



The University of North Carolina

GENERAL ADMINISTRATION

POST OFFICE BOX 2688, CHAPEL HILL, NC 27515-2688

ALAN R. MABE, *Senior Vice President for Academic Affairs*

Telephone: (919) 962-4614 Fax: (919) 962-0120 E-mail: mabe@northcarolina.edu

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MEMORANDUM

TO: Members, Committee on Educational Planning, Policies, and Programs

FROM: Alan Mabe

DATE: June 2, 2010

SUBJECT: Report on Teacher Productivity

Background: Teacher production is one of the highest priorities of the University. The general goal is more and better teachers. The workshop presented to the Board in April drew attention to the research being conducted to guide the production of better teachers. This is the annual report to document about how well UNC campuses are doing in producing more teachers overall and in high-need areas.

Jurisdictional Authority: The Board of Governors authorized a major study of the production of teachers in 2003 that was reported in 2004. That report, the UNC Board of Governors' Task Force on Meeting Teacher Supply and Demand, directed General Administration to work with the Council of Teacher Education Deans to develop a plan to increase the production of teachers. This measure-up report provides another year of data to show the progress campuses are making.

Issues Involved: The goal setting for producing more teachers is being re-evaluated in light of the persisting economic downturn we are experiencing. We know that we need to continue to expand the capacity overall and especially in the high-need areas such as mathematics, science, middle grades, and special education.

Recommended Action: No specific action is required.

DRAFT

Report on UNC Productivity of Initially Licensed Teacher
Education Graduates and Alternative Licensure
Completers for 2008-2009

2010

Teacher Supply and Demand at the National and State Level

The critical shortage of teachers available to fill elementary and secondary classroom vacancies has commanded the attention of educational leaders and policy-makers at national and state levels for more than a decade. Public elementary school enrollment (prekindergarten through grade 8) is projected to increase by 10 percent between 2008 and 2017. Public secondary school enrollment (grades 9 through 12) is expected to increase 5 percent between 2008 and 2017. Overall, total public school enrollment is expected to increase 9 percent between 2008 and 2017 (US DOE, 2009). Teacher shortages and concerns over workforce supply and demand have been written about extensively since the early 1980s (National Commission on Excellence in Education, 1983; National Commission on Teaching and America's Future, 1996, 1997, 2003). As a result of improved research and data at national and state levels, a clearer picture of the teaching labor force has emerged. The data reveals elementary and secondary school teachers are the second largest degreed occupation in the United States, making up 4% of the entire civilian workforce (Ingersoll, 2003; USDOE, 2003). In 2007, 3.2 million practicing public school teachers and 0.5 million private school teachers were employed in kindergarten through twelfth grade classrooms across the nation (US DOE, 2003; Hussar & Bailey, 2008). North Carolina alone employed just over 104,000 elementary and secondary school teachers in 2007-2008 (TQ research citation). The number in North Carolina is projected to increase to over 110,000 by 2017. The magnitude and size of the public school teaching workforce, kindergarten through twelfth grade in North Carolina and across the nation is astoundingly large. Responding to school staffing issues at a local district level or policy associated with teacher supply and demand at a state or national level is an enormous and complex challenge for educators and leaders charged with the responsibility. Supplying the number of appropriately qualified elementary through secondary teachers that meet the needs of North Carolina's 115 school districts and 2,483 schools is a highly decentralized and complex challenge for local educators and for state policy makers.

Analysis of supply and demand in the teacher labor market is even more complex when viewed nationally. Ingersoll (2003) estimates that approximately one third of the nation's teaching workforce "transitions into, between, or out of schools" annually, characterizing the phenomenon as a "revolving door" of workforce flows (p. 11). Coincident to, and in part a result

of the effect of workforce flows described by Ingersoll, American schools hired 284,000 new teachers in 2006 (US DOE, 2009). By the year 2018, the number of new hires in schools is expected to increase 26% at the national level to 357,000 (US DOE, 2009). North Carolina's current projections are at 11,847 or the need for approximately 12,000 additional teachers each year to fill classroom vacancies. Within five years the number will increase to almost 13,000 according to workforce analysis conducted by the University of North Carolina General Administration (UNCGA) in 2008 (UNCGA, 2009). In 2007-2008 the largest single source of NC teachers entered the workforce in this State after having been prepared through a UNC undergraduate program of study. UNC undergraduate prepared teachers make up 32% of the teacher workforce. Approximately 33 % of North Carolina's supply of new teachers is prepared by constituent institutions of the University of North Carolina (UNC), the state's single largest supply source of new teachers (UNCGA, 2008). UNC's fifteen professional teacher preparation programs currently prepare approximately 4,300 prospective new teachers annually for the State.

The workforce analysis completed by the UNC GA projects the annual number of newly licensed teachers needed in North Carolina based on historical data (see appendix A) and it identifies other reliable labor market supply sources in the State that regularly contribute to teacher supply and demand (UNCGA, 2009). The analysis has determined the approximate percentage of all new teachers that UNC should be producing on an annual basis if the state is to achieve greater equilibrium with teacher supply and demand at the state level, significantly reduce the classroom vacancy gap, and obtain greater authority in predicting the labor market flows within and among school districts across the state. Results from the workforce study have been used to justify and substantiate the expansion of teacher productivity goals with each of UNC's fifteen campuses that have accredited teacher education programs (UNCGA, 2009). Results have also countered claims that UNC should be preparing 100% of the state's supply of new teachers. The study which was conducted prior to the economic downturn estimates that UNC's constituent institutions should be producing approximately 50% to 55% of all new teachers in North Carolina within five years, with the remaining 45% to 50% coming from other identified reliable labor market supply sources. UNC's teacher education programs will need to increase the current teacher workforce contribution from 33% in 2007-08 to 45% to 50% over the next five years. With current productivity at 4,355 for the system, a difference of 1,600 to 2,600 prospective new teachers will need to be prepared through programmatic increases on

