Section One

Teacher Backgrounds and Beliefs

In 2000, grade 9–12 science teachers were slightly more diverse as a group than they were in 1993. However, at all grade levels, in both science and mathematics, the proportion of teachers who are members of minority groups is far lower than it is among the students they are teaching (over 30 percent). (See Tables 1.1 and 1.2.) In grades 1–6, the vast majority of science and mathematics teachers are females. There has been an influx of females among science teachers in grades 7–12 and among mathematics teachers in grades 10–12 since 1993, continuing a trend evident since 1977. (See Figures 1.1 and 1.2.)

Table 1.1
Race/Ethnicity[1] of the Science Teaching Force, by Grade Range: 1993 and 2000

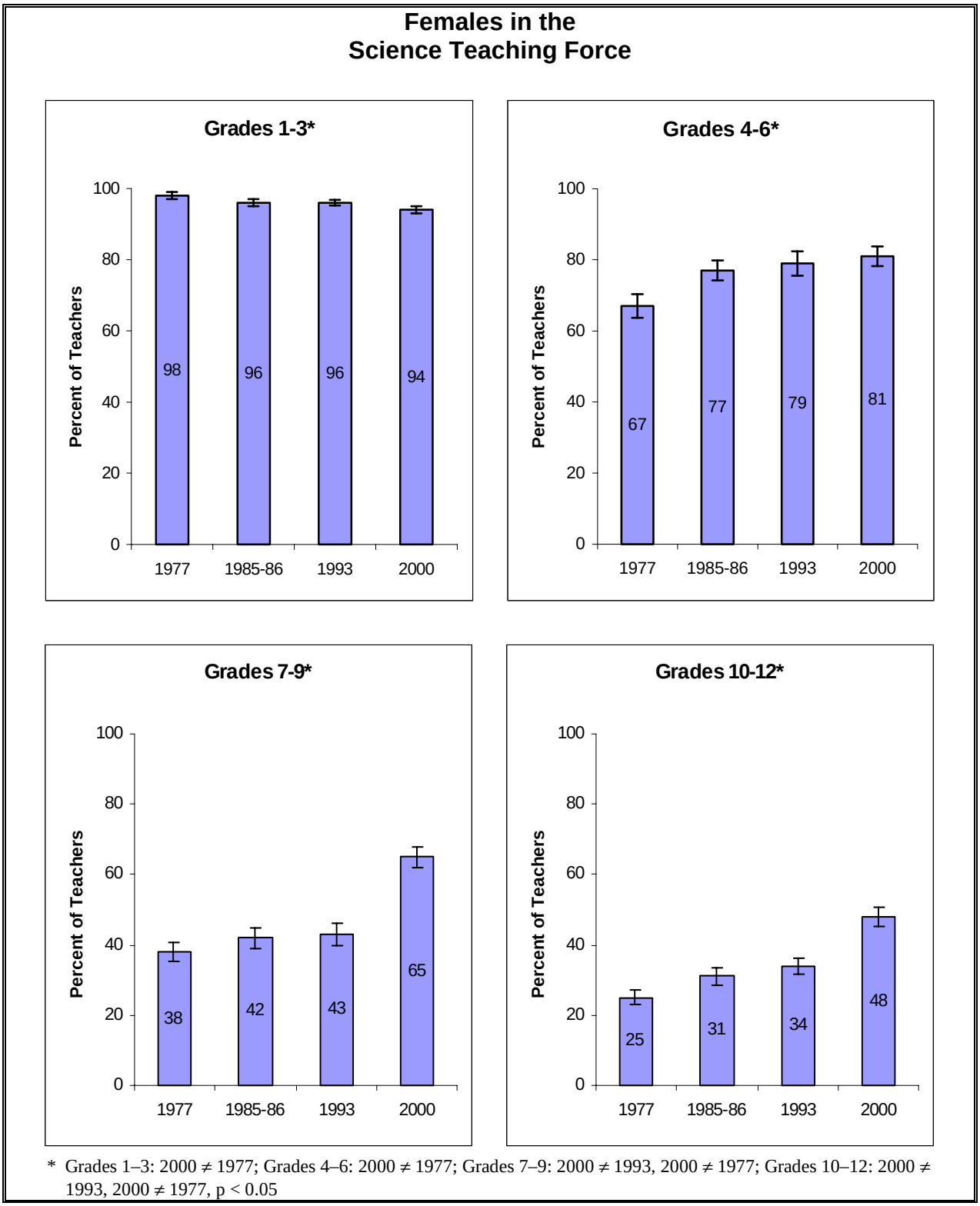
	Percent of Teachers			
	1993		2000	
Grades 1–4				
American Indian or Alaskan Native	0	(0.3)	1*	(0.4)
Black or African-American	6	(1.8)	5	(1.0)
Hispanic or Latino	5	(1.2)	3	(1.1)
White	88	(2.2)	88	(1.9)
Asian or Pacific Islander	0	(0.3)	—	—
Asian	—	—	1	(1.0)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.1)
Grades 5–8				
American Indian or Alaskan Native	0	(0.3)	1	(0.5)
Black or African-American	6	(1.4)	5	(1.1)
Hispanic or Latino	1	(0.7)	3	(1.0)
White	89	(2.6)	87	(1.8)
Asian or Pacific Islander	3	(1.7)	—	—
Asian	—	—	1	(0.6)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.1)
Grades 9–12				
American Indian or Alaskan Native	1	(0.4)	2	(0.5)
Black or African-American	3	(0.4)	4	(0.8)
Hispanic or Latino	1	(0.3)	3*	(0.5)
White	95	(0.8)	90*	(1.2)
Asian or Pacific Islander	1	(0.1)	—	—
Asian	—	—	2	(0.6)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.1)

* $p < 0.05$

Table 1.2
Race/Ethnicity[2] of the Mathematics Teaching Force, by Grade Range: 1993 and 2000

