasis on test preparation at low-income schools may contribute to the feelings of constraint (Johnson et al., 2004). Another possible explanation is the nature of the curriculum that is prescribed. Michael S. Knapp (1995) and associates describe "an unstated but pervasive 'conventional wisdom' about curriculum and instruction in high-poverty classrooms" that emphasizes basic skills, fast-paced and tightly controlled instruction, ability-based groups, and the correcting of students' deficiencies (p. 6). A more detailed and prescriptive curriculum like this may feel constraining to new teachers who learned other teaching approaches in their teacher preparation programs.

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[6] For mathematics, the reported level of prescription is 2.90 (se=.07) in low-income schools and 2.68 (se=.09) in high-income schools, for a difference of 0.23 (p=.05). For language arts, the reported level of prescription is 2.85 (se=.06) in low-income schools and 2.86 (se=.09) in high-income schools, for a difference of 0.30 (p=.01). There was no difference for science and a difference of 0.11 for social studies, which was not statistically significant.

Urban. Reports of curriculum constraint are also more common in urban schools than they are in non-urban schools. In mathematics, 37.4 percent of second-year teachers in urban schools reported that they had insufficient curriculum freedom, compared to only 12.5 percent in non-urban schools. In language arts, 39.8 percent of teachers in urban schools reported too much direction, compared to only 13.7 percent of teachers in non-urban schools. Smaller gaps appear in these data for science and social studies, but the differences are not statistically significant.

These data must be interpreted with care, however, because in the three states in this study, only four districts are identified as urban (NCES code = 1). In fact, the higher incidence of curriculum constraint in urban schools on average conceals an important and interesting exception: no urban teachers in the two urban districts in Washington (n=7) reported curriculum constraint in mathematics, language arts, or social studies. This suggests that those two urban districts may be pursuing curriculum policies and practices quite different from the urban districts in Massachusetts and North Carolina.

Relation of Curriculum Constraint to Curriculum Prescription

Not surprisingly, reports of curriculum constraint are more frequent at higher average levels of reported prescription, as shown in Table 5. Yet, even at the highest range of prescription in mathematics and language arts, only approximately one-third of second-year teachers reported feeling constrained, meaning that two-thirds did not. This suggests a willingness of many new teachers to accept relatively high levels of prescription of what and how they teach. In other words, from the point of view of many second-year teachers, it is possible for the curriculum to be prescriptive without its seeming constraining.

Table 5: Percentage of Second-Year Elementary Teachers Reporting Curriculum Constraint By Average Level Of Prescription. Weighted Averages. Standard Errors in Parentheses.

	Math (n=284)	Language Arts (n=288)	Science (n=270)	Social Studies (n=270)
None (1.00 to 1.49): "Left completely up to me"	0.0%	0.0%	0.0%	1.2%
	(0.0)	(0.0)	(0.0)	(1.1)
Low (1.50 to 2.49): "Encouraged"	1.9%	4.3%	2.1%	0.8%
	(1.9)	(2.0)	(1.1)	(0.5)
Medium (2.50 to 3.49): "Required, but nobody really checks"	16.3%	17.9%	9.1%	5.8%
	(3.5)	(3.4)	(3.4)	(3.5)
High (3.50 to 4.00): "Required, and somebody checks"	31.3%	36.3%	13.4%	4.4%
	(6.8)	(7.6)	(9.6)	(4.4)

Data in Table 6 support the finding that teachers are more willing to accept prescription of content than they are to accept prescription of pedagogy. It is important to note here, however, that this study does not present data on the type or quality of prescription that new teachers encounter, whether in content or pedagogy. In math and

language arts, reports of curriculum constraint are most prevalent among those second-year teachers who indicate that someone checks that they are teaching the required content in a particular sequence, using a certain pedagogical approach, or following particular lesson plans. The results are similar for science and social studies, although the analysis is limited by the small number of teachers who reported curriculum constraint in those subjects.