UNC campuses. The remaining 45% to 50% is projected to be reconciled through other reliable teacher supply sources in the state; North Carolina Private and Independent Colleges and Universities contribute between 600 and 1,000 prospective new teachers each year, the North Carolina Department of Public Instruction's Regional Alternative Licensure Centers (RALCs) contribute close to 1,000 prospective teachers each year, approximately 2,500 new teachers each year come from out-of-state, and 1,800 teachers that were not teaching the prior year return to the profession annually.

Due to the the economic downturn that has impacted hiring demands at local levels, the UNC General Administration is further analyzing overall teacher supply and demand in the state, the resulting new teacher hires in North Carolina public schools for the 2009-2010 year, and new hire projections for 2010-11 before instituting campus expanded productivity goals to meet the public school need.

Tracking UNC Progress in Teacher Productivity over a Three-Year Period

2006-07 to 2008-09

The most recent UNC teacher productivity data for 2008-09 reflects a substantial increase in the number of initially licensed teachers produced by UNC schools, colleges and departments of education over the last three years. Overall productivity of traditional teacher education graduates, graduate-level initial licensees, and alternative licensure completers increased from 4,003 in 2006-07 to 4,355 in 2008-09 (see Table 1). Initially licensed teachers in high-need areas (mathematics education, science education, middle grades education, and special education) have increased significantly as well, from 1,006 to 1,367 over this same period of time (see Table 2). The data indicate that the planning and support for campus recruitment efforts are beginning to pay off and contribute to UNC's overall goal of preparing more and better teachers and school leaders for North Carolina's public schools.

Table 1. UNC Traditional Undergraduates, Alternative Licensure Completers, and MAT/M.Ed Graduates			
2006-07 through 2008-09			
Campus	2006-07	2007-08	2008-09
ASU	465	475	580
ECU	737	751	796
ECSU	50	56	72
FSU	133	108	141
NCA&T	87	52	108
NCCU	141	203	126
NCSU	320	279	362
UNCA	66	59	72
UNC-CH	175	174	190
UNCC	595	623	566
UNCG	492	414	451
UNCP	153	151	122
UNCW	354	334	396
WCU	206	273	330
WSSU	29	31	43
UNC Total	4003	3983	4355

Table 2. High Need Licensure Areas: Mathematics, Science Middle Grades, and Special Education			
2006-07 through 2008-09			
Campus	2006-07	2007-08	2008-09
Mathematics	256	225	327
Science	188	183	281
Middle Grades	196	166	414
Special Education	366	321	345
UNC Total	1006	895	1367

Productivity of Traditional Teacher Education Graduates in 2008-09

UNC teacher education programs have increased the number of initially licensed traditional teacher education graduates at the undergraduate level by 1,005 between 2002-2003 and 2008-2009. This is a system-wide increase of almost 50% (see Table 3). When disaggregated by campus, all institutions have increased their traditional undergraduate productivity. The largest headcount increases are at ASU (182), ECU (145), UNCG (137), UNCC (133), WCU (118), and NCSU (84) all increasing by more than 75 graduates. ASU produced the most traditional teacher education graduates in 2008-2009 (550), with ECU (499), UNCG (355), UNCC (346), UNCW (299), and WCU (229) also producing a significant number in this category as well.

Campus	Base Year 2002-03	2008-09	Change Headcount	% Change
ASU	368	550	182	49.46%
ECU	354	499	145	40.96%
ECSU	28	49	21	75.00%
FSU	73	106	33	45.21%
NCA&T	39	40	1	2.56%
NCCU	53	60	7	13.21%
NCSU	115	199	84	73.04%
UNCA	27	42	15	55.56%
UNC-CH	83	113	30	36.14%
UNCC	213	346	133	62.44%
UNCG	218	355	137	62.84%
UNCP	78	93	15	19.23%
UNCW	252	299	47	18.65%
WCU	111	229	118	106.31%
WSSU	2	39	37	1850.00%
UNC Total	2014	3019	1005	49.90%

Another measure of growth in productivity is the percent increase over the base year. This varies widely by campus, reflecting the campuses' starting point and its capacity to rapidly increase enrollment and program graduates. By this measure, seven campuses (ECSU, NCSU, UNCA, UNCC, UNCG, WCU, and WSSU) have all experienced significant growth of traditional graduates, increasing productivity by 50% or more from 2002-2003 to 2008-2009.

