

ARTC

Alternative Routes to Certification

ANNUAL REPORT TO THE

DELAWARE DEPARTMENT OF EDUCATION

MAY 2004

Linda A. Hughes, Ph.D.
ARTC Coordinator
Delaware Center for Teacher Education
University of Delaware

Annual Report to the Delaware Department of Education

Alternative Routes to Certification

May 2004

Executive Summary

ARTC was designed to provide an accommodating path to teaching for high-quality individuals from other careers, to help Delaware secondary schools fill "critical needs," and to increase the pool of minority teachers. The program has made contributions in all of these areas. Between 1997 – 1998 and 2003 – 2004,

- 274 teachers were enrolled by 95% of regular and vocational-technical school districts, 6 charter schools, and 3 district/state programs;
- two-thirds of ARTC teachers came directly into teaching from other professions;
- one-third already possessed one or more graduate degrees in their subject areas; and
- one-quarter were minorities, twice the state average.

Investments in ARTC teachers are having a lasting impact on Delaware schools. Of the 155 teachers who have thus far completed ARTC courses,

- 84% are still teachers or administrators in Delaware public or charter secondary schools;
- 75% are still teaching in Delaware public or charter schools after five or more years; and
- 81% have already been issued Standard Certificates in one or more content areas.

And according to their supervisors, ARTC graduates are performing very well in the classroom.

- 91% are performing as well or better than other teachers at similar points in their careers; and
- they are rated "strong" or "very strong" across a variety of specific domains of teaching.

Steady growth was recently punctuated by a sharp increase in the number of candidates enrolled. More than one-third of all candidates ever enrolled in ARTC were active in 2003 - 2004. There has also been a dramatic increase in the number of science and mathematics teachers enrolled in ARTC: in 2003 – 2004, more than half of all candidates were teaching in these areas.

ARTC is also contributing significantly to recruitment of teachers in "critical needs" areas. The program office or website was the first point of contact for most of the ARTC teachers hired, especially during the last few years. Contact information for several hundred individuals with degrees in "critical needs" subject areas was forwarded to districts during the 2003 – 2004 school year alone.

ARTC works for most, but not all teachers. Of the 20% of ARTC teachers who fail to complete the program, more than half (61%) fail due to difficulties adjusting to the classroom, as opposed to personal or professional issues unrelated to teaching. With more candidates entering ARTC without any prior education training or experience and assuming their positions during the school year, enhanced, more accessible school-based mentoring through the first critical weeks and months might increase retention.

Recommendations. At the state level, consideration should be given to (1) the level of funding required to sustain the current ARTC program; (2) increasing the level of financial aid available to candidates and/or better utilizing the funds currently available; (3) developing a state recruitment web site to explain certification requirements and procedures to prospective teachers and link them to information on state-approved certification programs; and (4) designating ARTC for school mentoring funds.

CONTENTS

PART I. Patterns and Prospects 2004	page 1
Meeting Goals	page 1
Enrollment Patterns	page 2
<i>Figure I-1. Enrollment Patterns: 1997 – 1998 to 2003 – 2004 Cohorts</i>	
<i>Figure I-2. Enrollments By Cohort and Content Area</i>	
2004 – 2005 Completion and Enrollment Projections	page 3
<i>Table I-1. Candidates Enrolled in the 2004 – 2005 Cohort as of May 1, 2004</i>	
<i>Figure I-3. County Enrollments by Cohort</i>	
ARTC Recruitment	page 4
<i>Figure I-4. Proportion of Candidates Recruited Through ARTC</i>	
Who Succeeds and Who Does Not	page 5
<i>Figure I-5. Proportion of Candidates Who Have Taken at Least One Education Course</i>	
The ARTC Budget	page 7
<i>Figure I-6. Enrollments and Budgets</i>	
<i>Figure I-7. Budgets By Year and Category</i>	
Financial Aid for Candidates	page 9
Summary Recommendations	page 9
PART II. Participation Patterns: 1997 – 1998 to 2003 – 2004 Cohorts	page 11
District and School Participation	page 11
<i>Figure II-1. Enrollments By County</i>	
<i>Figure II-2. New Castle County Enrollments By District</i>	
<i>Figure II-3. Kent and Sussex County Enrollments By District</i>	
ARTC Recruitment	page 13
<i>Figure II-4. Percent of Candidates Hired Who Were Recruited Through ARTC By Cohort</i>	
Enrollment Patterns	page 13
<i>Figure II-5. Number of Candidates Enrolled By Cohort</i>	
Teaching Assignments	page 14
<i>Figure II-6. Subject Areas of Candidates Enrolled 1997 – 1998 to 2003 - 2004</i>	
<i>Figure II-7. Subject Area Enrollments By Cohort</i>	
Candidate Profile	page 15
Demographics	
<i>Figure II-8. Proportion of Minority Candidates Enrolled</i>	
<i>Figure II-9. Age of Candidates Enrolled</i>	
College Degrees and GPAs	page 16
<i>Figure II-10. GPA For Highest Degree Earned</i>	
Employment Immediately Prior to Taking the ARTC Teaching Position	page 17
<i>Figure II-11. Employment in Year Prior to Taking ARTC Position By Cohort</i>	
Prior Experience Related to Education, Teaching, or Working With Children	page 18
<i>Figure II-12. Proportion of Candidates Taking At Least One Education Course</i>	
<i>Figure II-13. Reported Prior Experience With Teaching or Children</i>	