Table 6: Of those Second-Year Elementary Teachers Who Report Monitoring (High Prescription) of Each Curriculum Component, the Percentage Who Report Having Insufficient Curriculum Freedom (Standard Errors in Parentheses)

	Math	Language Arts	Science	Social Studies
Topics Monitored	19.1%	20.3%	9.4%	3.4%
	(3.7)	(3.9)	(4.2)	(2.5)
Content Monitored	18.8%	21.3%	9.8%	3.4%
	(3.7)	(4.0)	(4.3)	(2.5)
Sequence Monitored	26.3%	35.6%	18.1%	2.4%
	(5.2)	(6.4)	(7.8)	(2.4)
Pedagogy Monitored	27.5%	43.5%	15.6%	5.1%
	(7.6)	(8.4)	(11.0)	(5.1)
Lesson Plans Monitored	25.3%	37.3%	3.2%	3.3%
	(7.2)	(8.0)	(3.2)	(3.3)
Assessment Monitored	19.7%	18.9%	14.7%	7.2%
	(4.0)	(3.5)	(6.3)	(4.9)
Test Prep Monitored	23.4%	21.4%	n/a	n/a
	(4.9)	(4.5)		

CONCLUSION AND IMPLICATIONS

The data I present in this paper indicate that there are new teachers who experience curriculum constraint in mathematics and language arts, meaning that they feel they lack sufficient freedom regarding what and how to teach. Data from this study presented elsewhere (Kauffman, 2005), however, show that a higher percentage of respondents reported that they receive insufficient direction in these two subjects. Curriculum constraint is not a concern for new teachers in science or social studies, where they are less likely to have curriculum materials or expectations regarding what and how to teach. Prescription, especially of pedagogy and especially when requirements are monitored, explains some of the reported constraint, but not all. Also, many new teachers reported prescription, meaning expectations about what and how they should teach, without also reporting that they experienced having insufficient freedom. Finally, deeper analysis of the data indicate that teachers reported curriculum constraint at somewhat higher levels in North Carolina, in subjects that are tested at the grade level they teach, and in schools serving more low-socioeconomic status students.

There are trade offs between inadequate direction and inadequate freedom. Part of the reason that reports of curriculum constraint are relatively rare may be that reports of curriculum neglect are so high. The sink or swim characteristic of many teachers' introduction to schools (Lortie, 1975) may best explain why more do not feel constrained. What this means is that because new teachers generally face the great challenges of starting to teach in isolation, they are perhaps more likely to be comforted by the guidance and certainty offered by prescribed curriculum.

One factor not considered in this analysis is an objective measure of student performance. What if highly prescribed and monitored instructional programs result in visible academic gains for students? Do the intrinsic rewards from student success offset reservations that new teachers have about prescription? Perhaps new teachers who observe student success are more likely to appreciate, or at least accept, greater external control over their teaching decisions. New research that directly addresses these questions would be useful to the field, particularly when considering the implications of curriculum constraint on teacher practice, teacher satisfaction, and student achievement.

There are several important implications of these findings for policymakers and practitioners. First, it is important to find and maintain a healthy balance between curriculum specification, meaning how much information teachers receive regarding what and how to teach and assess, and curriculum prescription, meaning the degree to which they are expected or required to work within those parameters. Providing new teachers with detailed information does not necessarily curtail their discretion. Policymakers and school leaders might consider providing new teachers with curriculum materials that include complete and structured curriculum guidance and then help new teachers to make decisions, without undermining their role.

These findings also remind us what observers and analysts have been reporting for decades: that new teachers are learning and that they have different developmental needs. Policymakers and school leaders should ensure that new teachers have access to relevant professional development aligned with the curricula they are responsible for teaching. New teachers appear far less concerned with issues of professional discretion or academic freedom than they are about surviving and learning the ropes: Two thirds of those who reported high prescription did *not* also report inadequate freedom. Teachers are less likely to assert professional autonomy at the start of their careers (Huberman, 1989).

Finally, it is important to acknowledge and accommodate the differences among new teachers. There are likely differences among the new teachers that affect how they respond to various levels of prescription, such as those related to their skills and preparation as a teacher. Teachers with more training and pre-service experience may seek less curriculum guidance, for example. It is also important to help new teachers to self-select into schools that have the type of curriculum and supervision that they want and need (Liu, 2004).

Put in perspective, however, insufficient freedom regarding what to teach and how to teach it is a less common concern for new teachers in these states at this time than is insufficient guidance. The challenge is to provide all new teachers with the curriculum support they need without tipping the balance toward excessive constraint. What we see, however, is high pressure from accountability and high stakes tests, without the necessary

capacity building (Elmore, 2002) or support (Kauffman et al., 2002) to meet the challenges. In fact, teachers accept the need for accountability measures; new teachers especially are willing to shoulder heavy burdens for the sake of their and their students' success. Given this support, it would be wise to include teachers' voices as part of the policymaking that includes curriculum and the standards movement.