Alternative Licensure Completers and Graduate-Level Initial Licensure in 2008-09

Alternative licensure completers represent another supply source of teachers in North Carolina. These individuals typically have a baccalaureate degree and are completing the required coursework and licensure requirements to become a fully licensed teacher in the state. School districts in North Carolina can hire teachers who have not fully met the State's licensure requirements but are progressing on a path in meeting the requirements. These individuals are identified as *lateral entry teachers* by the NC State Board of Education. The North Carolina Department of Public Instruction (NCDPI) allows lateral entry teachers up to three years to complete all the work needed to fully meet the requirements. In serving these individuals and

Table 3. Alternative Licensure Completers and Initial Licensure MAT/M.Ed Graduates 2008-2009			
Campus	Alternative Completers	MAT/M.Ed Graduates*	Total
ASU	30		30
ECU	230	67	297
ECSU	23		23
FSU	28	7	35
NCA&T	19	49	68
NCCU	51	15	66
NCSU	163		163
UNCA	30		30
UNC-CH	18	59	77
UNCC	197	23	220
UNCG	58	38	96
UNCP	11	18	29
UNCW	80	17	97
WCU	46	55	101
WSSU	4	0	4
UNC Total	988	348	1336

other alternative licensure candidates, UNC teacher education programs write programs of study and enroll students to complete university-based licensure programs of study. Similarly, the NCDPI Regional Alternative Licensure Centers (RALC) also develop programs of study in order to qualify lateral entry teachers for

licensure in a particular field. The UNC General Administration tracks students enrolled in university-based alternative preparation programs on UNC campuses and other programs such as MAT and M.Ed. graduate level programs that prepare initially licensed teachers. UNC institutions count only the individuals recommended for a license by a UNC teacher education program. However, UNC institutions spend a significant amount of time and effort in offering coursework to individuals completing licensure requirements through a RALC and ultimately are recommended for full licensure by a RALC.

Table 3 displays university-based alternative completers and MAT/M.Ed. initial licensure completers for 2008-09. A total of 1,336 of these individuals completed a university-based program of study and were recommended by a UNC institution for licensure. Of these, 348 were in graduate level programs that offer an initial licensure track while completing a master's degree. It is important to note that not all UNC campuses have an approved graduate degree program such as an MAT or M.Ed. Leading all campuses in alternative program completers and MAT/M.Ed graduates were ECU (297) and UNCC (220). Five other campuses produced over 75 alternative completers; NCSU (163), WCU (101), UNCW (97), UNCG (96), and UNC-CH (77).

General Notes (Table 3): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Table 3): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU had a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers a M.Ed degree program that operates like an MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C have M.Ed programs that operate like an MAT offering initial licensure. UNC-C only provides initial licensure through an M.Ed for a BK program, all other initial licensure programs at the graduate level are offered through UNC-C's MAT degree program; 6) UNC-C has 68 actual MAT graduates in 2008-09. Of these, 45 graduates were backed out of the overall total because these individuals were issued an initial A level license in a prior year and counted as an alternative initially licensed teacher. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

**Overall Productivity of Initially Licensed Teachers in 2008-09: Traditional Graduates,
Alternative Completers and Initial Licensure MAT/M.Ed Graduates**

When traditional graduates from teacher education programs are combined with alternative licensure completers, and graduates from MAT/M.Ed programs obtaining initial licensure, UNC institutions produced 4,355 graduates and licensure completers (see Table 4). Productivity of initially licensed teachers in each of these categories varies considerably across campuses. Leading all campuses in overall productivity of initially licensed teachers was ECU with a combined total of 796. Three other campus's productivity exceeded 500; ASU (580) and UNCC (566). Other institutions producing over 300 initially licensed traditional graduates and alternative completers were UNCG (451), UNCW (396), NCSU (362) and WCU (330).

Table 4. UNC Traditional Undergraduates, Alternative Licensure Completers, and Initial Licensure MAT/M.Ed Graduates 2008-2009				
Campus	Traditional Graduates	Alternative Completers	MAT/M.Ed Graduates*	Total
ASU	550	30		580
ECU	499	230	67	796
ECSU	49	23		72
FSU	106	28	7	141
NCA&T	40	19	49	108
NCCU	60	51	15	126
NCSU	199	163		362
UNCA	42	30		72
UNC-CH	113	18	59	190
UNCC	346	197	23	566
UNCG	355	58	38	451
UNCP	93	11	18	122
UNCW	299	80	17	396
WCU	229	46	55	330
WSSU	39	4	0	43
UNC Total	3019	988	348	4355

General Notes (Table 4): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Table 4): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU had a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers a M.Ed degree program that operates like an

APPENDIX U

MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C have M.Ed programs that operate like an MAT offering initial licensure. UNC-C only provides initial licensure through an M.Ed for a BK program, all other initial licensure programs at the graduate level are offered through UNC-C's MAT degree program; 6) UNC-C has 68 actual MAT graduates in 2008-09. Of these, 45 graduates were backed out of the overall total because these individuals were issued an initial A level license in a prior year and counted as an alternative initially licensed teacher. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

**Teacher Productivity in High Need Licensure Areas in 2008-09:
Mathematics, Science, Middle Grades, and Special Education**

In addition to overall productivity of initially licensed teachers, UNC campuses have established productivity goals for high-need licensure areas to track increases in prospective teachers seeking licensure in high-need areas identified by the NCDPI. Identified high-need licensure areas are mathematics education, science education, middle grades education, and special education. In the middle grades licensure area there is an overlap with individuals who have a concentration in mathematics and/or science. Table 5 displays the aggregate of teacher productivity in each of these areas. UNC institutions prepared 1,323 initially licensed teachers in high-need licensure areas. Tables 6-11 present productivity in these areas by institution. In middle grades education some duplication is included in the total with graduates and alternative completers that also had a content concentration in mathematics, science or both.

Table 5. High Need Licensure Areas: Mathematics, Science Middle Grades and Special Education 2008-2009				
Campus	Traditional Graduates	Alternative Completers	MAT/M.Ed Graduates	Total
Mathematics	193	99	14	306
Science	123	107	28	258
Middle Grades	203	186	25	414
Special Education	178	98	69	345
UNC Total	697	490	136	1323

Note: NCA&T does not offer middle grades licensure and UNCH does not offer special education licensure. Additionally, three campuses (FSU, NCCU, and UNC-CH) do not offer a degree program in special education at the undergraduate level but they do offer an alternative program of study for special education licensure.