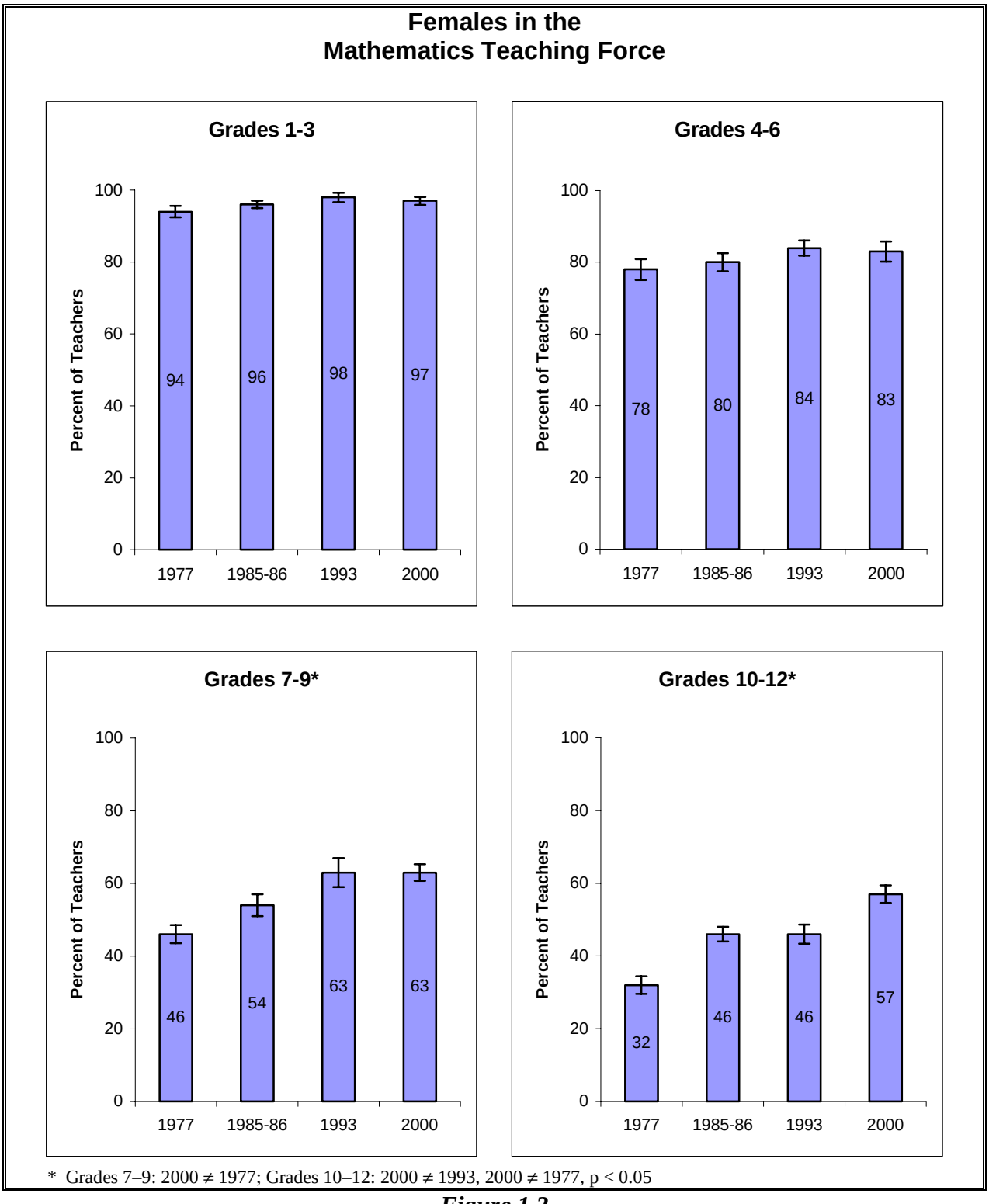
	Percent of Teachers			
	1993		2000	
Grades 1–4				
American Indian or Alaskan Native	0	(0.3)	1*	(0.3)
Black or African-American	4	(0.7)	4	(0.9)
Hispanic or Latino	5	(1.8)	4	(1.2)
White	90	(1.1)	90	(1.5)
Asian or Pacific Islander	1	(0.1)	—	—
Asian	—	—	0	(0.2)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.1)
Grades 5–8				
American Indian or Alaskan Native	0	(0.2)	1*	(0.3)
Black or African-American	5	(0.7)	8	(1.6)
Hispanic or Latino	4	(1.2)	6	(1.4)
White	90	(1.7)	86	(2.1)
Asian or Pacific Islander	1	(0.7)	—	—
Asian	—	—	1	(0.6)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.3)
Grades 9–12				
American Indian or Alaskan Native	0	(0.2)	1*	(0.3)
Black or African-American	4	(0.8)	4	(0.8)
Hispanic or Latino	1	(0.5)	2	(0.4)
White	92	(1.1)	91	(1.1)
Asian or Pacific Islander	2	(0.7)	—	—
Asian	—	—	1	(0.3)
Native Hawaiian or Other Pacific Islander	—	—	0	(0.2)

* $p < 0.05$



* Grades 1–3: 2000 ≠ 1977; Grades 4–6: 2000 ≠ 1977; Grades 7–9: 2000 ≠ 1993, 2000 ≠ 1977; Grades 10–12: 2000 ≠ 1993, 2000 ≠ 1977, $p < 0.05$

Figure 1.1



* Grades 7–9: 2000 ≠ 1977; Grades 10–12: 2000 ≠ 1993, 2000 ≠ 1977, $p < 0.05$

Figure 1.2

Although the average age of science and mathematics teachers (roughly 42 years old) has remained essentially unchanged since 1993, the distribution has shifted somewhat, with a greater percentage of teachers in 2000 at the extremes of the range (Tables 1.3 and 1.4). The experience levels of science and mathematics teachers in 1993 and 2000 are presented in Tables 1.5 and 1.6.

