

spotlight

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NO BUREAUCRAT LEFT BEHIND

N.C. public schools add staff at a much faster rate than enrollment

KEY FACTS: • North Carolina's public schools continue to add administrative, non-instructional, and instructional support positions at rates that far exceed enrollment growth. Since 2000, North Carolina's public school student enrollment (Average Daily Membership) has increased by approximately 13 percent, while school personnel has increased by nearly 18 percent.

- North Carolina's pupil/staff ratio decreased from nearly 8:1 in 2003 to just over 7:1 in 2006.
- North Carolina public schools employ an average of one teacher for every 14 students, one teacher assistant for every 45 students, and one administrative position for every 167 students. All told, the state's public schools have one employee for every seven students enrolled.
- Since 2000, school districts have added an additional 435 consultants/supervisors and nearly 2,000 "Other Professionals."
- School districts should tie funds for the salary and benefits of teachers, administrators, and other public school personnel to various performance measures, as well as increase or decrease personnel based closely on yearly enrollment changes.

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in 2006, Governor Mike Easley commissioned the "North Carolina High School Resource Allocation Study" to determine if high schools in North Carolina used existing levels of funding efficiently and effectively. In February 2008, after two years of exhaustive study, a team of researchers from UNC Chapel Hill and East Carolina University released the study's final report. Researchers concluded that, in general, high schools are not using their funding to maximize achievement for all students.¹

After controlling for student characteristics and teacher quality, researchers found that the effect of total per-pupil expenditures on student performance is very small. For example, they pointed out that a \$500 increase in total per-pupil expenditures in a school would lead to only 6/100ths of a point increase in

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average test scores in the school. On the other hand, researchers concluded that the amount that high schools spend on regular classroom instruction would have a sizable impact on student learning outcomes. In this case, a \$500 increase in per-pupil expenditures for regular classroom instruction would increase the average student test score by half a point.²

Unfortunately, school districts across North Carolina have invested heavily in support services and staff, rather than classroom instruction. In the study, money spent outside of the classroom, including after-school instruction and student services, actually had a negative effect on student test scores. Researchers explained that employing guidance counselors, psychologists, speech pathologists, and health personnel did not somehow lower test scores. Instead, schools that spent more in these areas likely provided less money for classroom instruction. Thus, diverting resources from the classroom to supplementary services and staff may have contributed to lower test scores among sampled high schools.³

Results of the “North Carolina High School Resource Allocation Study” suggest that teacher-centered schools and school districts may have higher student achievement gains than schools and districts that employ numerous providers of supplementary services and support staff.⁴ This study examined staffing trends to assess North Carolina’s progress toward reducing bureaucracy and thereby focusing expenditures on classroom instruction. Regrettably, North Carolina’s public schools continue to add administrative, non-instructional, and instructional support positions at rates that far exceed enrollment growth.

National School Personnel Trends

Since 1950, school districts in the United States began to shift the composition of their personnel from instructional staff like teachers and principals to administrative, district, and school support staff (see Table 1). In 1950, instructional staff accounted for nearly three out of every four employees, while support staff accounted for less than one out of every four employees. By 1980, the share of instructional staff fell to only two-thirds of all public school employees. Since 1980, the share of instructional staff to total staff began to rebound, but it continues to fall short of the 1950 high.

Table 1. Percentage distribution of staff employed in U.S. public school systems, 1950-2006⁵

Year	Total Administrative Staff (Officials, administrators, instruction coordinators)	Total Instructional Staff (Principals, assistant principals, teachers, aids, and guidance counselors)	Total Support Staff (Administrative support, school and library support, and student support)	Total
1950	2.6	73.6	23.8	100%
1960	2.0	69.4	28.6	100%
1970	1.9	67.1	30.9	99.9% ⁶
1980	1.9	65.5	32.6	100%
1990	1.7	67.9	30.4	100%
2000	1.7	67.9	30.4	100%
2006	2.0	68.1	29.9	100%

On average, just over half of all public school employees in the United States are teachers. In North Carolina, teacher/staff ratio increased slightly between 2003 and 2006 (see Table 2). In 2003, approximately 51 percent of all public school employees were teachers, which meant that 49 percent of all public school employees in 2003 had non-