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Mathematics Productivity at the Secondary and Middle Grades Levels

Overall, UNC institutions produced 327 mathematics graduates and alternative licensure completers at the middle grades (Table 6) and secondary (Table 7) levels in 2008-09. UNC institutions produced a total of 143 mathematics graduates and alternative licensure completers at the middle grades level and 184 at the secondary level. Five individuals at the middle grades level were prepared for licensure in both mathematics and science. When combining overall middle grades and secondary mathematics productivity, NCSU produced the greatest number of mathematics education graduates and licensure completers (63), with ECU (57), UNCC (40), ASU (31), UNCW (28), WCU (28), and UNC-CH (25) also making a significant contribution in this high need area.

SECONDARY MATHEMATICS				
Campus	Traditional Secondary Mathematics (9-12)	Alternative Secondary Mathematics (9-12)	MAT Graduates with Secondary Mathematics (9-12)*	Total Traditional, Alternative, MAT Mathematics (9-12)
ASU	15	0		15
ECU	15	7	0	22
ECSU	1	0		1
FSU	7	1	2	10
NCA&T	0	3	0	3
NCCU	0	0	0	0
NCSU	25	26		51
UNCA	4	0		4
UNCCH	0	2	7	9
UNCC	18	4	0	22
UNCG	7	2	0	9
UNCP	8	0	0	8
UNCW	7	2	0	9
WCU	16	0	2	18
WSSU	3	0	0	3
UNC Total	126	47	11	184

General Notes (Tables 6 and 7): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Tables 6 and 7): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU has a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers an M.Ed degree program that operates like an MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C are the only institutions that have M.Ed programs that offer initial licensure. UNC-C only provides initial licensure through their M.Ed for their BK program. All other initial licensure programs at the graduate level are offered through UNC-C's MAT degree; 6) NCA&T does not offer middle grades licensure; 7) UNC-C has 2 actual MAT graduates with math licensure in 2008-09; one in middle grades and one in secondary math. Both were backed out of the total because these individuals were issued an initial A level license in a prior year and counted as an alternative completer. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

**Table 7. UNC Traditional Undergraduates, Alternative Licensure Completers, and MAT Graduates
in Middle Grades Mathematics 2008-2009**

MIDDLE GRADES MATHEMATICS

Campus	Traditional Middle Grades Mathematics (6-9)*	Alternative Middle Grades Mathematics (6-9)*	MAT Graduates with MG Mathematics (6-9)*	Traditional Combination Math & Science (6-9)	Alternative Combination Math & Science (6-9)	Total Traditional & Alternative Mathematics (6-9)
ASU	9	1		6	0	16
ECU	8	19	2	6	0	35
ECSU	3	0		0	0	3
FSU	4	0	0	0	0	4
NCA&T						
NCCU	0	0	0	0	3	3
NCSU	3	5		4	0	12
UNCA	0	0		0	1	1
UNCCH	10	3	0	3	0	16
UNCC	4	5	0	8	1	18
UNCG	0	4	0	0	0	4
UNCP	0	1	0	0	0	1
UNCW	5	5	0	9	0	19
WCU	1	5	1	3	0	10
WSSU	0	1	0	0	0	1
UNC Total	47	49	3	39	5	143

Science Productivity at the Secondary and Middle Grades Levels

UNC institutions collectively produced 281 science graduates and alternative licensure completers at the secondary (Table 8) and middle grades (Table 9) levels in 2008-09. Of those a total of 135 science graduates and alternative licensure completers at the middle grades level and 146 at the secondary level. Five individuals at the middle grades level were prepared for licensure in both science and mathematics. When combining overall middle grades and secondary mathematics productivity, ECU (60) prepared the greatest number of science education graduates or completer, with NCSU (48), UNCC (35), and UNCCCH (29) also producing a significant number of graduates and completers in this licensure area as well.

Table 8. UNC Traditional Undergraduates, Alternative Licensure Completers, and MAT Graduates in Middle Grades Mathematics 2008-2009				
SECONDARY SCIENCE				
Campus	Traditional Secondary Science (9-12)	Alternative Secondary Science (9-12)	MAT Graduates with Secondary Science (9-12)*	Total Traditional & Alternative, MAT Science (9-12)
ASU	7	0		7
ECU	13	11	5	29
ECSU	0	0		0
FSU	2	1	2	5
NCA&T	0	0	0	0
NCCU	0	0	0	0
NCSU	10	22		32
UNCA	5	1		6
UNCCCH	10	1	4	15
UNCC	5	11	1	17
UNCG	3	6	2	11
UNCP	6	1	2	9
UNCW	1	1	4	6
WCU	4	2	3	9
WSSU	0	0	0	0
UNC Total	66	57	23	146

General Notes (Tables 8 and 9): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Tables 8 and 9): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU has a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers an M.Ed degree program that operates like an MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C are the only institutions that have M.Ed programs that offer initial licensure. UNC-C only provides initial licensure through their M.Ed for their BK program. All other initial licensure programs at the graduate level are offered through UNC-C's MAT degree; 6) NCA&T does not offer middle grades licensure; 7) UNC-C has 5 actual MAT graduates with science licensure in 2008-09; one in middle grades and five in secondary math. One was backed out of the middle grades science total and three were backed out of the secondary science total because the individuals were issued an initial A level license in a prior year and counted as an alternative completer. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