Table 1.3
Age of the Science Teaching Force, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
≤ 30 years	16	(2.3)	21	(2.2)
31–40 years	26	(2.6)	19*	(1.9)
41–50 years	40	(2.9)	33	(2.3)
51 + years	18	(2.4)	27*	(2.2)
Grades 5–8				
≤ 30 years	11	(1.4)	19*	(2.8)
31–40 years	28	(3.0)	22	(3.1)
41–50 years	36	(3.4)	30	(3.1)
51 + years	25	(3.9)	29	(3.7)
Grades 9–12				
≤ 30 years	13	(1.1)	20*	(2.5)
31–40 years	23	(3.2)	23	(1.7)
41–50 years	41	(3.4)	29*	(1.9)
51 + years	23	(2.7)	28	(1.7)

* $p < 0.05$

Table 1.4
Age of the Mathematics Teaching Force, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
≤ 30 years	17	(2.2)	21	(2.3)
31–40 years	27	(2.6)	21	(2.1)
41–50 years	32	(2.3)	31	(2.7)
51 + years	23	(2.4)	27	(2.6)
Grades 5–8				
≤ 30 years	15	(3.4)	21	(2.6)
31–40 years	21	(1.9)	23	(2.6)
41–50 years	46	(2.9)	27*	(3.0)
51 + years	18	(3.1)	30*	(3.4)
Grades 9–12				
≤ 30 years	13	(1.8)	16	(1.4)
31–40 years	23	(2.7)	24	(1.5)
41–50 years	42	(2.3)	29*	(2.0)
51 + years	22	(1.9)	30*	(1.7)

* $p < 0.05$

Table 1.5
Years of Teaching Experience of the Science Teaching Force, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
0–2 years	13	(2.1)	15	(1.8)
3–5 years	10	(1.5)	17*	(1.8)
6–10 years	15	(1.7)	16	(2.1)
11–20 years	43	(2.7)	25*	(2.2)
≥ 21 years	19	(2.7)	27*	(2.6)
Grades 5–8				
0–2 years	12	(1.9)	16	(2.7)
3–5 years	11	(1.6)	9	(1.5)
6–10 years	19	(2.7)	19	(2.6)
11–20 years	34	(3.1)	24*	(3.3)
≥ 21 years	25	(3.1)	32	(3.1)
Grades 9–12				
0–2 years	11	(1.2)	16*	(2.2)
3–5 years	10	(1.1)	16*	(1.7)
6–10 years	14	(3.1)	18	(1.4)
11–20 years	30	(1.9)	21*	(1.6)
≥ 21 years	35	(2.6)	29	(1.7)

* $p < 0.05$

Table 1.6
Years of Teaching Experience of the Mathematics Teaching Force, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
0–2 years	12	(1.8)	18*	(2.0)
3–5 years	14	(1.3)	14	(1.6)
6–10 years	17	(2.3)	15	(1.7)
11–20 years	36	(2.3)	23*	(2.1)
≥ 21 years	22	(2.7)	31*	(2.6)
Grades 5–8				
0–2 years	12	(2.2)	20*	(3.2)
3–5 years	9	(1.4)	12	(1.8)
6–10 years	22	(3.5)	16	(2.4)
11–20 years	34	(2.8)	21*	(2.5)
≥ 21 years	22	(2.9)	31*	(3.3)
Grades 9–12				
0–2 years	10	(1.2)	13	(1.4)
3–5 years	9	(1.2)	15*	(1.6)
6–10 years	20	(3.3)	14	(1.5)
11–20 years	28	(1.6)	24	(1.7)
≥ 21 years	33	(1.9)	34	(2.0)

* $p < 0.05$

As can be seen in Table 1.7, relatively new teachers in 2000, those with five years of experience or less, are more likely to have completed a graduate degree than their counterparts in 1993, perhaps a reflection of the shift in teacher education programs away from undergraduate majors in education towards a four-plus-one Masters of Arts in Teaching program.

Table 1.7
Science and Mathematics Teachers with Degrees Beyond the Bachelor's, by Prior Years Teaching Experience: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Science				
0–2 Years	8	(1.8)	21*	(3.9)
3–5 Years	19	(3.5)	30	(4.8)
6–10 Years	36	(3.9)	44	(5.0)
11–20 Years	45	(4.0)	48	(3.8)
≥ 21 Years	55	(3.1)	66*	(3.7)
Mathematics				
0–2 Years	12	(2.5)	21	(4.4)
3–5 Years	18	(4.0)	35*	(4.8)
6–10 Years	41	(4.9)	45	(4.3)
11–20 Years	43	(3.8)	46	(4.3)
≥ 21 Years	53	(3.5)	57	(3.2)

* $p < 0.05$

The average number of semesters of college science taken by grade 5–8 teachers fell from 10.3 in 1993 to 8.5 in 2000. The average number of semesters of science did not change significantly for grade 1–4 or grade 9–12 science teachers. (See Table 1.8)

Table 1.8
Number of Semesters[3] of College Coursework in Science, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
Fewer than 6 Semesters	50	(3.3)	57	(2.5)
6–10 Semesters	31	(2.6)	29	(2.5)
11–14 Semesters	11	(1.6)	7	(1.9)
15–20 Semesters	6	(1.4)	5	(1.1)
More than 20 Semesters	1	(0.6)	2	(0.6)
Average number of semesters	6.8	(0.3)	6.1	(0.2)
Grades 5–8				
Fewer than 6 Semesters	28	(4.1)	41*	(3.9)
6–10 Semesters	31	(3.4)	33	(3.8)
11–14 Semesters	16	(2.6)	10	(1.7)
15–20 Semesters	17	(3.0)	10*	(1.5)
More than 20 Semesters	8	(1.2)	5	(1.0)
Average number of semesters	10.3	(0.6)	8.5*	(0.3)
Grades 9–12				
Fewer than 6 Semesters	1	(0.5)	0	(0.2)
6–10 Semesters	12	(1.6)	8	(1.9)
11–14 Semesters	20	(2.0)	17	(1.4)
15–20 Semesters	39	(2.1)	46*	(2.2)
More than 20 Semesters	28	(1.7)	29	(1.9)
Average number of semesters	17.6	(0.3)	18.2	(0.3)