Table 2. Staff and teachers in public school systems, 2003-06⁷

State/Jurisdiction	2003		2004		2005		2006	
	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio
Alabama	57.7	7.3	55.6	7.9	55.7	7.1	51.1	6.8
Alaska	47.2	8.1	44.0	7.5	44.1	7.4	46.9	7.9
Arizona	49.3	10.5	50.0	10.7	51.3	10.9	51.4	10.4
Arkansas	47.7	7.0	47.2	7.0	46.7	6.7	49.0	6.7
California	53.1	11.2	53.2	11.2	53.4	11.1	53.0	11.0
Colorado	50.2	8.5	49.4	8.4	49.2	8.4	48.2	8.2
Connecticut	49.6	6.8	46.3	6.9	46.9	6.8	45.1	6.6
Delaware	53.1	8.1	52.5	8.0	51.7	7.8	52.2	7.9
District of Columbia	53.5	7.4	44.3	6.3	44.3	6.2	44.2	6.0
Florida	49.0	8.7	49.7	8.5	50.6	8.5	50.6	8.3
Georgia	48.5	7.6	50.1	7.4	49.6	7.3	49.9	7.2
Hawaii	52.7	8.7	54.3	8.9	53.3	8.7	53.5	8.6
Idaho	55.9	10.0	55.9	10.0	55.8	10.1	56.1	10.2
Illinois	50.2	8.3	50.2	8.0	53.2	8.4	63.6	9.6
Indiana	45.9	7.7	45.4	7.7	45.5	7.8	45.5	7.8
Iowa	51.1	7.1	50.7	7.0	50.9	7.0	51.2	6.9
Kansas	51.1	7.4	51.4	7.3	51.3	7.1	65.7	8.7
Kentucky	43.0	6.9	43.2	7.0	43.3	6.9	43.9	6.9
Louisiana	49.0	7.1	48.5	7.1	48.2	7.1	48.3	7.1
Maine	49.1	5.6	47.7	5.7	47.3	5.5	45.7	5.3
Maryland	51.3	8.1	50.9	8.0	51.0	7.7	51.5	7.5
Massachusetts	53.6	7.3	53.3	7.1	53.0	7.0	53.6	7.1
Michigan	47.1	8.5	48.0	8.3	47.9	8.5	46.2	8.1
Minnesota	49.7	8.1	50.0	8.0	48.9	8.0	48.6	7.9
Mississippi	47.7	7.2	46.6	7.4	46.5	7.3	47.0	7.2
Missouri	51.8	7.2	51.9	7.1	52.1	7.1	53.1	7.2
Montana	55.2	8.0	54.5	7.8	52.9	7.4	54.7	7.6
Nebraska	51.6	7.0	51.6	6.9	51.9	7.0	50.0	6.7
Nevada	59.4	11.3	67.0	12.8	67.2	12.7	67.5	12.5
New Hampshire	49.0	6.7	48.7	6.6	48.5	6.4	48.2	6.3
New Jersey	53.5	6.8	53.8	6.5	53.2	6.6	54.7	6.8
New Mexico	48.1	7.2	46.7	7.0	45.9	6.8	47.3	7.1
New York	54.8	7.3	54.8	7.1	58.6	7.5	58.6	7.5
North Carolina	52.3	7.9	52.2	7.8	52.5	7.8	53.1	7.3
North Dakota	53.3	6.8	53.2	6.6	52.9	6.5	52.8	6.4
Ohio	50.2	7.6	49.2	7.7	49.4	7.7	45.5	7.6
Oklahoma	55.0	8.8	52.2	8.1	51.1	7.8	51.6	7.8
Oregon	49.3	10.2	48.4	9.8	47.0	9.2	51.8	11.0
Pennsylvania	51.4	7.8	51.1	7.7	50.9	7.6	51.2	7.8
Rhode Island	59.9	8.0	51.6	6.9	58.4	6.3	63.6	8.5
South Carolina	72.9	11.1	72.2	10.8	70.9	10.3	66.6	9.4
South Dakota	48.6	6.6	50.1	6.8	48.0	6.4	52.4	7.0

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State/Jurisdiction	2003		2004		2005		2006	
	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio	Teachers as percent of staff	Pupil/staff ratio
Tennessee	51.3	8.1	51.8	8.1	52.2	8.4	50.5	7.9
Texas	48.5	7.3	48.5	7.3	50.5	7.6	50.6	7.5
Utah	53.3	11.9	50.1	11.3	50.2	11.1	49.9	11.1
Vermont	46.8	5.3	46.1	5.2	46.5	5.1	46.1	5.0
Virginia	54.4	7.2	52.2	6.7	44.4	5.2	43.8	5.1
Washington	48.3	9.3	47.5	9.1	47.0	9.1	52.2	10.0
West Virginia	52.7	7.4	52.6	7.4	52.3	7.4	49.5	7.2
Wisconsin	55.7	8.4	58.2	8.3	57.0	8.3	56.3	8.3
Wyoming	46.5	6.2	46.7	5.9	46.2	5.8	44.4	5.6
National Average	51.2	8.2	51.0	8.1	51.3	8.0	51.6	8.0