**Table 9. UNC Traditional Undergraduates, Alternative Licensure Completers, and MAT Graduates
in Middle Grades and Secondary Science Education 2008-2009**

<i>MIDDLE GRADES SCIENCE</i>						
Campus	Traditional Middle Grades Science (6-9)*	Alternative Middle Grades Science (6-9)*	MAT Graduates with MG Science (6-9)*	Traditional Combination Math & Science (6-9)	Alternative Combination Math & Science (6-9)	Total Traditional & Alternative Science (6-9)
ASU	8	0		6	0	14
ECU	6	18	1	6	0	31
ECSU	1	1		0	0	2
FSU	0	0	0	0	0	0
NCA&T						
NCCU	1	3	0	0	3	7
NCSU	8	4		4	0	16
UNCA	0	0		0	1	1
UNCCH	2	9	0	3	0	14
UNCC	5	4	0	8	1	18
UNCG	0	1	1	0	0	2
UNCP	1	0	0	0	0	1
UNCW	5	4	0	9	0	18
WCU	1	4	3	3	0	11
WSSU	0	0	0	0	0	0
UNC Total	38	48	5	39	5	135

Middle Grades Productivity

In the middle grades licensure area, UNC institutions produced 414 newly licensed graduates and completers in 2008-09 (Table 10). Across all campuses, ECU (95) produced the most middle grades education graduates and licensure completers, followed by three other institutions with high productivity in this area; UNCC (50), UNCW (48), and NCSU (44).

Campus	Traditional Graduates	Alternative Completers	MAT Graduates with MG*	Total
ASU	32	3		35
ECU	26	59	10	95
ECSU	5	1		6
FSU	10	2	0	12
NCA&T				
NCCU	5	14	0	19
NCSU	31	13		44
UNCA	0	4		4
UNCCH	18	14	0	32
UNCC	20	30	0	50
UNCG	15	7	6	28
UNCP	3	1	3	7
UNCW	28	20	0	48
WCU	8	17	6	31
WSSU	2	1	0	3
UNC Total	203	186	25	414

General Notes (Table 10): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Table 10): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU has a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers an M.Ed degree program that operates like an MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C are the only institutions that have M.Ed programs that offer initial licensure. UNC-C only provides initial licensure through their M.Ed for their BK program. All other initial licensure programs at the graduate level are offered through UNC-C's MAT degree; 6) NCA&T does not offer middle grades licensure; 7) UNC-C had 5 actual MAT graduates with middle grades licensure in 2008-09. All five were backed out of total because the individuals were issued an initial A level license in a prior year and counted as an alternative completer. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

Special Education Productivity

In the special education licensure area, both general and adaptive licensure tracks, UNC institutions produced 345 initial licensure graduates and completers in 2008-09 (Table 11). UNCG (64) lead all campuses with ECU (60), WCU (54), UNCC (52), and ASU (42) also producing a large number of special education licensed teachers. Not all campuses are approved to offer teacher licensure in all identified high-need areas.

Table 11. UNC Traditional Undergraduates, Alternative Licensure Completers, and MAT Graduates in Special Education 2008-2009				
Campus	Traditional Graduates	Alternative Completers	MAT Graduates with SPED*	Total
ASU	38	4		42
ECU	30	30	0	60
ECSU	3	4		7
FSU		0	3	3
NCA&T	0	0	20	20
NCCU		8	14	22
NCSU	0	0		0
UNCA				
UNCCH		0	0	0
UNCC	25	19	8	52
UNCG	51	13	0	64
UNCP	8	0	0	8
UNCW	9	1	0	10
WCU	11	19	24	54
WSSU	3	0	0	3
UNC Total	178	98	69	345

General Notes (Table 11): 1) Data reported in the 2008-2009 academic year includes the terms SII08, F08, S09, SI09; 2) Traditional undergraduate and MAT/M.Ed data were obtained from UNC institutional data files; 3) Data were pulled utilizing certification flags in student data files; 4) Alternative completer data only includes individuals recommended for licensure at the institution, and 5) MAT/M.Ed graduates are initial licensure completers and are not double counted in the alternative completer totals.

Campus Notes (Table 11): 1) ASU, ECSU, UNCA, and UNCG did not offer a MAT degree program in the 2008-09 academic year; 2) NCSU has a newly authorized MAT degree program in 2008-09 but students have not yet matriculated through the program and graduated; 3) UNCG offers an M.Ed degree program that operates like an MAT offering initial licensure; 4) UNCA does not offer graduate degrees; 5) UNC-G and UNC-C are the only institutions that have M.Ed programs that offer initial licensure. UNC-C only provides initial licensure through their M.Ed for their BK program. All other initial licensure programs at the graduate level are offered through UNC-C's MAT degree; 6) FSU, NCCU, UNC-CH do not offer special education licensure through a traditional undergraduate program; 7) UNC-C had 19 actual MAT graduates with special education licensure in 2008-09. Of these, 11 were backed out of total because the individuals were issued an initial A level license in a prior year and counted as an alternative completer. This is to avoid duplicating the count of initially licensed teachers in the annual productivity report.

Preparing More and Better Teachers and School Leaders for North Carolina's Public Schools: Strategic Plans and Accountability

UNC constituent institutions are being held to high expectations in responding to the system's strategic priority to prepare more and better teachers and school leaders for the public schools of North Carolina. Three primary strategies have been identified to guide the system's efforts in responding to this overall priority. These strategies are recruitment, preparation, and better support to improve the retention of new teachers and school leaders. System and campus-level accountability plans have been developed for the first two of the three strategies; recruitment and preparation. The accountability plans have been organized and developed at the state level by the UNC General Administration and the UNC Deans' Council on Teacher Education, in consultation with the North Carolina Department of Public Instruction. Outcomes and accomplishments from the plans are reported to the UNC Board of Governors, shared with the NC General Assembly and the North Carolina State Board of Education, and discussed with all levels of UNC campus leadership each year. The third strategic plan, new teacher and school leader support, is being finalized with external funding sources being sought to support the implementation of this important work.