* $p < 0.05$

The National Science Teachers Association (NSTA) has recommended that for the preparation of elementary and middle school science teachers, in addition to coursework in science education, "conceptual content should be balanced among life, earth/space, physical, and environmental science, including natural resources" (NSTA, 1998). Using completion of at least one college course as a criterion, Table 1.9 shows that the percentage of grade 1–4 teachers meeting this recommendation, just over half, has not changed between 1993 and 2000. However, the percentage of grade 5–8 teachers meeting this requirement has risen from 54 percent in 1993 to 63 percent in 2000, indicating that, even though they are taking fewer science courses overall, the courses they are taking are more diverse.

Table 1.9
Science Teachers Meeting NSTA
Course-Background Standards, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
Coursework in each science discipline plus science education	51	(3.4)	52	(3.0)
Lack science education only	12	(1.6)	11	(1.9)
Lack one science discipline	28	(2.2)	25	(2.2)
Lack two science disciplines	9	(1.4)	9	(1.4)
Lack three science disciplines	1	(0.5)	3*	(0.7)
Grades 5–8				
Coursework in each science discipline plus science education	54	(3.6)	63*	(2.5)
Lack science education only	14	(3.0)	11	(1.9)
Lack one science discipline	25	(3.2)	17*	(2.1)
Lack two science disciplines	7	(1.9)	9	(2.2)
Lack three science disciplines	0	(0.2)	0	(0.2)

* $p < 0.05$

Trend data also show that the percentage of classes taught by teachers with in-depth preparation in the field has remained essentially the same since 1993. (See Table 1.10.) Biology courses continue to be most likely, and earth science courses least likely, to be taught by teachers with six or more college courses in that field.

Table 1.10
Science Classes Taught by Teachers with Six or More College Courses in Field, in Another Science Field, and Lacking In-Depth Preparation in Any Science: 1993 and 2000

	Percent of Classes									
	Six or More Courses in Field		Not In-Depth in Field, But Six or More in Another Science		Not In-Depth in Any Science					
	1993		2000		1993		2000		1993		2000	
Grades 7–12												
Life science/biology	82	(5.6)	85	(2.5)	3	(1.2)	3	(1.2)	14	(5.7)	12	(2.2)
Earth science	45	(5.3)	39	(5.2)	34	(8.2)	36	(5.5)	21	(8.2)	24	(5.6)
Physical science	75	(4.2)	67	(6.8)	11	(2.5)	11	(2.9)	14	(3.9)	22	(7.2)
Grades 9–12												
Biology	94	(1.9)	94	(1.8)	3	(1.6)	1	(0.8)	3	(1.1)	4	(1.6)
Chemistry	82	(3.4)	74	(4.2)	18	(3.6)	17	(3.3)	1	(0.4)	9*	(2.8)
Physics	74	(6.0)	64	(5.8)	22	(5.7)	26	(5.4)	4	(2.9)	10	(3.7)

* $p < 0.05$

Turning to mathematics, Table 1.11 shows that teachers in the higher grades continue to have much stronger course backgrounds in mathematics than do their colleagues in the earlier grades. However, in all three grade ranges, teachers in 2000 report taking more mathematics courses than teachers in 1993.

Table 1.11
Number of Semesters[4] of College Coursework in Mathematics, by Grade Range: 1993 and 2000

	Percent of Teachers				Percent of Classes			
	1993[5]		2000		1993[5]		2000	
Grades 1–4								
Fewer than 6 Semesters	90	(1.7)	82*	(2.1)	90	(1.7)	81*	(2.3)
6–10 Semesters	8	(1.7)	17*	(2.1)	7	(1.7)	18*	(2.2)
More than 10 Semesters	3	(0.7)	1*	(0.5)	3	(0.7)	1*	(0.5)
Grades 5–8								
Fewer than 6 Semesters	74	(2.0)	58*	(2.7)	54	(2.2)	41*	(2.5)
6–10 Semesters	17	(1.7)	26*	(2.6)	28	(2.0)	30	(2.4)
More than 10 Semesters	9	(1.3)	16*	(1.8)	19	(1.7)	29*	(2.5)
Grades 9–12								
Fewer than 6 Semesters	9	(1.1)	5*	(1.0)	8	(1.1)	4*	(0.9)
6–10 Semesters	38	(1.7)	18*	(1.8)	38	(1.7)	17*	(1.6)
More than 10 Semesters	52	(1.8)	77*	(1.8)	55	(1.8)	79*	(1.7)

* $p < 0.05$

Elementary teachers are typically assigned to teach science, mathematics, and other academic subjects to one group of students. Historically, elementary teachers have felt better qualified in reading than in other subjects, a pattern which has continued through 2000. (See Table 1.12.)

Table 1.12
Self-Contained Grade 1–6 Teachers Feeling Very Well Qualified to Teach Each Subject: 1977, 1985–86, 1993, and 2000

	Percent of Teachers							
	1977[6]		1985–86		1993		2000	
Reading/Language Arts	63	(1.7)	86	(1.0)	76	(1.9)	76*	(1.7)
Mathematics	49	(1.8)	69	(1.3)	60	(2.4)	61*	(1.8)
Social Studies	39	(1.7)	51	(1.4)	61	(1.7)	52*	(2.0)
Life Science	—	—	27	(1.2)	26	(2.0)	30	(1.9)
Earth Science	—	—	—	—	30	(2.3)[7]	25	(1.5)

* Reading/Language Arts: 2000 ≠ 1977; Mathematics: 2000 ≠ 1977; Social Studies: 2000 ≠ 1993, 2000 ≠ 1977, $p < 0.05$

Table 1.13 shows middle and high school mathematics teachers' perceptions of their qualifications to teach a number of topics. Compared to 1993, a larger percentage of middle school mathematics teachers feel very well qualified in each of 4 of the 8 topics: estimation, measurement, patterns and relationships, and numeration and number theory. At the high school level, a larger percentage of mathematics teachers in 2000 indicated they were very well qualified in 2 of the 8 topics: estimation and measurement. Fewer felt very well qualified to teach calculus.