PART III. Completion, Retention and Classroom Performance of ARTC Graduates	page 19
Are ARTC Teachers Completing Courses?	page 19
<i>Figure III-1. Patterns of Attrition By Cohort</i>	
Comparison of Candidates Who Completed Courses Versus Those Who Did Not	
Are ARTC Teachers Staying?	page 20
<i>Figure III-2. Retention of ARTC Graduates By Cohort</i>	
Are ARTC Teachers Succeeding in Becoming Certified and Tenured?	page 21
<i>Figure III-3. Percent of Fully Certified Graduates By Cohort</i>	
Are They Succeeding in the Classroom?	page 22
Supervisor Ratings of Overall Performance	page 22
<i>Figure III-4. Supervisor Ratings of ARTC Graduates' Overall Performance</i>	
Supervisor Ratings of Performance in Specific Domains of Teaching	page 23
<i>Figure III-5. Supervisor Ratings of Performance in Specific Domains of Teaching</i>	
Supervisor Satisfaction With ARTC Graduates	page 23
 PART IV. DATA ANALYSES	 page 25
APPENDIX A. District and School Participation	page 25
APPENDIX B. Profile of Candidates Enrolled in ARTC	page 26
APPENDIX C. Patterns of Attrition	page 29
APPENDIX D. Comparison of Candidates Who Completed Courses Vs Those Who Did Not	page 30
APPENDIX E. Retention of ARTC Graduates	page 32
APPENDIX F. Certification and Tenure Status of ARTC Graduates	page 33
APPENDIX G. Supervisor Survey Returns and Ratings	page 34
APPENDIX H. Survey of Supervisors of ARTC Graduates (March 2004)	page 36

PART I.

Patterns and Prospects 2004

Meeting Goals

ARTC was designed to provide an accommodating path to teaching for high-quality individuals from other careers, to help Delaware secondary schools fill “critical needs,” and to increase the pool of minority teachers. The program has made contributions in all of these areas. Between 1997 – 1998 and 2003 – 2004,

- all but one regular and vocational-technical school district, 6 charter schools, and 3 district/state programs enrolled 274 teachers in ARTC (Part II and Appendix A);
- two-thirds of ARTC teachers came directly into teaching from other professions;
- one-third already possessed one or more graduate degrees in their subject areas; and
- the proportion of minorities among ARTC teachers (25%) was twice the state average (Part II and Appendix B).

The ultimate measure of the quality of alternatively-certified teachers in Delaware is, of course, how well they perform in their classrooms. According to their supervisors, ARTC teachers are performing very well.

- 91% of ARTC graduates are performing as well or better than other teachers at similar points in their careers and more than half are performing better than their colleagues;
- ARTC teachers are rated "strong" or "very strong" across a variety of specific domains of teaching (Part III and Appendix G).

There is no support for concerns that ARTC might provide an “easy” route for poor quality teachers. ARTC candidates are being certified and retained only when they are performing as well as (or better than) their peers.

Further, investments in ARTC teachers are having a lasting impact on Delaware schools. Of the 155 teachers who have thus far completed ARTC courses,

- 84% are still working as teachers or administrators in Delaware public or charter secondary schools; 88% are still working in Delaware schools;

- 75% are still employed in target schools after five or more years; and
- 81% have already been issued one or more Standard Certificates in their content areas (Part III and Appendices E and F).

Enrollment Patterns

ARTC has experienced steady growth since its beginning, but there was a sharp increase in the number of candidates enrolled during the 2003 – 2004 school year (Figure I-1). More than one-third of all candidates ever enrolled in ARTC were active in the program that year.

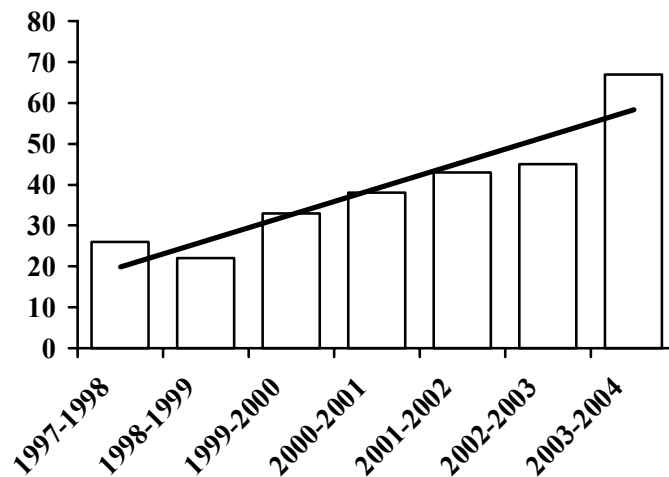


Figure I-1.
Enrollments Patterns: 1997 – 1998 to 2003 – 2004 Cohorts

A recent report on teacher shortages by Jeffrey Raffel and Kelly Scollon of the University of Delaware Institute for Public Administration (Delaware Teacher Supply Survey Analysis Report, April 2003) indicates that ARTC is likely to continue to grow in the future. All of the secondary content areas in which school districts anticipate the most difficulty filling positions are covered by the ARTC program: mathematics, science, technology education, foreign languages and English. Recent dramatic increases in the number of mathematics and science teachers enrolled in ARTC confirm these needs and indicate that ARTC is helping address them: More than half of all candidates enrolled in 2003 – 2004 were teaching mathematics or science (Figure I-2).