To address the system's strategy to prepare more teachers, UNC has established an ambitious five-year accountability plan aimed at aggressively increasing the supply of new teachers available to address the state's needs. With each year progress in the accountability plan is measured, an additional year of projected productivity goals are added to the "rolling" plan so that there is always a five-year accountability plan in place. Projection models through 2020-21 for overall and high-need licensure areas were provided to the campuses to guide institutional planning efforts. UNC Chief Academic Officers were asked in spring 2008 to work with Education and Arts and Sciences Deans to set expanded productivity goals for the accountability plan out to 2012-13 for overall traditional teacher education graduates, overall alternative licensure completers, and traditional and alternative goals for identified high-need licensure areas. The system plan directs campuses to focus their attention on preparing more teachers in mathematics education, science education, middle grades education, and special education. It further specifies to constituent institutions that UNC education and arts & sciences academic units will have a shared responsibility in meeting the goals established for mathematics and

science high-need licensure areas, as well as a joint responsibility to assist in meeting the overall campus productivity goals.

Because current strategies for recruiting individuals into the prospective teacher pipeline were not strategically planned and organized nor robust enough to meet overall and specific productivity goals, the UNC Teacher Recruitment Initiative was launched to develop a strategic plan to coordinate teacher recruitment efforts with UNC constituent institutions (UNCGA, 2006). UNC General Administration partnered with Noel-Levitz, Incorporated, a leading authority in the United States in optimizing enrollment management on higher education campuses, to assist in developing recruitment plans for each UNC campus to attract more students into their teacher education programs. The plans are organized around market research that was conducted by Noel-Levitz and targeted at six market supply sources identified as having a high potential for entering the teaching profession; undergraduates on UNC campuses, North Carolina community college students, mid-career professionals seeking a career change, high school counselors, high school juniors and seniors, and military personnel and their spouses.

UNC's third strategic plan, addressing new teacher and school leader support, is directed toward establishing a formalized program of support for beginning teachers for all new graduates and licensure completers of UNC teacher education programs that is focused on retention and ensures these new teachers are supported, monitored, and mentored in the first three years of service until a continuing license is issued (UNCGA, 2007). School leadership was not initially addressed in the teacher recruitment and preparation accountability plans. Further analysis of school leader supply and demand in North Carolina is being conducted by UNC General Administration and will be folded into the currently established accountability plans for teachers when the workforce study is complete. Additionally, when the new teacher and school leader support plan is fully developed and funded, it will be implemented throughout the state but at the regional and local levels to assist North Carolina school districts in hiring, retaining, and developing high quality teachers and school leaders.

REFERENCES

- Hussar, W. J., & Bailey, T. M. (2008). *Projections of education statistics to 2017* (NCES 2008-078). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- Ingersoll, R. (2003, September). Is there really a teacher shortage? *The Consortium for Policy Research in Education and the Center for the Study of Teaching and Policy*.
- National Commission on Excellence in Education. (1983, April). *A nation at risk*. Retrieved August 22, 2008, from Ed Publications via GPO Access: <http://www.ed.gov/pubs/NatAtRisk/index.html>
- National Commission on Teaching and America's Future. (1996, September). *What matters most: Teaching for America's future*. New York: National Commission on Teaching and America's Future.
- National Commission on Teaching and America's Future. (1997, November). *Doing what matters most: Investing in quality teaching*. New York: National Commission on Teaching and America's Future.
- National Commission on Teaching and America's Future. (2003, January). *No dream denied: A pledge to America's children*. Washington, DC: National Commission on Teaching and America's Future.
- U.S. Department of Education, National Center for Education Statistics. (2003). *Digest of Education Statistics 2002* (NCES 2003-060). Washington, DC: U.S. Government Printing Office.
- UNC General Administration. (2004). *UNC's Plan to Address the Shortage of Teachers in North Carolina*. Report to the UNC Board of Governors.
- UNC General Administration. (2006). *UNC Teacher Recruitment Plan*. Report to the UNC Deans' Council on Teacher Education.
- UNC General Administration. (2007). *New Teacher Support*. Report to the UNC Deans' Council on Teacher Education.
- UNC General Administration. (2009, January). Letter from Alan Mabe and Alisa Chapman to UNC Chancellors, Chief Academic Officers, and Deans of Education and Arts & Sciences about expanding teacher productivity goals to meet teacher supply and demand in North Carolina.