Table 1.13
Mathematics Teachers Considering Themselves Very Well Qualified to Teach Each of a Number of Subjects, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 5–8				
Estimation	64	(3.3)	83*	(2.8)
Measurement	60	(3.2)	81*	(2.9)
Algebra	44	(3.1)	49	(3.6)
Patterns and relationships	52	(3.3)	73*	(3.7)
Geometry and spatial sense	50	(3.0)	57	(4.3)
Topics from discrete mathematics[8]	10	(2.0)	8	(1.8)
Numeration and number theory[8]	58	(2.8)	76*	(3.5)
Calculus[8]	4	(0.8)	4	(0.9)
Grades 9–12				
Estimation	72	(2.2)	85*	(1.7)
Measurement	79	(2.2)	85*	(1.7)
Algebra	95	(0.8)	94	(1.1)
Patterns and relationships	71	(2.8)	75	(2.0)
Geometry and spatial sense	69	(3.3)	70	(2.3)
Topics from discrete mathematics[8]	20	(1.7)	16	(1.5)
Numeration and number theory[8]	67	(2.9)	64	(2.2)
Calculus[8]	29	(1.8)	24*	(1.8)

* $p < 0.05$

The National Survey of Science and Mathematics Education also collected trend data on teachers' perceptions of their pedagogical preparedness. Table 1.14 shows the percentage of science teachers considering themselves well prepared for each of a number of tasks. The most striking change is the increase in the percentage of grade 5–8 and 9–12 teachers indicating they are well prepared to have students work in cooperative learning groups. Other changes in grades 9–12 are increases in teachers' feelings of preparedness to teach students that are heterogeneous in ability and to encourage the participation of minorities in science. In 2000, a larger percentage of grade 5–8 science teachers indicated that they feel well prepared to use the textbook as a resource rather than as the primary instructional tool. Fewer grade 1–4 teachers feel well prepared to involve parents in the science education of their children, a surprising and discouraging finding.

Table 1.14
Science Teachers Considering Themselves Well Prepared[§]
for Each of a Number of Tasks, by Grade Range: 1993 and 2000

	Percent of Teachers			
	1993		2000	
Grades 1–4				
Use cooperative learning groups[9]	83	(2.2)	83	(2.1)
Use the textbook as a resource rather than the primary instructional tool	77	(3.1)	74	(2.8)
Teach groups that are heterogeneous in ability	89	(2.3)	86	(2.1)
Teach students who have limited English proficiency	32	(2.7)	29	(2.7)
Encourage participation of females in science	92	(2.0)	92	(1.4)
Encourage participation of minorities in science	87	(2.3)	87	(1.8)
Involve parents in the science education of their children	57	(3.6)	46*	(2.7)
Grades 5–8				
Use cooperative learning groups[9]	83	(2.5)	92*	(1.5)
Use the textbook as a resource rather than the primary instructional tool	70	(3.0)	81*	(3.1)
Teach groups that are heterogeneous in ability	90	(1.9)	85	(2.7)
Teach students who have limited English proficiency	25	(3.4)	27	(3.1)
Encourage participation of females in science	94	(1.7)	93	(2.1)
Encourage participation of minorities in science	86	(2.4)	87	(2.6)
Involve parents in the science education of their children	56	(3.1)	51	(3.7)
Grades 9–12				
Use cooperative learning groups[9]	64	(3.4)	86*	(1.5)
Use the textbook as a resource rather than the primary instructional tool	80	(3.0)	85	(1.5)
Teach groups that are heterogeneous in ability	71	(2.9)	80*	(1.9)
Teach students who have limited English proficiency	23	(2.1)	21	(1.8)
Encourage participation of females in science	90	(3.0)	95	(0.7)
Encourage participation of minorities in science	80	(3.3)	89*	(1.3)
Involve parents in the science education of their children	43	(3.0)	44	(2.1)

* $p < 0.05$

§ Includes teachers responding "very well prepared" or "fairly well prepared" to each statement.

In mathematics, only teachers in grades 9–12 showed changes in their feelings of pedagogical preparedness from 1993 to 2000. (See Table 1.15.) A larger percentage of grade 9–12 mathematics teachers feel well prepared to have students work in cooperative groups and to use the textbook as a resource. In contrast, fewer grade 9–12 teachers than in 1993 feel well prepared to teach students who have limited English proficiency and to involve parents in the mathematics education of their children.

Table 1.15
Mathematics Teachers Considering Themselves Well Prepared[§]
for Each of a Number of Tasks, by Grade Range: 1993 and 2000