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.

American Federation of Teachers. (2001). *Making standards matter 2001: A fifty-state report on efforts to implement a standards-based system*. Washington, DC: American Federation of Teachers.

Apple, M. W., & Teitelbaum, K. (1986). Are teachers losing control of their skills and curriculum? *Journal of Curriculum Studies, 18*(2), 177-184.

Archbald, D. A., & Porter, A. C. (1994). Curriculum control and teachers' perceptions of autonomy and satisfaction. *Educational Evaluation and Policy Analysis, 16*(1), 21-39.

Ball, D. L., & Cohen, D. K. (1996). Reform by the book: What is -- or might be -- the role of curriculum materials in teacher learning and instructional reform? *Educational Researcher, 25*(9), 6-8, 14.

Berry, B., Hopkins-Thompson, P., & Hoke, M. (2002). *Assessing and supporting new teachers: Lessons from the Southeast*. Chapel Hill, NC: The Southeast Center for Teaching Quality.

Brophy, J. E. (1982). How teachers influence what is taught and learned in classrooms. *Elementary School Journal, 83*(1), 1-13.

Bullough Jr., R. V. (1987). First-year teaching: A case study. *Teachers College Record, 89*(2), 219-237.

Center for the Study of Teaching and Policy. (2001). *Teacher Survey*. Stanford, CA: Center for Research on the Context of Teaching, Stanford University.

Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis, 12*(3), 311-329.

Costigan, A. T., Crocco, M. S., & Zumwalt, K. K. (2004). *Learning to teach in an age of accountability*. Mahwah, NJ: Lawrence Erlbaum Associates.

Dillman, D. A. (1991). The design and administration of mail surveys. *Annual Review of Sociology, 17*, 225-249.

Doherty, K. M., & Skinner, R. A. (2003, January 9). Introduction: State of the states. *Education Week/Quality Counts 2003,* pp. 75-76, 78.

Dworkin, A. G. (1987). *Teacher burnout in the public schools: Structural causes and consequences for children*. Albany: State University of New York Press.

Education Trust. (2003). *Education Watch State Summaries*. Washington, DC: Education Trust.

Elmore, R. F. (1996). Getting to scale with good educational practice. *Harvard Educational Review, 66*(1), 1-26.

Elmore, R. F. (2002, Spring). Unwarranted intrusion. *Education Next,* 30-35.

Farkas, S., Johnson, J., & Duffett, A. (2003). *Stand by me: What teachers really think about unions, merit pay, and other professional matters*. New York: Public Agenda.

Firestone, W. A., Camilli, G., Yurecko, M., Monfils, L., & Mayrowetz, D. (2000). State standards, socio-fiscal context and opportunity to learn in New Jersey. *Education Policy Analysis Archives, 8*(35).

Goodlad, J. I. (1984). *A place called school: Prospects for the future*. New York: McGraw-Hill.

Gordon, S. P., & Reese, M. (1997). High–stakes testing: Worth the price? *Journal of School Leadership, 7*, 345-368.

Griffin, G. A. (1991). Teacher education and curriculum decision-making: The issue of teacher professionalism. In M. F. Klein (Ed.), *The politics of curriculum decision-making: Issues in centralizing the curriculum* (pp. 121-150). Albany, NY: State University of New York Press.

Haney, W. (2000). The myth of the Texas miracle in education. *Education Policy Analysis Archives, 8*(41).

Hart, A. W., & Murphy, M. J. (1990). New teachers react to redesigned teacher work. *American Journal of Education, 98*, 224-250.

Huberman, M. (1989). On teachers' careers: Once over lightly, with a broad brush. *International Journal of Educational Research, 13*(4), 347-361.

Ingersoll, R. M. (2003). *Who controls teachers' work?: Power and accountability in America's schools*. Cambridge, Massachusetts: Harvard University Press.

Ingersoll, R. M., & Alsalam, N. (1997). *Teacher professionalization and teacher commitment: A multilevel analysis* (NCES 97-069). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Jackson, P. W. (1990). *Life in classrooms* (2nd ed.). New York: Teachers College Press.

Johnson, S. M. (1990). *Teachers at work*. United States: BasicBooks.