APPENDIX A: NC TEACHER SUPPLY AND DEMAND PROJECTIONS

Projection of Teachers Needed Based on Historical Data									
School Year	First Month Average Daily Membership	Student/Teacher Ratio	Teachers Actual	Teachers Projected	Increase over previous year	Turnover Replace Number	Total New Positions	Number Change LEA in NC	Total New Teachers Needed
2001-2002	1,295,092	15.43	83,907						
2002-2003	1,314,319	15.36	85,557						
2003-2004	1,336,994	15.20	87,947						
2004-2005	1,361,670	15.02	90,657						
2005-2006	1,395,247	14.82	94,129						
2006-2007	1,423,783	14.83	96,027						
2007-2008	1,444,867	14.86		97,204					
2008-2009	1,465,522	14.84		98,723	1,519	12,170	13,689	1,843	11,847
2009-2010	1,486,127	14.85		100,096	1,373	12,360	13,733	1,871	11,861
2010-2011	1,508,876	14.85		101,609	1,513	12,532	14,045	1,897	12,148
2011-2012	1,533,600	14.85		103,287	1,678	12,721	14,399	1,926	12,473
2012-2013	1,563,565	14.85		105,302	2,015	12,932	14,947	1,958	12,989
2013-2014	1,589,278	14.85		107,033	1,730	13,184	14,914	1,996	12,918
2014-2015	1,613,839	14.85		108,688	1,655	13,401	15,056	2,029	13,027
2015-2016	1,634,601	14.85		110,086	1,398	13,608	15,006	2,060	12,945
2016-2017	1,651,338	14.85		111,213	1,127	13,783	14,910	2,087	12,823
2017-2018	1,665,351	14.85		112,157	944	13,924	14,868	2,108	12,760
2018-2019	1,674,546	14.85		112,776	619	14,042	14,661	2,126	12,535
2019-2020	1,682,480	14.85		113,311	534	14,120	14,654	2,138	12,516
2020-2021	1,691,763	14.85		113,936	625	14,186	14,812	2,148	12,664

Data Source: Education Statistics Access System (ESAS) and Statistical Profile from North Carolina Department of Public Instruction and SAR reports from NCERDC

Projection of Mathematics Teachers Needed Based on Historical Data										
School Year	First Month Average Daily Membership	Student/Teacher Ratio	Average number of Sections per Teacher	Teachers Actual	Teachers Projected	Increase over previous year	Turnover Replace Number	Total New Positions	Number Change LEA in NC	Total New Teachers Needed
2001-2002	485,178	44.17	2.69	4,088						
2002-2003	524,629	45.44	2.70	4,279						
2003-2004	540,184	45.98	2.59	4,538						
2004-2005	563,140	45.37	2.66	4,673						
2005-2006	591,733	49.92	2.46	4,809						
2006-2007	606,542	47.77	2.55		4,985					
2007-2008	614,353	47.93	2.55		5,032	47	624	671	94	576
2008-2009	619,960	48.28	2.55		5,041	9	630	639	95	544
2009-2010	621,619	48.08	2.55		5,077	35	631	666	96	571
2010-2011	623,340	48.11	2.55		5,087	10	636	646	96	550
2011-2012	628,414	48.13	2.55		5,126	39	637	676	96	579
2012-2013	639,607	48.11	2.55		5,219	93	642	735	97	638
2013-2014	657,651	48.12	2.55		5,366	147	653	800	99	701
2014-2015	682,070	48.12	2.55		5,565	199	672	871	102	769
2015-2016	701,982	48.12	2.55		5,728	163	697	859	105	754
2016-2017	712,921	48.12	2.55		5,817	89	717	806	109	698
2017-2018	722,759	48.12	2.55		5,897	80	728	809	110	698
2018-2019	727,348	48.12	2.55		5,935	37	738	776	112	664
2019-2020	732,692	48.12	2.55		5,978	44	743	787	112	674
2020-2021	745,606	48.12	2.55		6,084	105	748	854	113	741

Data Source: Education Statistics Access System (ESAS) and Statistical Profile from North Carolina Department of Public Instruction and SAR reports from NCERDC

Note: Included all courses in mathematics area excluding K-8 Mathematics and CC/University courses

APPENDIX U

Projection of Science Teachers Needed Based on Historical Data										
School Year	First Month Average Daily Membership	Student/Teacher Ratio	Average number of Sections per Teacher	Teachers Actual	Teachers Projected	Increase over previous year	Turnover Replace Number	Total New Positions	Number Change LEA in NC	Total New Teachers Needed
2001-2002	385,838	44.29	3.06	2,844						
2002-2003	406,921	42.91	3.20	2,962						
2003-2004	395,197	42.67	3.03	3,055						
2004-2005	407,647	41.97	3.12	3,111						
2005-2006	415,764	36.57	3.58	3,177						
2006-2007	426,169	39.41	3.33		3,245					
2007-2008	431,657	39.07	3.36		3,284	39	406	445	62	384
2008-2009	435,597	38.67	3.40		3,315	31	411	442	62	380
2009-2010	436,762	38.94	3.37		3,324	9	415	424	63	361
2010-2011	437,972	38.88	3.38		3,333	9	416	425	63	362
2011-2012	441,536	38.86	3.38		3,360	27	417	445	63	381
2012-2013	449,401	38.88	3.38		3,420	60	421	481	64	417
2013-2014	462,079	38.87	3.38		3,517	96	428	525	65	460
2014-2015	479,237	38.87	3.38		3,647	131	440	571	67	504
2015-2016	493,227	38.88	3.38		3,754	106	457	563	69	494
2016-2017	500,913	38.87	3.38		3,812	58	470	528	71	457
2017-2018	507,825	38.87	3.38		3,865	53	477	530	72	458
2018-2019	511,050	38.87	3.38		3,889	25	484	508	73	435
2019-2020	514,805	38.87	3.38		3,918	29	487	516	74	442
2020-2021	523,878	38.87	3.38		3,987	69	491	560	74	485

Data Source: Education Statistics Access System (ESAS) and Statistical Profile from North Carolina Department of Public Instruction and SAR reports from NCERDC

Note: Included all courses in science area excluding K-8 science and CC/University courses