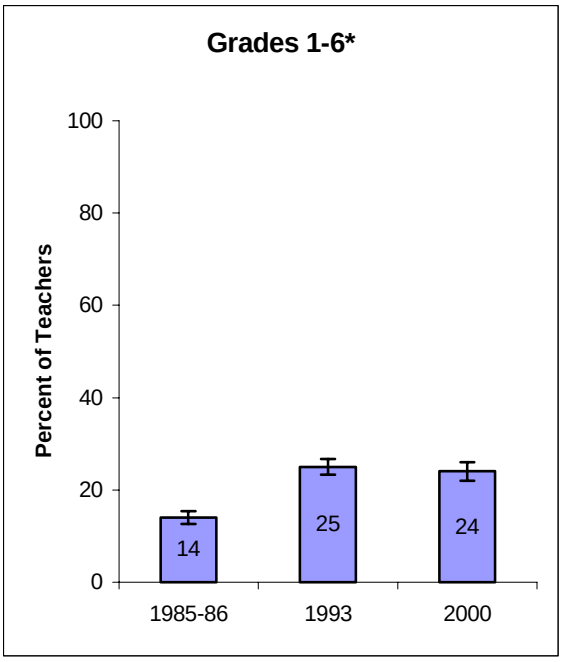
	Percent of Teachers			
	1993		2000	
Grades 1–4				
Use cooperative learning groups[10]	87	(1.7)	86	(2.0)
Use the textbook as a resource rather than the primary instructional tool	79	(1.1)	79	(1.8)
Teach groups that are heterogeneous in ability	89	(1.8)	85	(2.2)
Teach students who have limited English proficiency	28	(3.1)	34	(2.8)
Encourage participation of females in mathematics	95	(1.6)	98	(0.7)
Encourage participation of minorities in mathematics	84	(2.9)	90	(1.6)
Involve parents in the mathematics education of their children	67	(2.6)	70	(2.5)
Grades 5–8				
Use cooperative learning groups[10]	82	(2.6)	85	(2.6)
Use the textbook as a resource rather than the primary instructional tool	67	(3.8)	71	(2.8)
Teach groups that are heterogeneous in ability	85	(2.5)	81	(3.1)
Teach students who have limited English proficiency	33	(3.3)	26	(3.0)
Encourage participation of females in mathematics	95	(1.1)	96	(0.9)
Encourage participation of minorities in mathematics	84	(2.6)	88	(2.2)
Involve parents in the mathematics education of their children	57	(2.6)	51	(3.0)
Grades 9–12				
Use cooperative learning groups[10]	66	(2.9)	76*	(1.8)
Use the textbook as a resource rather than the primary instructional tool	62	(3.0)	71*	(1.9)
Teach groups that are heterogeneous in ability	71	(2.3)	73	(2.0)
Teach students who have limited English proficiency	25	(2.4)	18*	(1.5)
Encourage participation of females in mathematics	92	(1.5)	94	(0.9)
Encourage participation of minorities in mathematics	83	(1.6)	86	(1.4)
Involve parents in the mathematics education of their children	49	(2.3)	37*	(2.0)

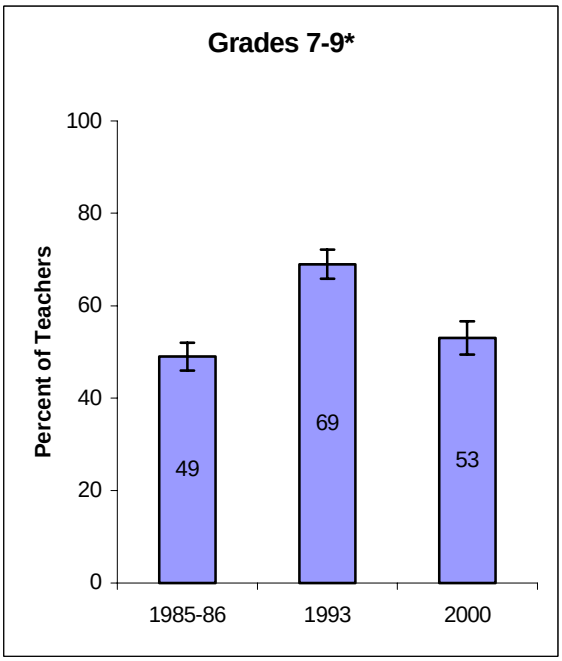
* $p < 0.05$

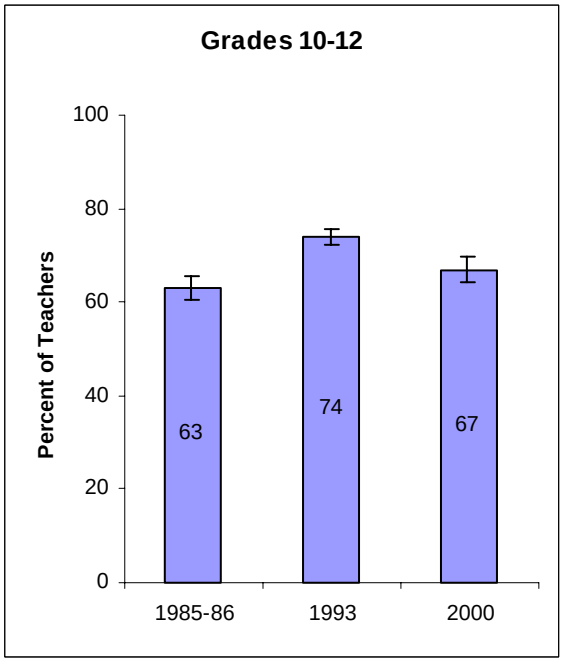
§ Includes teachers responding "very well prepared" or "fairly well prepared" to each statement.

When asked if they consider themselves to be "master" teachers, science and mathematics teachers in 2000 responded similarly to those in 1993 with the exception of grade 7–9 science teachers (Figures 1.3 and 1.4). There were no changes since 1993 in the percentages of teachers who indicated that they enjoyed teaching their subject. (See Figures 1.5 and 1.6.)