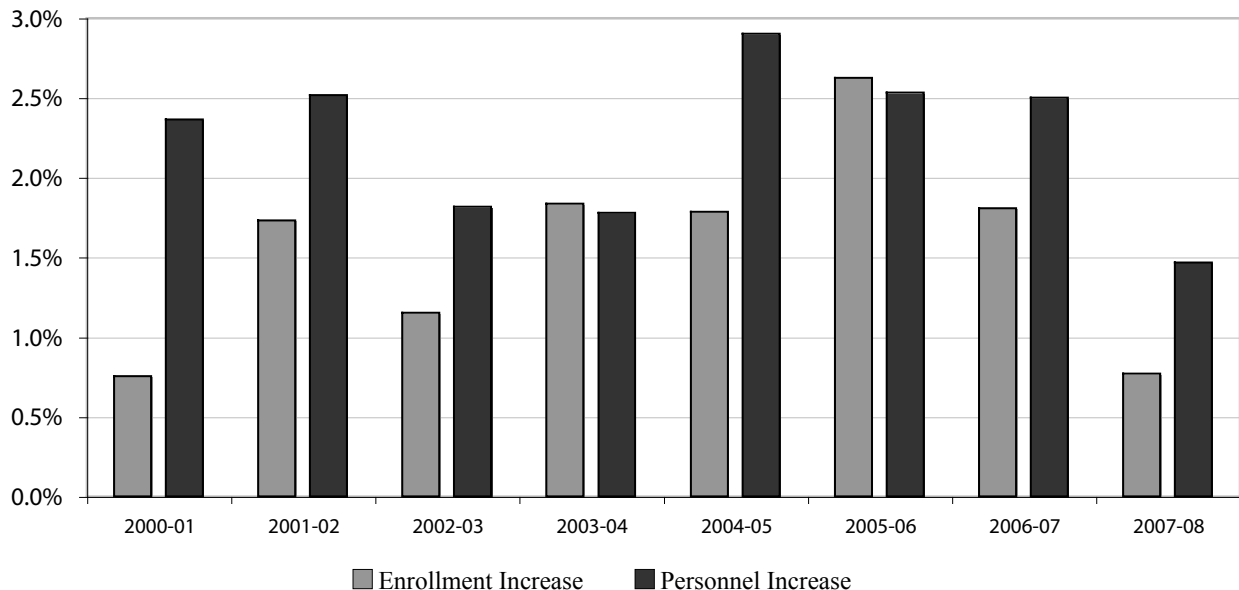
teaching jobs. In North Carolina, 53 percent of public schools employees were teachers in 2006. Correspondingly, 47 percent of public school employees had non-teaching jobs in that year.

Similarly, in 2003, the average state had approximately eight students for every public school employee, while in North Carolina the average was closer to seven students for every public school employee (see Table 2). In other words, if you evenly divided the total population of students and teachers in North Carolina, each employee would be responsible for approximately seven students.

North Carolina Personnel Trends

Total personnel growth in North Carolina has significantly outpaced student enrollment growth (see Figure 1). Since 2000, North Carolina’s public school enrollment (Average Daily Membership) increased by approximately 13 percent, while personnel increased by nearly 18 percent.⁸ In six of the last eight years, yearly personnel growth outpaced yearly enrollment growth, suggesting that personnel growth has continued in spite of changes in enrollment.

Figure 1. North Carolina Student Enrollment vs. Total Personnel Increases, 2000-08



The category of “Assistant Principals, Teaching” had the highest percent increase of all personnel categories, but the actual numerical increase in this category is small (see Table 3). On the other hand, the 42 percent increase in the “Other Teachers” category is noteworthy. According to the North Carolina Department of Public Instruction, these are teachers who taught both elementary (Grades K-8) and secondary (Grades 9-12) students and teachers who could not be defined as either elementary or secondary.

Additionally, substantial increases in two instructional support categories, “Consultants, Supervisors” and “Other Professionals” suggest that school districts continued to increase their bureaucracy between 2000 and 2008.