Johnson, S. M., Kardos, S. M., Kauffman, D., Liu, E., & Donaldson, M. L. (2004). The support gap: New teachers' early experiences in high-income and low-income schools. *Education Policy Analysis Archives, 12*(61).

Johnson, S. M., & The Project on the Next Generation of Teachers. (2004). *Finders and keepers: Helping new teachers survive and thrive in our schools*. San Francisco: Jossey-Bass.

Jolliffe, I. T. (1986). *Principal component analysis*. New York: Springer-Verlag New York, Inc.

Jones, M. G., Jones, B. D., Hardin, B., Chapman, L., Yarbrough, T., & Davis, M. (1999). The impact of high-stakes testing on teachers and students in North Carolina. *Phi Delta Kappan, 81*(3), 199-203.

Kardos, S. M. (2004). *Supporting and sustaining new teachers in schools: The importance of professional culture and mentoring.* Harvard University, Cambridge, MA.

Kauffman, D. (2002). *A search for support: Beginning elementary teachers' use of mathematics curriculum materials.* Unpublished Special Qualifying Paper, Graduate School of Education, Harvard University, Cambridge, MA.

Kauffman, D. (2005). Curriculum support and curriculum neglect: Second-year teachers' experiences. Cambridge, MA: Project on the Next Generation of Teachers at the Harvard Graduate School of Education.

Kauffman, D., & Johnson, S. M. (2004). Filling the Curriculum Void. In S. M. Johnson & The Project on the Next Generation of Teachers (Eds.), *Finders and keepers: Helping new teachers survive and thrive in our schools*. San Francisco: Jossey-Bass.

Kauffman, D., Johnson, S. M., Kardos, S. M., Liu, E., & Peske, H. G. (2002). "Lost at sea": New teachers' experiences with curriculum and assessment. *Teachers College Record, 104*(2), 273-300.

Kennedy, M. M., Ball, D. L., & McDiarmid, G. W. (1993). *A study package for examining and tracking changes in teachers' knowledge* (Technical Series 93-1). East Lansing, MI: National Center for Research on Teacher Learning.

Knapp, M. S., Adelman, N. E., Marder, C., McCollum, H., Needels, M. C., Padilla, C., Shields, P. M., Turnbull, B. J., & Zucker, A. A. (1995). *Teaching for meaning in high-poverty classrooms*. New York: Teachers College Press.

Levy, P. S., & Lemeshow, S. (1999). *Sampling of populations: Methods and applications* (3rd ed.). New York: John Wiley & Sons, Inc.

Liu, E. (2004). *New teachers' experiences of hiring in four states.* Harvard University, Cambridge, MA.

Lortie, D. C. (1975). *Schoolteacher*. Chicago: University of Chicago Press.

Lutz, F. W., & Maddirala, J. (1990). Stress, burnout, in Texas teachers and reform mandated accountability. *Educational Research Quarterly, 14*(2), 10-21.

McDonald, J. P. (1992). *Teaching: Making sense of an uncertain craft*. New York: Teachers College Press.

McLaughlin, M. W. (1976). Implementation as mutual adaptation: Change in classroom organization. *Teachers College Record, 77*(3), 339-351.

McNeil, L., & Valenzuela, A. (2000). *The harmful impact of the TAAS system of testing in Texas: Beneath the accountability rhetoric*. Cambridge, MA: The Civil Rights Project at Harvard University.

McNeil, L. M. (1986). *Contradictions of control: School structure and school knowledge*. New York: Routledge & Kegan Paul.

McNeil, L. M. (2000). *Contradictions of school reform*. New York: Routledge.

Meyer, J. W., & Rowan, B. C. (1978). The structure of educational organizations. In M. Meyer & Associates (Eds.), *Environments and organizations: Theoretical and empirical perspectives*. San Francisco: Jossey-Bass.

National Center for Education Statistics. (1999). *Public school teacher questionnaire, Schools and staffing survey, 1999-2000 school year*. Washington, DC: National Center for Educational Statistics, U.S. Department of Education, Office of Educational Research and Improvement.

Prince, C. (2002). *The challenge of attracting good teachers and principals to struggling schools*. Arlington, VA: American Association of School Administrators.

Public Agenda, & *Education Week*. (2002). *Reality check*. Washington, DC.