Science Teachers Considering Themselves a "Master" Teacher of the Subject[§]





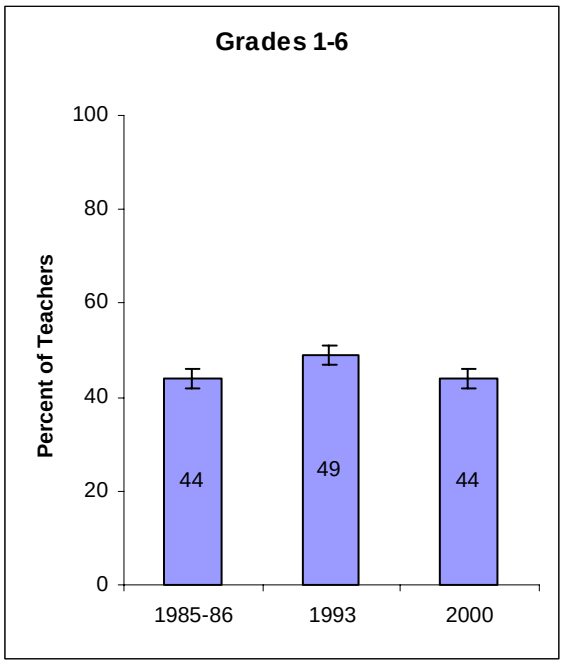


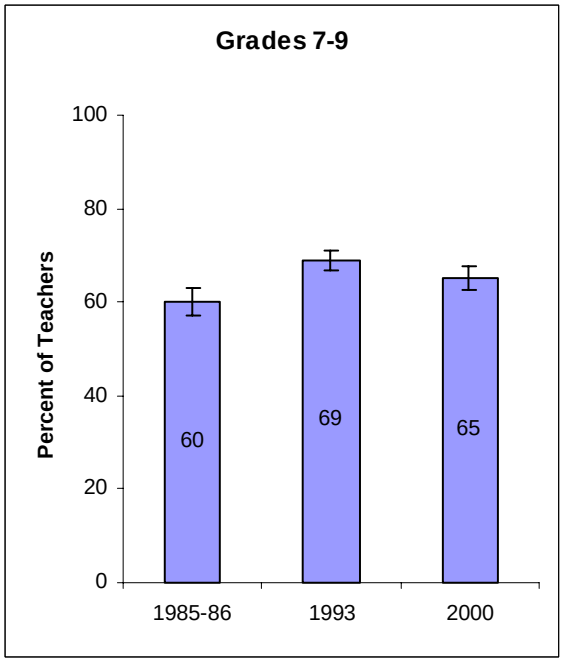
* Grades 1–6: 2000 ≠ 1985-86; Grades 7–9: 2000 ≠ 1993, $p < 0.05$

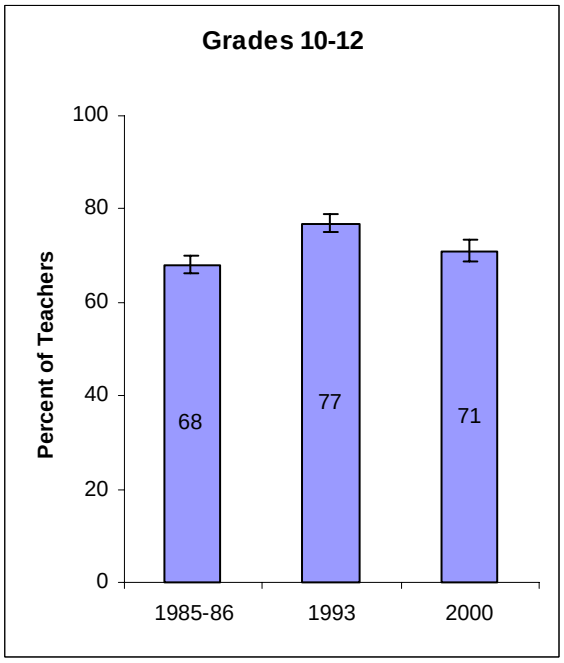
§ Includes teachers responding "strongly agree" or "agree" to the statement: "I consider myself a 'master' science teacher."

Figure 1.3

Mathematics Teachers Considering Themselves a "Master" Teacher of the Subject[§]