Table 3. North Carolina Personnel Position Increases, 2000-08

<i>Position</i>	<i>2000-01</i>	<i>2007-08</i>	<i>Percent Change</i>
Total Personnel	159,936	187,463	17%
Total Schools	2,112	2,354	11%
Average Daily Membership	1,267,070	1,430,848	13%
Officials, Administrators, Managers	1,515	1,753	16%
Principals	2,100	2,313	10%
Assistant Principals, Teaching	32	123	284%
Assistant Principals, Non-teaching	2,354	2,675	14%
Total Administration	6,001	6,864	14%
Elementary Teachers	43,621	49,468	13%
Secondary Teachers	25,519	27,539	8%
Other Teachers	13,018	18,535	42%
Total Teachers	82,158	95,542	16%
Guidance	3,285	3,669	12%
Psychological	603	711	18%
Librarian, Audiovisual	2,275	2,335	3%
Consultant, Supervisor	813	1,248	54%
Other Professionals	3,624	5,603	55%
Total Instructional Support	10,600	13,566	28%
Teacher Assistants	27,212	29,232	7%
Technicians	892	1,420	59%
Clerical, Secretarial	9,144	10,597	16%
Service Workers	20,244	22,494	11%
Skilled Crafts	3,093	3,189	3%
Laborers, Unskilled	592	1,065	80%
Total Nonprofessional	61,177	67,997	11%
Total Personnel	159,936	187,463	17%
Total Schools	2,112	2,354	11%
Average Daily Membership	1,267,070	1,430,848	13%

Since 2000, school districts have added an additional 435 consultants and/or supervisors. If you divide the total number of consultants and/or supervisors (1,248) equally among North Carolina’s 115 school districts, each school district had an average of 11 consultants and/or supervisors. School districts also added nearly 2,000 “Other Professional”

employees since 2000. The “Other Professional” category includes non-classroom teachers, dentists, speech therapists, school social workers, community workers, attendance officers, attorneys, architects, engineers, registered nurses, and other non-instructional staff.

North Carolina School Districts: Personnel Ratios

The figures in the Appendix represent the ratio of students to personnel for each school district in North Carolina. For example, the Alamance-Burlington School District has one personnel position for every eight students. Similarly, the ratio of students to teachers for the Alamance-Burlington School District is 15:1; that is, one teacher for every 15 students. The student-teacher ratio should not be confused with class size. Class sizes vary considerably and depend on a number of factors, including student enrollment, scheduling, course demand, teacher supply, subject, and grade. Some classes, particularly exceptional and gifted education classes, often require smaller class sizes than typical classes.

Conclusion

Several factors contributed to North Carolina’s robust personnel growth. Efforts to lower class sizes have pushed school districts to hire additional teachers and teacher assistants, although growth in these and other instructional staff positions has been modest. State and federal programs, particularly No Child Left Behind, required state education agencies and school districts to add administrative personnel to meet reporting requirements. Most importantly, since 2000, school districts received significant funding increases from federal, state, and local governments, allowing school administrators to hire specialty and non-instructional personnel.

Regardless of the reasons for personnel growth, school districts should pay special attention to spending on personnel because salary and benefits represent the largest single category of expenditure for public education in North Carolina. Last year, school districts spent \$9.9 billion on salary and benefits, accounting for approximately 83 percent of the state’s total expenditures on public education.⁹

School districts should tie funds for the salary and benefits of teachers, administrators, and other public school personnel to various performance measures. Specifically, school systems should use transparent, outcome-based measures, including test scores and value-added measures, to reward the efforts of successful teachers and administrators. School districts should also use personnel funds to attract highly qualified science, mathematics, and special education teachers to low performing schools.

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Appendix. North Carolina School District Student-Personnel Ratios, 2007-08 School Year¹⁰