Rea, L. M., & Parker, R. A. (1997). *Designing and conducting survey research: A comprehensive guide* (2nd ed.). San Francisco: Jossey-Bass Publishers.

Robertson, J. (2003, November 16). *Teachers feeling 'extra pressure'*. Kansas City Star. Available: http://www.kansascity.com/mld/kansascity/living/education/7272234.htm [2003, November 17].

Rowan, B. (1990). Commitment and control: Alternative strategies for the organizational design of schools. In C. Cazden (Ed.), *Review of Research in Education* (Vol. 16, pp. 353-389). Washington, D.C.: American Educational Research Association.

Schubert, W. H. (1991). Historical perspective on centralizing curriculum. In M. F. Klein (Ed.), *The politics of curriculum decision-making: Issues in centralizing the curriculum* (pp. 98-120). Albany, NY: State University of New York Press.

Schubert, W. H., Schubert, A. L. L., Thomas, T. P., & Carroll, W. M. (2002). *Curriculum books: The first hundred years* (2nd ed.). NY: Peter Lang.

Schwartz, A. J. (1991). Organizational metaphors, curriculum reform, and local school and district change. In M. F. Klein (Ed.), *The politics of curriculum decision-making: Issues in centralizing the curriculum* (pp. 167-197). Albany, NY: State University of New York Press.

Schwille, J., Porter, A., Belli, G., Floden, R., Freeman, D., Knappen, L., Kuhs, T., & Schmidt, W. (1983). Teachers as policy brokers in the content of elementary school mathematics. In L. Shulman & G. Sykes (Eds.), *Handbook of teaching and policy* (pp. 370-391). New York: Longman.

Skinner, B. (2001). Teachers and reforms: Results from interviews conducted in two elementary schools. In I. C. Rotberg (Ed.), *The changing teaching environment; Occasional Paper Series*. Washington, DC: Institute for Education Policy Studies.

Sosniak, L. A., & Stodolsky, S. S. (1993). Teachers and textbooks: Materials use in four fourth-grade classrooms. *The Elementary School Journal, 93*(3), 249-275.

Sudman, S., & Bradburn, N. M. (1982). *Asking questions: A practical guide to questionnaire design*. San Francisco: Jossey-Bass.

Tanner, D., & Tanner, L. (1995). *Curriculum development: Theory into practice*. Upper Saddle River, NJ: Prentice Hall.

Tyack, D. B. (1974). *The one best system: A history of American urban education*. Cambridge, MA: Harvard University Press.

Tye, B. B., & O'Brien, L. (2002). Why are experienced teachers leaving the profession? *Phi Delta Kappan, 84*(1), 24-32.

U.S. Department of Education. (2004). *Attracting, developing, and retaining effective teachers*. Washington, D.C.: U.S. Department of Education, International Affairs Office.

Wasley, P. A. (1994). *Stirring the chalkdust: Tales of teachers changing classroom practice*. New York: Teachers College Press.

Wilgoren, J. (2000, July 4). Teachers union leaders oppose push to testing at the expense of curriculum. *The New York Times,* pp. A11.

Winkler, A. (2002). Division in the ranks: Standardized testing lines drawn between new and veteran teachers. *Phi Delta Kappan, 84*(3), 219-225.

Woodward, A., & Elliott, D. L. (1990). Textbook use and teacher professionalism. In D. L. Elliott & W. Arthur (Eds.), *Textbooks and schooling in the United States* (pp. 178-193). Chicago: University of Chicago Press.

Zumwalt, K. K. (1988). Are we improving or undermining teaching? In L. N. Tanner (Ed.), *Critical issues in curriculum: Eighty-seventh yearbook of the National Society for the Study of Education, Part I* (pp. 148-174). Chicago: University of Chicago Press.

APPENDIX

Table A1: Curriculum Expectations Reported by Second-Year Elementary Teachers Regarding Various Curriculum Components in Four Subject Areas. Weighted Averages. Standard Errors in Parentheses. Sample sizes vary because of missing data for particular items.