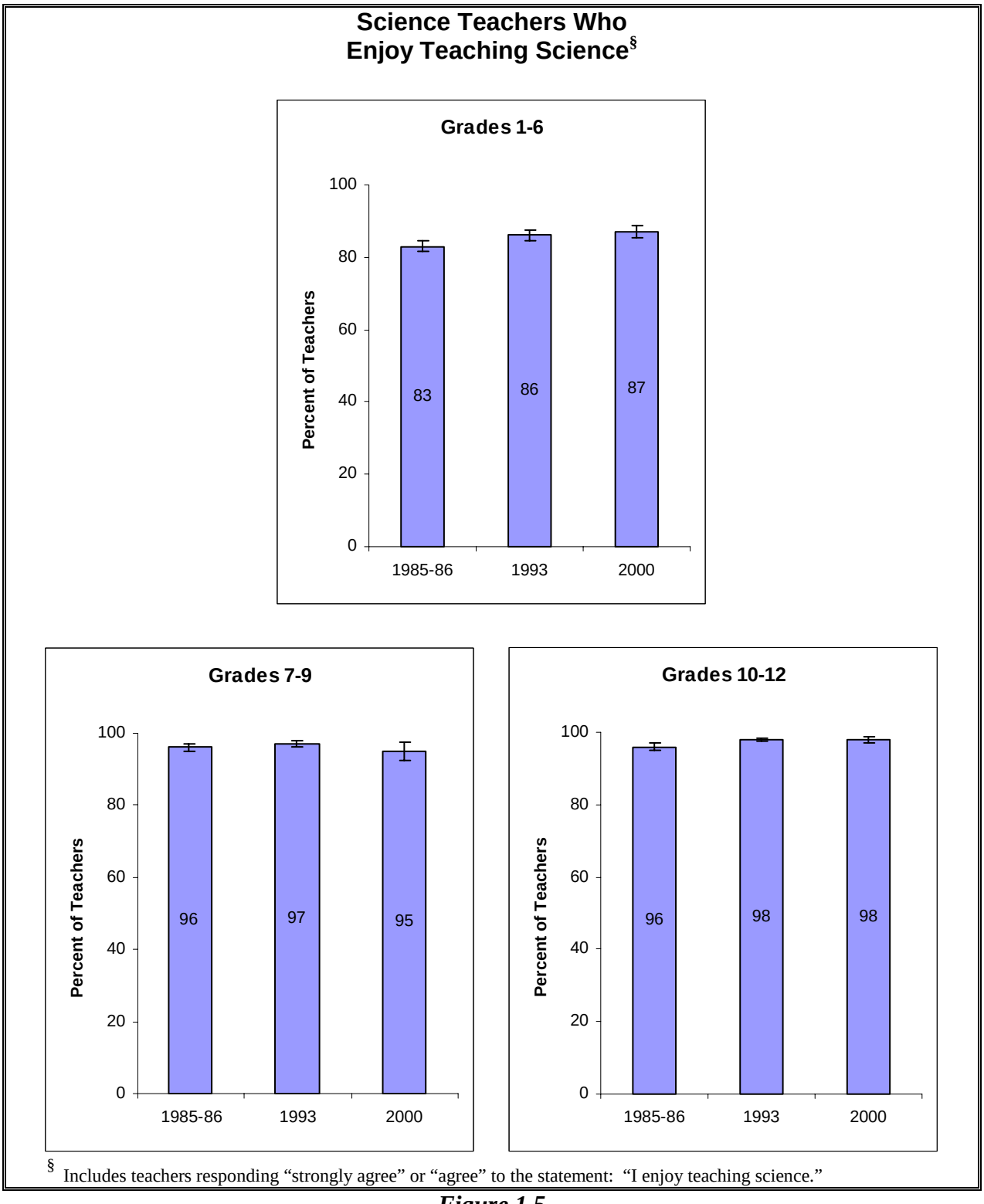






[§] Includes teachers responding "strongly agree" or "agree" to the statement: "I consider myself a 'master' mathematics teacher."

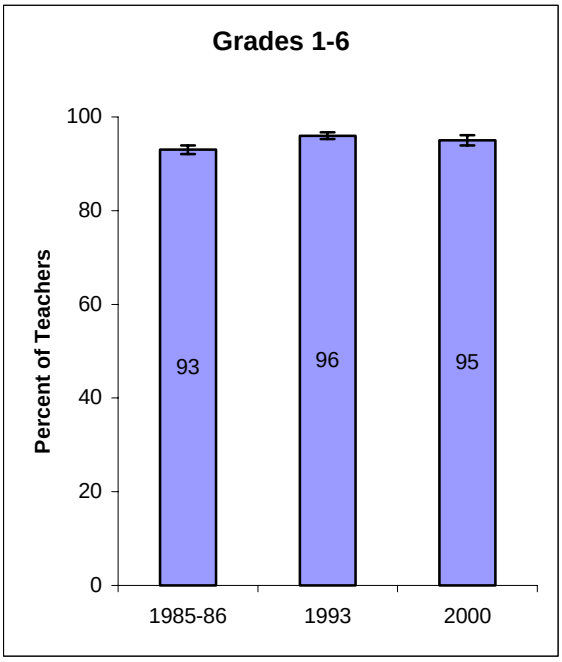
Figure 1.4

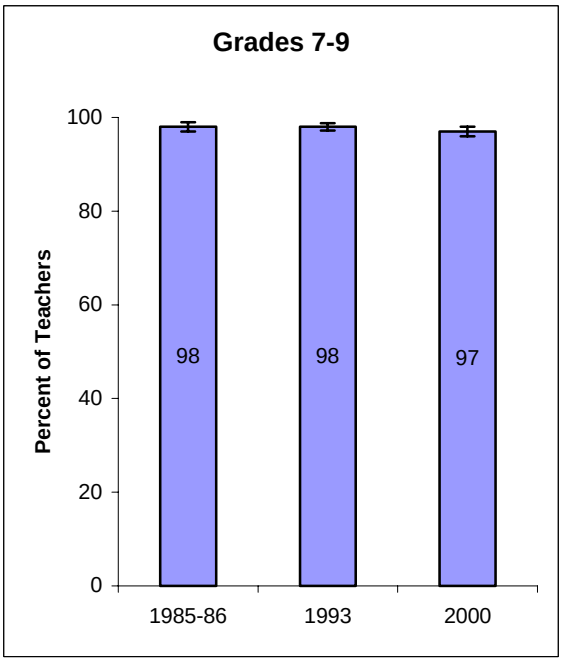


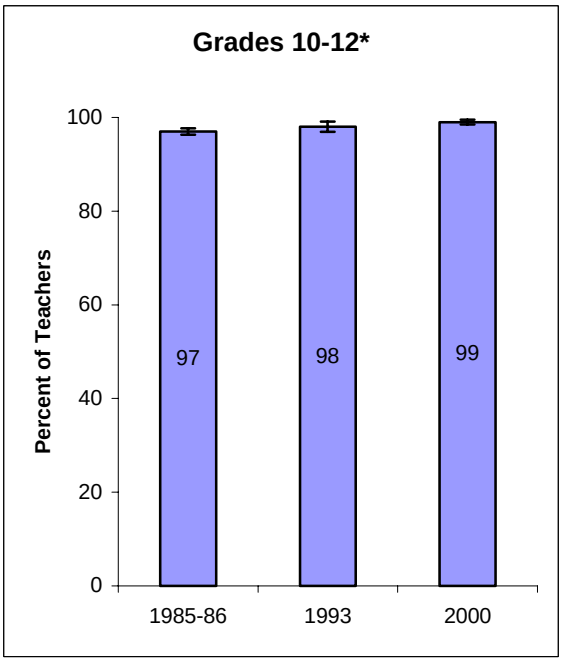
§ Includes teachers responding "strongly agree" or "agree" to the statement: "I enjoy teaching science."

Figure 1.5

Mathematics Teachers Who Enjoy Teaching Mathematics[§]







* Grades 10–12: 2000 ≠ 1977, $p < 0.05$

[§] Includes teachers responding "strongly agree" or "agree" to the statement: "I enjoy teaching mathematics."

Figure 1.6