Projection of Middle Grades Teachers Needed Based on Historical Data										
School Year	First Month Average Daily Membership	Student/Teacher Ratio	Teachers Actual	Teachers Projected	Increase over previous year	Turnover Replace Number	Total New Positions	Number Change LEA in NC	Total New Teachers Needed	
2001-2002	318,810	16.40	19,436							
2002-2003	323,380	16.29	19,850							
2003-2004	328,316	16.19	20,280							
2004-2005	329,032	15.94	20,646							
2005-2006	332,168	15.72	21,132							
2006-2007	331,917	15.88		20,904						
2007-2008	331,948	15.84		20,954	50	2,617	2,667	396	2,271	
2008-2009	332,665	15.83		21,017	64	2,623	2,687	397	2,290	
2009-2010	340,438	15.84		21,489	472	2,631	3,103	398	2,705	
2010-2011	352,304	15.84		22,244	755	2,690	3,445	407	3,038	
2011-2012	365,310	15.84		23,066	822	2,785	3,607	422	3,185	
2012-2013	375,949	15.84		23,736	670	2,888	3,558	437	3,121	
2013-2014	381,103	15.84		24,062	326	2,972	3,298	450	2,848	
2014-2015	383,430	15.84		24,209	147	3,013	3,160	456	2,703	
2015-2016	385,080	15.84		24,313	104	3,031	3,135	459	2,676	
2016-2017	389,857	15.84		24,615	302	3,044	3,346	461	2,885	
2017-2018	396,180	15.84		25,014	399	3,082	3,481	467	3,014	
2018-2019	407,126	15.84		25,705	691	3,132	3,823	474	3,349	
2019-2020	410,929	15.84		25,945	240	3,218	3,458	487	2,971	
2020-2021	410,251	15.84		25,903	-43	3,248	3,206	492	2,714	

Data Source: Education Statistics Access System (ESAS) and Statistical Profile from North Carolina Department of Public Instruction and SAR reports from NCERDC

Projection of Special Education Teachers Needed Based on Historical Data

Year	Special Education Teachers (FTE)	Teachers Projected	Increase over previous year	Turnover Replace Number	Total New Positions	Number Change LEA in NC	Total New Teachers Needed	Students Served (ages 3-21)	Projected Students Served (ages 3-21)	First Month Average Daily Membership	Projected First Month Average Daily Membership	% Served of ADM (1st Month)	Ratio of Students Served to SPE FTE
2001-2002	11,163							186,972		1,295,092		14.4%	16.75
2002-2003	11,824							190,806		1,314,319		14.5%	16.14
2003-2004	12,068							193,939		1,336,994		14.5%	16.07
2004-2005	10,590							193,377		1,361,670		14.2%	18.26
2005-2006	12,125							192,820		1,395,247		13.8%	15.90
2006-2007	11,135							192,451		1,423,783		13.5%	17.28
2007-2008		11,960	825	1,497	2,322	227	2,096		201,753		1,444,867	14.0%	16.87
2008-2009		12,151	191	1,521	1,713	230	1,482		205,055		1,465,522	14.0%	16.88
2009-2010		12,172	21	1,524	1,545	231	1,314		206,898		1,486,127	13.9%	17.00
2010-2011		12,422	250	1,555	1,805	235	1,570		209,169		1,508,876	13.9%	16.84
2011-2012		12,543	121	1,570	1,691	238	1,454		212,467		1,533,600	13.9%	16.94
2012-2013		12,853	310	1,609	1,919	244	1,675		217,377		1,563,565	13.9%	16.91
2013-2014		13,067	214	1,636	1,850	248	1,603		221,000		1,589,278	13.9%	16.91
2014-2015		13,253	186	1,659	1,845	251	1,594		224,218		1,613,839	13.9%	16.92
2015-2016		13,425	172	1,681	1,853	254	1,598		226,983		1,634,601	13.9%	16.91
2016-2017		13,558	133	1,697	1,830	257	1,573		229,335		1,651,338	13.9%	16.92
2017-2018		13,680	122	1,713	1,834	259	1,575		231,373		1,665,351	13.9%	16.91
2018-2019		13,755	76	1,722	1,798	261	1,537		232,650		1,674,546	13.9%	16.91
2019-2020		13,818	63	1,730	1,793	262	1,531		233,721		1,682,480	13.9%	16.91
2020-2021		13,894	76	1,740	1,816	263	1,552		234,997		1,691,763	13.9%	16.91

Data source: www.idealdata.org and Exceptional Children Division Data and Reports section

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APPENDIX B: BASE YEAR CORRECTION FOR ORIGINAL PRODUCTIVITY GOALS

Several considerations led to inaccuracies in establishing the base year. Some flags in the institutional data files were not set correctly on some campuses, and non-teacher education physical education majors were included in teacher education graduates on some campuses, particularly at UNC-CH and UNCW. In the case of WCU, they run a teacher education program for Jamaican students that is independent of the preparation of teachers for North Carolina public schools.

Difference of Actual Base Year Versus the Number in the Accountability Plan			
Campus	Actual in Base Year 2002-03	Number in Accountability Plan	Difference
ASU	368	372	-4
ECU	354	330	24
ECSU	28	26	2
FSU	73	65	8
NCA&T	39	60	-21
NCCU	53	74	-21
NCSU	115	133	-18
UNCA	27	27	0
UNC-CH	83	194	-111
UNCC	213	236	-23
UNCG	218	199	19
UNCP	78	84	-6
UNCW	252	314	-62
WCU	111	179	-68
WSSU	2	20	-18
UNC Total	2,014	2,313	-299