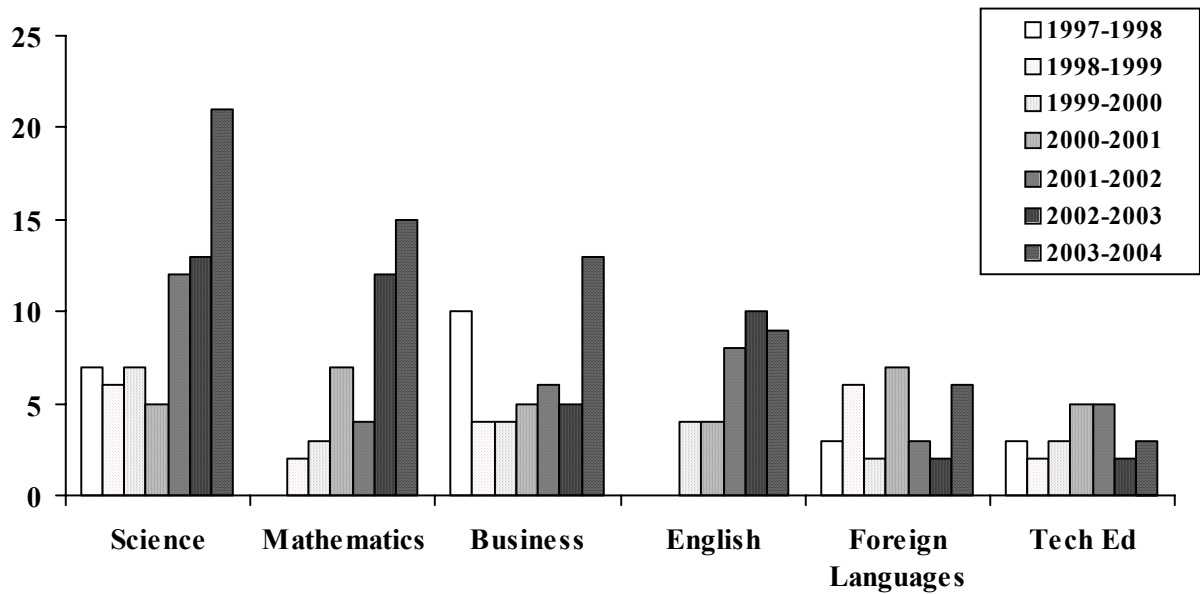


Figure I-2.
Enrollments by Cohort and Content Area

2004 – 2005 Completion and Enrollment Projections

Recent increases in enrollment will dramatically increase the number of ARTC teachers in Delaware. Sixty-five candidates are eligible to complete their ARTC course work in calendar year 2004. Assuming no attrition, this would bring to 220 the total number of those who have completed courses.

Thirteen districts and two charter schools have already enrolled twenty-eight new candidates in the 2004 – 2005 cohort (Table I-1). This is more than are typically identified by May and an unusually large proportion (39%) has been enrolled by Kent and Sussex County districts (three of the candidates included in the New Castle County cohort are actually teaching in Kent and Sussex Counties) (Figure I-3). A gradual decline in Kent and Sussex County enrollments also seems to have reversed in 2003 – 2004.

These trends suggest that enrollments for 2004 – 2005 are likely to meet or exceed 2003 – 2004 levels. Four cohorts have been planned for the 2004 Summer Institute to accommodate all new and completing candidates. A fifth cohort may be needed in Georgetown.

COHORT:	Newark Campus	Georgetown Campus	TOTAL
CONTENT AREAS:			
Business	6	2	8
English	2	3	5
Foreign Languages	1		1
Mathematics	4	3	7
Sciences	4	2	6
Technology Education		1	1
TOTAL	17 (61%)	11 (39%)	28 (100%)

Table I-1
Candidates Enrolled in the 2004 – 2005 Cohort as of May 1, 2004

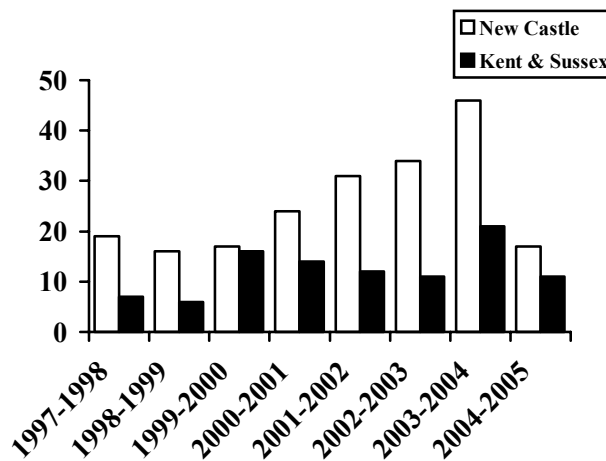


Figure 1-3.
County Enrollments by Cohort

ARTC Recruitment

The ARTC program has made significant contributions to recruitment of teachers in "critical needs" areas and current trends suggest that it is likely to continue to do so in the future (Figure I-4). The ARTC office and website serve as important points of contact for a great many individuals interested in teaching and were the first point of contact for most of the ARTC teachers hired in the last few years. Contact information for several hundred individuals with degrees in "critical needs" content areas was forwarded to districts during the 2003 – 2004 school year alone.