School District	Students per Personnel Position ¹¹	Students per Administrative Position ¹²	Students per Principal ¹³	Students per Teacher	Students per Guidance Counselor	Students per Teacher Assistant	Students per Clerical Position
STATE AVERAGE	7	167	259	14	380	45	122
Alamance-Burlington	8	167	250	15	437	50	153
Alexander County	8	190	285	17	356	46	116
Alleghany County	6	84	265	12	318	35	99
Anson County	8	123	246	14	418	79	93
Ashe County	7	123	276	13	474	50	133
Asheboro City	7	155	280	13	407	41	118
Asheville City	6	93	181	11	253	31	75
Avery County	6	122	166	12	258	38	93
Beaufort County	8	284	254	14	418	50	118
Bertie County	8	116	348	16	391	78	101
Bladen County	7	132	221	14	368	41	100
Brunswick County	8	134	277	16	410	48	117
Buncombe County	8	212	284	16	386	47	149
Burke County	9	365	347	14	331	60	165
Cabarrus County	8	280	256	15	357	58	110
Caldwell County	8	167	306	15	365	40	150
Camden County	8	104	282	15	658	42	99
Carteret County	7	202	251	12	296	46	136
Caswell County	7	183	330	14	330	39	106
Catawba County	9	163	297	16	371	47	186
Chapel Hill-Carrboro	6	94	315	13	291	33	101
Chatham County	7	241	286	14	407	40	114
Cherokee County	7	231	185	13	336	51	127
Clay County	8	203	236	14	N/A	41	158
Cleveland County	7	138	239	14	404	37	113
Clinton City	7	139	304	15	418	38	139
Columbus County	8	171	251	15	335	54	153
Craven County	8	200	251	14	411	43	130
Cumberland County	8	186	245	15	359	47	117
Currituck County	7	158	242	15	374	46	121
Dare County	7	129	188	13	287	51	87
Davidson County	9	201	337	17	394	50	155
Davie County	8	187	259	16	449	43	135
Duplin County	7	225	273	15	391	41	141
Durham County	7	346	265	13	413	57	123
Edenton/Chowan	7	107	256	14	366	34	116
Edgecombe County	8	123	258	16	356	44	123
Elkin City	7	94	244	13	407	49	76
Forsyth County	8	104	280	15	390	53	123
Franklin County	8	169	257	15	565	55	176
Gaston County	9	177	254	16	428	55	157
Gates County	6	72	297	13	347	34	99
Graham County	6	44	244	13	406	30	94
Granville County	8	150	257	16	333	47	114
Greene County	6	82	297	14	297	37	102
Guilford County	8	119	307	14	356	59	141
Halifax County	7	109	192	15	321	36	112
Harnett County	8	226	286	15	442	45	170
Haywood County	7	204	284	15	331	51	110
Henderson County	8	218	317	15	391	47	151
Hertford County	7	90	286	14	246	37	127
Hickory City	8	323	226	14	301	51	119
Hoke County	7	89	275	17	372	42	143
Hyde County	5	59	130	10	325	46	50
Iredell-Statesville	8	187	302	14	397	83	145
Jackson County	6	123	230	13	409	44	112
Johnston County	8	251	300	14	443	50	146
Jones County	5	117	143	11	428	27	86
Kannapolis City	7	173	313	14	455	35	122
Lee County	8	166	278	16	429	39	128
Lenoir County	8	233	227	16	349	49	112

School District	Students per Personnel Position	Students per Administrative Position	Students per Principal	Students per Teacher	Students per Guidance Counselor	Students per Teacher Assistant	Students per Clerical Position
STATE AVERAGE	7	167	259	14	380	45	122
Lexington City	7	120	240	14	347	31	125
Lincoln County	8	330	235	15	290	52	112
Macon County	8	335	242	14	484	49	112
Madison County	6	N/A	240	13	377	41	98
Martin County	7	161	199	13	279	35	104
McDowell County	8	271	325	16	464	49	162
Mecklenburg County	8	154	261	15	431	61	171
Mitchell County	6	111	201	13	369	40	105
Montgomery County	6	142	284	13	413	31	97
Moore County	8	207	264	15	376	42	163
Mooresville City	8	296	313	17	376	47	144
Mount Airy City	7	135	220	13	440	55	103
Nash-Rocky Mount	8	204	284	16	297	45	137
New Hanover County	7	125	249	15	350	42	97
Newton-Conover	7	142	248	13	271	34	124
Northampton County	5	75	175	13	331	45	88
Onslow County	8	171	310	15	465	46	126
Orange County	7	118	240	14	290	46	101
Pamlico County	6	67	171	12	385	47	67
Pasquotank County	8	197	301	14	395	43	124
Pender County	9	184	247	16	465	56	136
Perquimans County	5	63	251	14	251	37	92
Person County	7	95	298	14	405	52	177
Pitt County	8	287	310	14	318	47	147
Polk County	6	101	221	13	243	47	106
Randolph County	8	204	352	16	404	43	156
Richmond County	7	584	255	14	409	38	136
Roanoke Rapids City	7	119	270	15	371	42	124
Robeson County	7	84	309	15	408	38	142
Rockingham County	8	192	277	15	411	45	128
Rowan-Salisbury	7	161	246	15	295	41	125
Rutherford County	7	148	264	15	386	32	129
Sampson County	8	198	261	15	352	43	135
Scotland County	6	89	201	13	285	30	101
Stanly County	8	302	254	14	322	49	136
Stokes County	8	305	271	15	281	48	143
Surry County	6	150	236	14	415	44	123
Swain County	6	53	263	12	369	42	123
Thomasville City	7	59	238	15	374	38	125
Transylvania County	7	212	272	14	423	38	127
Tyrrell County	5	61	122	12	204	26	56
Union County	8	296	289	15	420	52	149
Vance County	6	98	328	13	342	43	119
Wake County	8	227	308	15	434	59	126
Warren County	8	88	255	16	281	40	108
Washington County	5	115	188	11	413	30	115
Watauga County	7	117	284	13	284	48	117
Wayne County	7	198	303	14	441	37	158
Weldon City	5	37	145	13	253	37	67
Whiteville City	7	134	255	14	364	52	98
Wilkes County	8	122	273	15	374	47	125
Wilson County	8	261	267	15	349	48	126
Yadkin County	8	141	238	16	477	39	159
Yancey County	6	112	172	14	322	40	95
STATE AVERAGE	7	167	259	14	380	45	122