		Math (n=283-286)	Lang. Arts (n=287-290)	Science (n = 268-272)	Soc. Stud. (n = 268-272)
Topics					
	Left Completely Up to Me	1.6%	2.7%	6.8%	11.6%
		(0.9)	(1.1)	(1.6)	(1.9)
	Encouraged	3.2%	5.4%	14.3%	18.3%
		(1.1)	(1.3)	(2.2)	(2.4)
	Required, but nobody really checks	48.6%	48.1%	55.7%	50.6%
		(3.2)	(3.2)	(3.3)	(3.3)
	Required, and somebody checks	46.6%	43.8%	23.2%	19.5%
		(3.2)	(3.2)	(2.9)	(2.7)
Content					
	Left Completely Up to Me	1.7%	3.0%	5.4%	11.7%
		(0.9)	(1.1)	(1.4)	(1.9)
	Encouraged	3.5%	6.1%	18.6%	20.8%
		(1.2)	(1.5)	(2.5)	(2.7)
	Required, but nobody really checks	48.1%	48.5%	54.2%	48.4%
		(3.2)	(3.2)	(3.3)	(3.3)
	Required, and somebody checks	46.7%	42.4%	21.9%	19.1%
		(3.2)	(3.2)	(2.8)	(2.7)
Sequence					
	Left Completely Up to Me	12.1%	19.4%	32.4%	44.4%
		(2.1)	(2.5)	(3.1)	(3.2)
	Encouraged	22.2%	23.6%	24.3%	20.5%
		(2.7)	(2.7)	(2.8)	(2.6)
	Required, but nobody really checks	35.1%	34.1%	32.5%	26.2%
		(3.0)	(3.0)	(3.1)	(2.9)
	Required, and somebody checks	30.6%	22.9%	10.7%	9.0%
		(3.0)	(2.7)	(2.0)	(2.0)
Pedagogy					
	Left Completely Up to Me	45.3%	42.3%	56.9%	68.5%
		(3.2)	(3.1)	(3.2)	(3.1)
	Encouraged	23.1%	27.8%	25.6%	19.0%
		(2.7)	(2.8)	(2.9)	(2.6)
	Required, but nobody really checks	16.6%	15.1%	13.2%	8.4%
		(2.4)	(2.3)	(2.2)	(1.9)
	Required, and somebody checks	15.0%	14.8%	4.3%	4.2%
		(2.3)	(2.3)	(1.4)	(1.4)

Table A1 (cont.)

	Math	Lang. Arts	Science	Soc. Stud.
Lesson Plans				
Left Completely Up to Me	44.5%	49.8%	58.7%	67.9%
	(3.2)	(3.2)	(3.2)	(3.1)
Encouraged	23.7%	22.3%	19.5%	16.6%
	(2.7)	(2.6)	(2.6)	(2.5)
Required, but nobody really checks	16.5%	13.6%	14.9%	9.1%
	(2.3)	(2.1)	(2.3)	(1.9)
Required, and somebody checks	15.3%	14.4%	6.8%	6.4%
	(2.4)	(2.2)	(1.7)	(1.7)
Assessment				
Left Completely Up to Me	16.6%	17.3%	51.5%	56.0%
	(2.4)	(2.4)	(3.3)	(3.3)
Encouraged	14.9%	12.8%	16.1%	14.3%
	(2.2)	(2.0)	(2.3)	(2.3)
Required, but nobody really checks	25.6%	20.8%	16.5%	15.3%
	(2.8)	(2.6)	(2.5)	(2.5)
Required, and somebody checks	42.8%	49.1%	15.8%	14.4%
	(3.2)	(3.2)	(2.5)	(2.4)
Standardized Test Preparation				
Left Completely Up to Me	20.6%	20.2%	n/a	n/a
	(2.5)	(2.5)		
Encouraged	28.1%	26.7%	n/a	n/a
	(2.8)	(2.8)		
Required, but nobody really checks	18.9%	18.9%	n/a	n/a
	(2.6)	(2.5)		
Required, and somebody checks	32.4%	34.2%	n/a	n/a
	(3.1)	(3.1)		

Table A2: Correlation Table for Mathematics Prescription Variables

	Topic	Content	Sequence	Pedagogy	Lesson Plan	Assessment
Topic	1.00					
Content	.74	1.00				
Sequence	.39	.46	1.00			
Pedagogy	.33	.33	.43	1.00		
Lesson Plan	.29	.28	.46	.60	1.00	
Assessment	.31	.30	.33	.33	.34	1.00

Table A3: Correlation Table for Language Arts Prescription Variables

	Topic	Content	Sequence	Pedagogy	Lesson Plan	Assessment
Topic	1.00					
Content	.75	1.00				
Sequence	.40	.46	1.00			
Pedagogy	.31	.33	.42	1.00		
Lesson Plan	.29	.30	.52	.54	1.00	
Assessment	.33	.35	.24	.32	.33	1.00