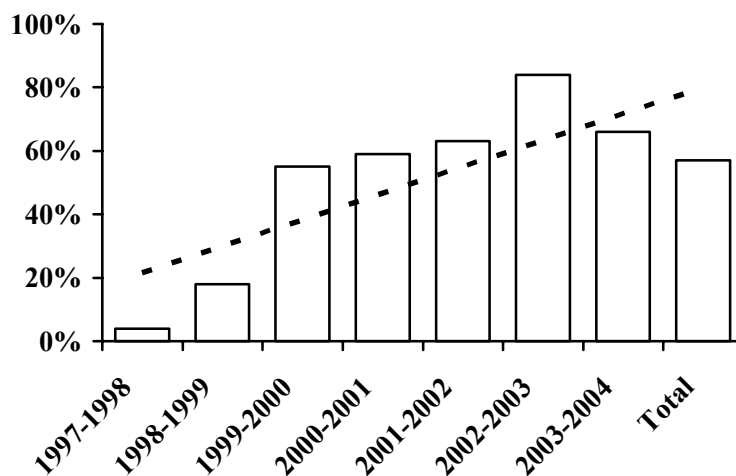


Figure I-4.
Proportion of Candidates Recruited Through ARTC by Cohort

Improvements are continually made to the ARTC website to better guide interested individuals through the process of establishing eligibility and finding a teaching job, and to make it easier to share information about potential candidates with district personnel offices and school staff. A process is now in place to help keep the database of potential candidates more current and to make it easier to respond promptly to requests from schools. In addition, individuals with appropriate degrees are invited to the Project Search teacher job fair at the University of Delaware and are encouraged to post applications at teachdelaware.com. The Coordinator continues to conduct workshops as requested for out-placement firms, community and professional groups.

As phone and e-mail contacts exceed 1,000 per year, new procedures for advising and redirecting inquires are badly needed. A separate phone line for inquiries and monthly information sessions are being considered, but a central contact point for the entire state would be extremely helpful, not only to the ARTC office but also to the many other offices and institutions who receive large numbers of inquiries each year. A good first step would be the development of a user-friendly state web site explaining certification requirements and procedures, listing all state-approved certification programs, and providing links to more information on college and university web sites.

Who Succeeds and Who Does Not

We have certainly learned that ARTC works for most, but not all teachers. We have also learned,

perhaps not surprisingly, that the demographic information we have compiled provides little guidance in predicting who will succeed and remain in teaching beyond a few intuitively sensible differences in prior experience with teaching or with groups of children (Part III and Appendices C and D).

As with any profession, it should be expected that some ARTC candidates and teachers will leave simply due to changing life circumstances we cannot anticipate or control, but most losses due to difficulty adjusting to the classroom occur early on, before candidates even complete their ARTC course work. About 20% of those enrolled leave before completing their ARTC courses, more than half of them due to poor performance in their classes and/or classrooms. Candidates who complete their course work, on the other hand, are very likely to complete certification and to stay in teaching. They are only very rarely (5%) not renewed by their schools due to unsatisfactory classroom performance.

The proportion of attrition during the ARTC program due to poor performance, as opposed to life changes, may be increasing for several reasons:

- Candidates hired too late to begin in the summer are now placed in a classroom management course in mid-September, rather than waiting to enroll the following summer. This impacts attrition patterns because individuals experiencing significant difficulties, and who in the past often left their positions before starting ARTC course work, are now actively engaged in the program from their first weeks in the classroom.
- A large and increasing majority of candidates start teaching with no classroom experience or prior education training at all (Figure I-5).
- More candidates are hired during the school year and face the additional challenge of assuming responsibility for existing classes long before they begin their ARTC courses.

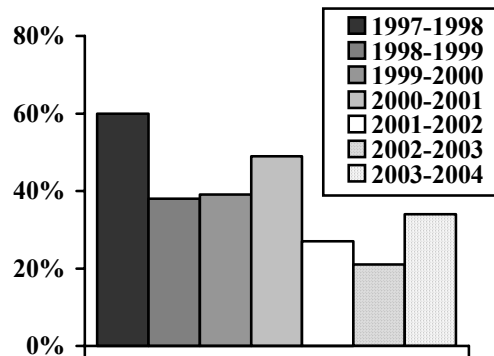


Figure I-5. Proportion of Candidates Who Have Taken at Least One Education Course

These trends suggest an obvious question: Would stronger, more accessible mentoring help candidates make a smoother transition to teaching and improve retention through that first critical year? Even very successful candidates can initially experience difficulties in their classrooms and candidates report considerable variation in the amount and quality of mentoring support they receive. Scheduling often makes it difficult for them to meet with their mentors or to observe other experienced teachers. More accessible and consistent mentoring, along with release time to visit other classrooms, are very high priorities among candidates and important goals for the future.

With mentoring resources stretched in many schools, and given the special needs of ARTC teachers in the first weeks and months in the classroom, consideration should be given to providing dedicated mentoring through the ARTC program. Christina is currently the only district that employs mentors whose only job is to support ARTC teachers. This model should be further explored at the state and district level.

The ARTC Budget

Growth in the number of ARTC candidates and a budget that has not increased in five years has impacted the adequacy of resources in a number of areas. The ARTC budget has remained static since 2000, even as enrollments and advisement demands have continued to grow (Figure I-6).