End Notes

1. Gary T. Henry, Charles L. Thompson et al., "North Carolina High School Resource Allocation Study, Final Report," February 2008.
2. *Ibid.*
3. *Ibid.*
4. Laura B. Nielsen and Patrick J. Wolf, "Representative Bureaucracy and Harder Questions: A Response to Meier, Wrinkle, and Polinard," *The Journal of Politics*, Vol. 63, No. 2 (May 2001), pp. 598-615; John Bohte, "School Bureaucracy and Student Performance at the Local Level," *Public Administration Review*, Vol. 61, No. 1 (January-February 2001), pp. 92-99; John Chubb and Terry Moe, "Politics, Markets and the Organization of Schools," *American Political Science Review*, Vol. 82, No. 4 (1988), pp. 1065-1087; Israel Biniaminov and Naftaly S. Glasman, "School Determinants of Student Achievement in Secondary Education," *American Educational Research Journal*, Vol. 20, No. 2 (Summer 1983), pp. 251-268. Theoretical underpinnings include: Michael B. Katz, *Class Bureaucracy and Schools: The Illusion of Educational Change in America*, New York: Praeger Publishers, 1971; William Niskanen, *Bureaucracy and Representative Government*, Chicago: Aldine, Atherton, 1971; Gordon Tullock, *The Politics of Bureaucracy*, Washington, DC: Public Affairs Press, 1965; C. Northcote Parkinson, *Parkinson's Law or the Pursuit of Progress*, London: John Murray, 1957: pp. 4-15; Milton Friedman, "The Role of Government in Education," in *Economics and the Public Interest*, edited by Robert A. Solo, 123-44, New Brunswick, NJ: Rutgers University Press, 1955; Ludwig von Mises, *Bureaucracy*, New Haven: Yale University Press, 1946.
5. Thomas D. Snyder, Sally A. Dillow, and Charlene M. Hoffman, "Digest of Education Statistics 2008 (NCES 2009-020)," National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC, March 2009, p. 113.
6. Some rows may not total 100% because of rounding.
7. *Ibid.*, pp. 121-122.
8. North Carolina Department of Public Instruction (NC DPI), "2000-01 Facts & Figures" and "Facts and Figures, 2007-08."
9. NC DPI, Division of School Business, "2007-2008 Selected Financial Data," accessed April 2009.
10. Ratios were calculated by dividing the personnel number by the final Average Daily Membership of the school district. NC DPI, "Statistical Profiles," 2001 and 2008, accessed April 2009; NC DPI, Division of School Business, "2007-2008 Selected Financial Data," accessed April 2009; NC DPI, ESAS—Education Statistics Access System, "Final ADM history by LEAs, 1979-1980 on" and "Full-Time Personnel by LEAs, years, race, gender and Assignment Categories," accessed April 2009.
11. This category includes principals, assistant principals, administrators and supervisors, teachers, guidance counselors, psychologists, library/media staff, consultants, teacher assistants, technicians, clerical and secretarial staff, and service workers.
12. The administrative personnel column includes administrators, supervisors, managers, consultants, and "other" professionals.
13. This category includes principals, assistant principals, and assistant principals with teaching responsibilities.