Table A4: Correlation Table for Science Prescription Variables

	Topic	Content	Sequence	Pedagogy	Lesson Plan	Assessment
Topic	1.00					
Content	.76	1.00				
Sequence	.40	.46	1.00			
Pedagogy	.29	.36	.52	1.00		
Lesson Plan	.27	.29	.51	.56	1.00	
Assessment	.36	.42	.33	.33	.39	1.00

Table A5: Correlation Table for Social Studies Prescription Variables

	Topic	Content	Sequence	Pedagogy	Lesson Plan	Assessment
Topic	1.00					
Content	.81	1.00				
Sequence	.50	.54	1.00			
Pedagogy	.37	.38	.57	1.00		
Lesson Plan	.33	.33	.53	.58	1.00	
Assessment	.42	.47	.46	.44	.47	1.00

Table A6: Eigenvalues From Principal Components Analysis for Mathematics Prescription Variables (n=286)

Component	Eigenvalue	Cumulative Proportion
1	2.98	49.7
2	1.07	67.5
3	.74	79.8
4	.57	89.2
5	.40	95.9
6	.25	100.0

Table A7: Eigenvalues From Principal Components Analysis for Language Arts Prescription Variables (n=290)

Component	Eigenvalue	Cumulative Proportion
1	2.98	49.6
2	1.05	67.1
3	.78	80.2
4	.54	89.2
5	.40	95.9
6	.25	100.0

Table A8: Eigenvalues From Principal Components Analysis for Science Prescription Variables (n=272)

Component	Eigenvalue	Cumulative Proportion
1	3.09	51.5
2	1.08	69.4
3	.71	81.2
4	.46	88.9
5	.43	96.1
6	.24	100.0

Table A9: Eigenvalues From Principal Components Analysis for Social Studies Prescription Variables (n=272)

Component	Eigenvalue	Cumulative Proportion
1	3.41	56.7
2	1.00	73.4
3	.59	83.1
4	.43	90.2
5	.40	96.9
6	.19	100.0

Table A10: Eigenvectors From Principal Components Analysis for Mathematics Prescription Variables (n=286)

Variable	Eigenvectors for Component 1	Eigenvectors for Component 2
Topic	.43	-.52
Content	.44	-.53
Sequence	.43	.07
Pedagogy	.41	.42
Lesson Plan	.41	.49
Assessment	.34	.15

Table A11: Eigenvectors From Principal Components Analysis for Language Arts Prescription Variables (n=290)

Variable	Eigenvectors for Component 1	Eigenvectors for Component 2
Topic	.43	-.53
Content	.45	-.50
Sequence	.42	.17
Pedagogy	.40	.43
Lesson Plan	.41	.51
Assessment	.33	-.01

Table A12: Eigenvectors From Principal Components Analysis for Science Prescription Variables (n=272)

Variable	Eigenvectors for Component 1	Eigenvectors for Component 2
Topic	.41	-.55
Content	.44	-.49
Sequence	.43	.21
Pedagogy	.40	.43
Lesson Plan	.40	.48
Assessment	.36	-.04

Table A13: Eigenvectors From Principal Components Analysis for Social Studies Prescription Variables (n=272)

Variable	Eigenvectors for Component 1	Eigenvectors for Component 2
Topic	.42	-.54
Content	.43	-.52
Sequence	.43	.11
Pedagogy	.40	.42
Lesson Plan	.38	.49
Assessment	.39	.11

Table A14: Second-Year Elementary Teachers' Opinions Regarding the Amount of Curriculum Freedom They Have in Each of Four Subjects. Weighted Averages. Standard Errors in Parentheses.

	Math (n=284)	Lang. Arts (n=288)	Science (n=275)	Soc. Stud. (n=276)
There is not enough	14.6%	15.9%	4.7%	2.1%
	(2.3)	(2.3)	(1.3)	(0.9)
There is the right amount	76.1%	70.4%	67.0%	58.3%
	(2.8)	(2.9)	(3.1)	(3.2)
There is too much	9.2%	13.6%	28.3%	39.7%
	(1.9)	(2.2)	(2.9)	(3.2)

Columns may not add to 100% due to rounding.