Program growth has thus far been managed within this budget, but as indicated in Figure I-7, salaries and especially a very large (35%) increase in fringes in September 2003, have dramatically reduced or eliminated funds for all other budget categories. Cuts have been necessary in a number of critical areas:

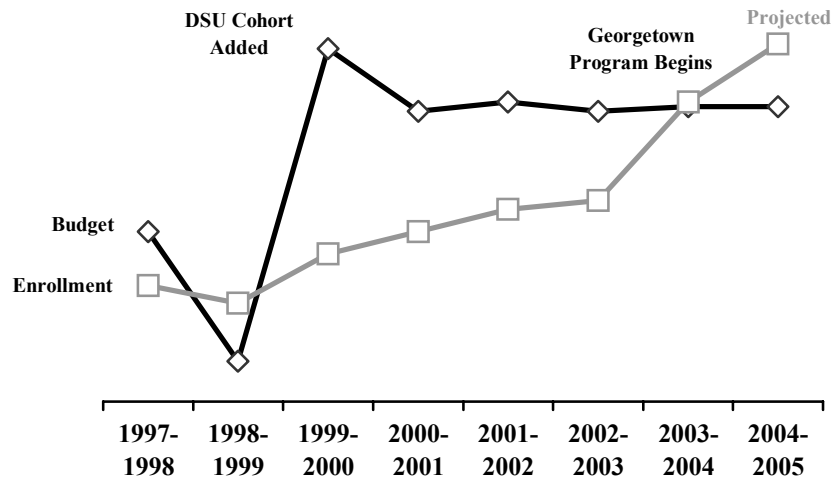


Figure I-6.
Enrollments and Budgets

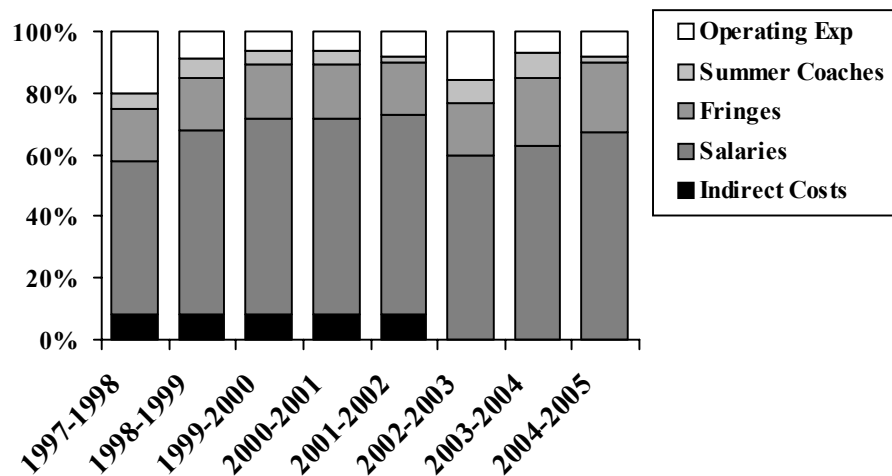


Figure I-7.
Budgets by Year and Category

- Instructional Support.** Experienced teacher "coaches" can no longer be hired to support candidates enrolled in the Summer Institute. Funds for materials and equipment are also very limited and cannot be provided at previous levels to all cohorts at both program sites.
- Operating Expenses.** This category includes office expenses (including equipment replacement), travel, program evaluation, instructional and reference materials, brochures and other promotional

materials. Conference travel and expenditures like office equipment replacement have already been eliminated from the 2003 – 2004 and 2004 – 2005 budgets, while cuts were made in all other categories.

This pattern cannot be long sustained for current enrollments and certainly will not support increased enrollments. Delaware districts cannot qualify for federal Transition to Teaching grants, so other sources of funding are being explored. It is likely, however, that a modest increase in the ARTC budget will be required to maintain the current program or future enrollments may need to be somehow limited.

Financial Aid for Candidates

Many ARTC candidates experience difficulty paying course tuition. This is especially true during the first academic-year semester of courses, when many are not yet being paid by their districts, and for those who do not qualify for in-state tuition. The need now exceeds the funds available for course reimbursement, loans and scholarships. ARTC candidates rely primarily on district course reimbursement (especially Critical Needs Scholarship funds) that may only reimburse a small percent of course costs and on the Special Institute. Both of these programs also support non-alternative routes students and neither has had sufficient funds for all students in need. Consideration should be given to increasing Critical Needs and Special Institute funding and/or to modifying Special Institute rules to increase the impact of existing funds. Allowing students to receive Special Institute funding for only part of their certification course work – for example, for only their first ARTC course or only to help make up the difference between in- and out-of-state tuition – could dramatically ease the financial burdens for those in transition.

Summary Recommendations

At the state level, consideration should be given to

- the level of funding required to sustain the current ARTC program;
- increasing existing sources of financial aid and/or better utilizing the funds currently available;
- developing a state recruitment web site to explain certification requirements and procedures to prospective teachers and link them to information on state-approved certification programs;
- designating ARTC for school mentoring funds.

PART II. Participation Patterns 1997 – 1998 to 2003 – 2004 Cohorts

District and School Participation

A large majority of Delaware schools and charters have enrolled teachers in ARTC since its beginning in August 1997 (Appendix A):

- 94% of regular public school districts (15 of 16)
- all three vocational school districts
- 6 charter schools
- 84% of all Delaware regular and vocational-technical secondary schools (51 of 61)
- 97% of regular and vocational-technical high schools (30 of 31)
- 70% of middle schools (21 of 30)
- three district or state programs (D.A.P.I., the Positive Learning Center in Red Clay; Ferris School for Boys)

About two-thirds of candidates (68%) were enrolled by New Castle County districts and charters, the remaining third by Kent and Sussex County schools (Figure II-1). Enrollments thus far for 2004 – 2005 are, however, evenly divided between upstate and downstate districts.

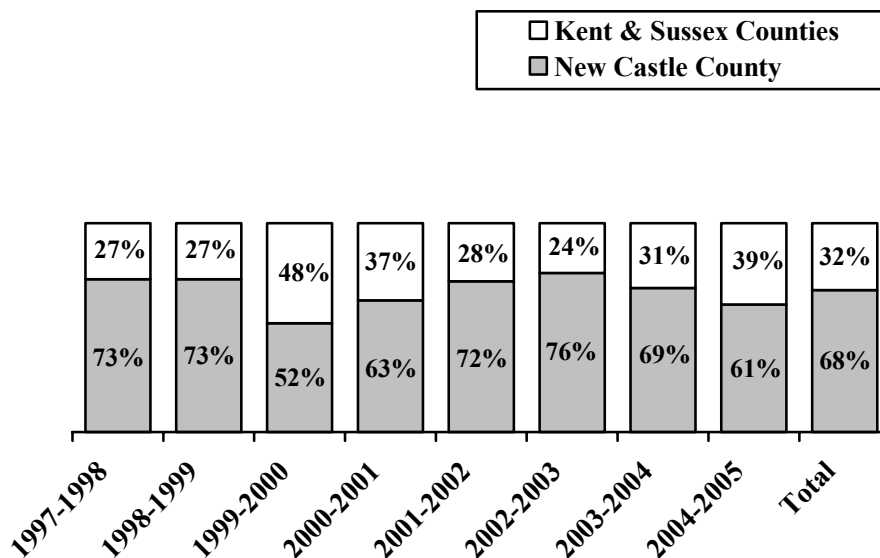


Figure II-1.
Enrollments by County
(2004 – 2005 as of May 1, 2004)

Not surprisingly, larger districts account for most ARTC enrollments. In New Castle County (Figure II-2), half of ARTC teachers were enrolled by the Christina and Red Clay Districts.

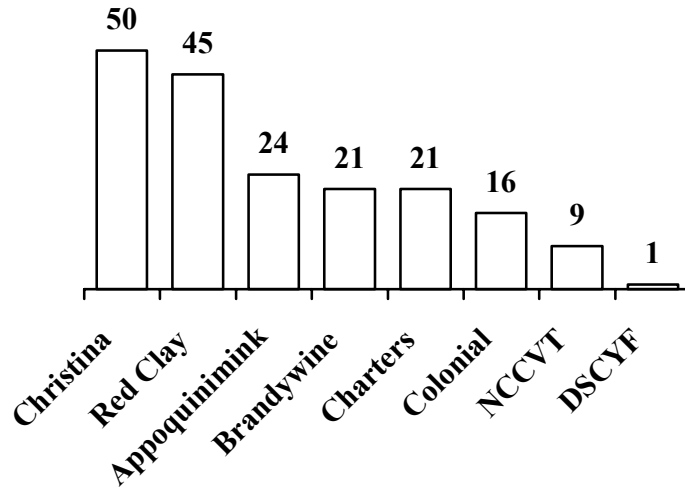


Figure II-2.
New Castle County District Enrollments by District

In Kent and Sussex Counties, more than one-quarter (28%) were enrolled by the Indian River School District (Figure II-3).

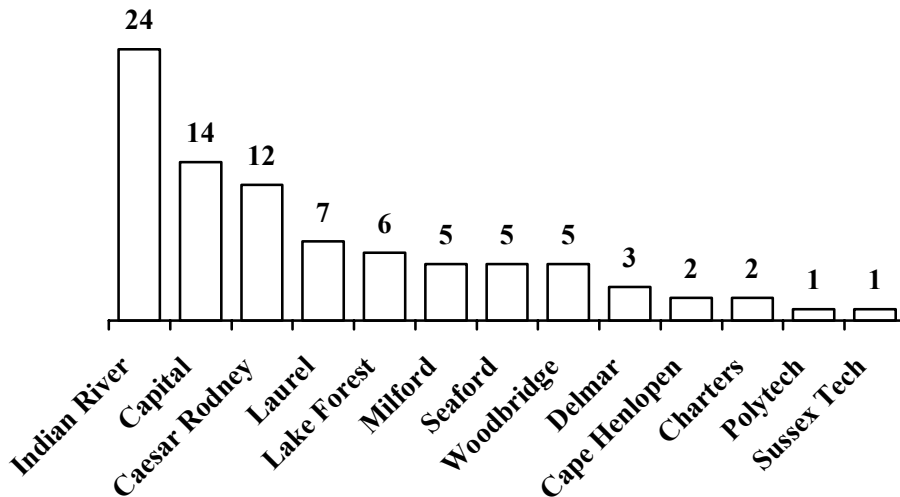


Figure II-3.
Kent and Sussex County Enrollments by District

ARTC Recruitment

The ARTC program has played an increasingly important role in helping districts identify candidates for hard-to-fill positions (Figure II-4). Over half of all candidates enrolled in the program over the first seven years were recruited through the ARTC office. These candidates learn about the ARTC program via the ARTC web site, word-of-mouth, or referral from schools, districts, university counseling centers, or program participants. They are counseled through the process of establishing eligibility, completing Praxis I requirements, and applying for teaching positions. The ARTC office also maintains a database of possible candidates in critical needs areas and routinely shares this information with districts via e-mail as well as in response to specific requests from schools. In 2003 – 2004, for example, the ARTC office responded to more than 700 e-mail and 800 phone inquiries. The names of over 400 potential candidates with degrees in "critical needs" areas were forwarded to district personnel offices.

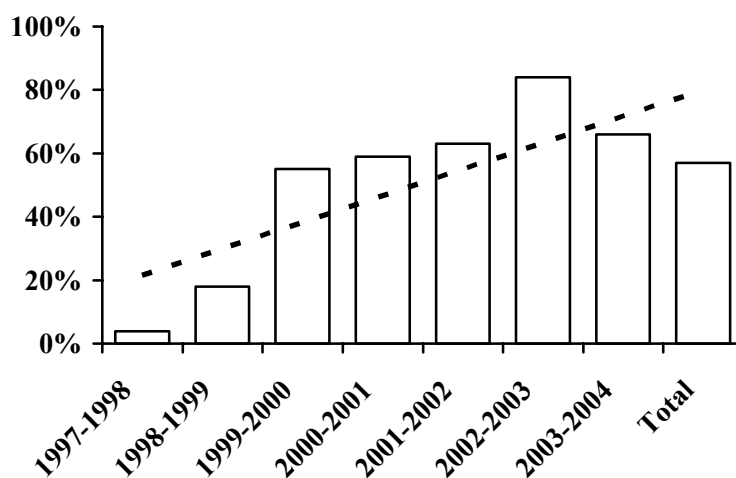


Figure II-4.
Percent of Candidates Hired Who Were Recruited Through ARTC by Cohort

Enrollment Patterns

Enrollments increased fairly steadily over the first years of the program, with a sharp increase in the number of candidates enrolled during the 2003 – 2004 school year (Figure II-5). One-third of all candidates ever enrolled in ARTC were active in courses that year.

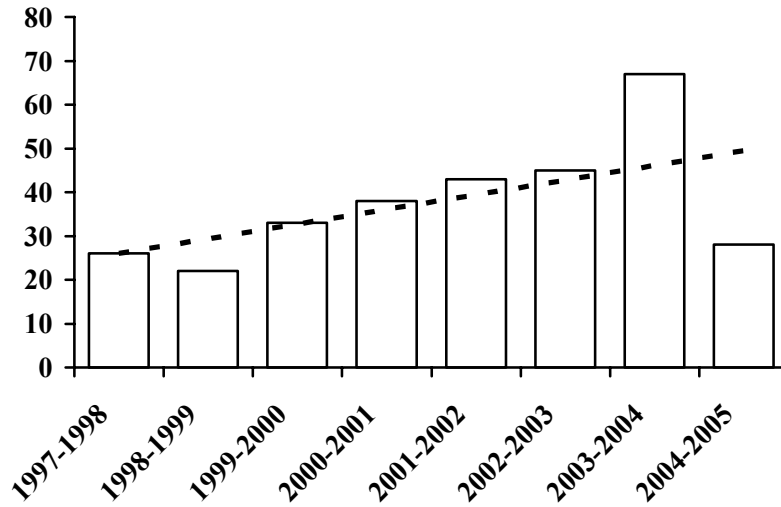


Figure II-5.
Number of Candidates Enrolled By Cohort
Data for 2004 – 2005 as of May 1, 2004

Teaching Assignments

Most ARTC teachers (83%) were hired to teach at the high school level. More than one-quarter were hired to teach science (Figure II-6).

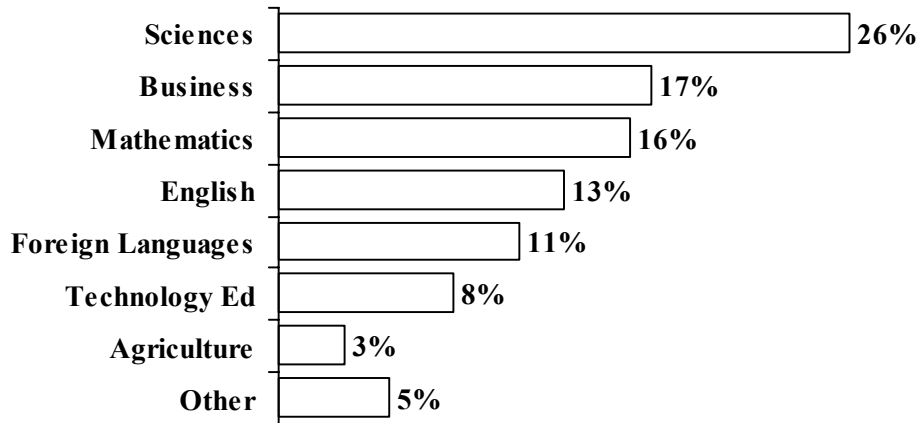


Figure II-6.
Subject Areas of Candidates Enrolled 1997 – 1998 to 2003 – 2004

Recent enrollment increases have been most dramatic in the sciences and mathematics (Figure II-7);

more than half of all candidates enrolled in 2003 – 2004 were teaching science or mathematics.

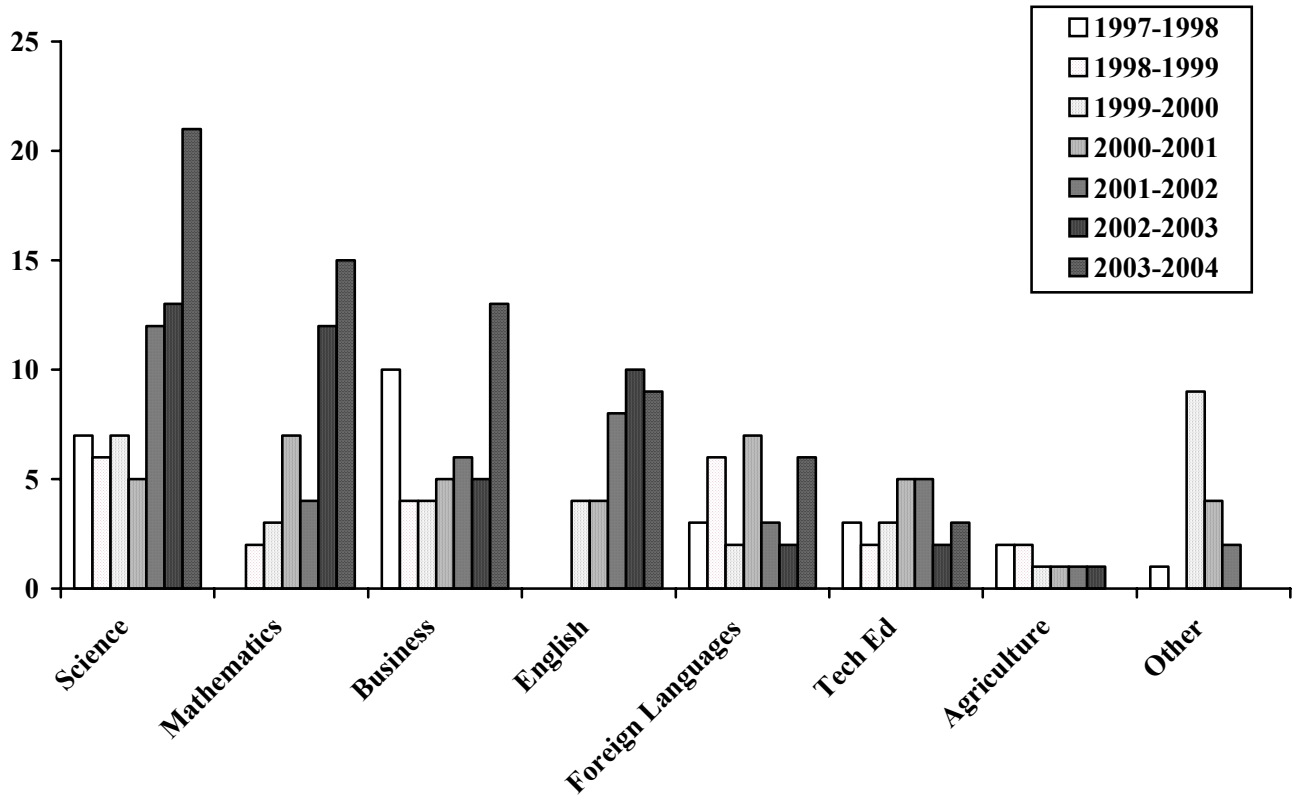


Figure II-7.
Subject Area Enrollments by Cohort

Candidate Profile

Demographics

Districts enrolled 274 candidates in the first seven ARTC cohorts. Appendix B summarizes characteristics of these candidates by cohort. Candidates were

- evenly balanced by gender (50% women and 50% men)
- one-quarter minority , about twice the proportion of minority teachers state-wide (Figure II-8)
- mostly in their 20’s and 30’s (Figure II-9)

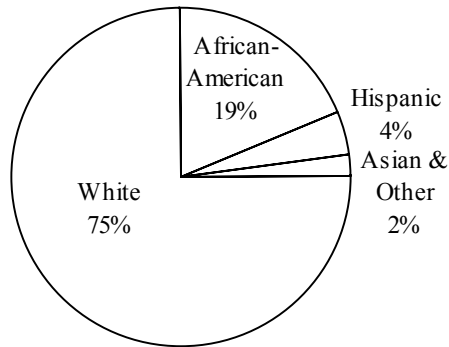


Figure II-8.
Proportion of Minority Candidates Enrolled

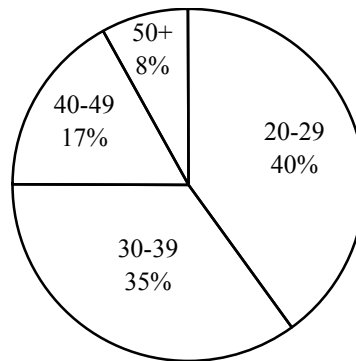


Figure II-9.
Age of Candidates Enrolled

College Degrees and GPA's

One-third (32%) had already earned one or more advanced degrees: 27% had one or more master's degrees and 5% had earned a doctorate in their subject areas. Almost two-thirds (64%) had earned an overall GPA of 3.0 or higher for the highest degree earned (Figure II-10).

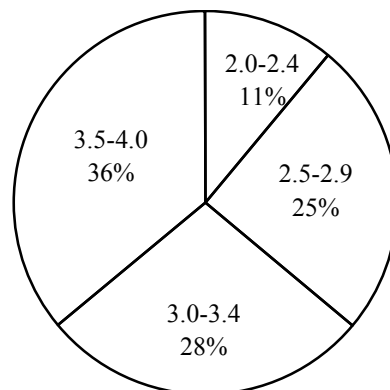


Figure II-10.
GPA For Highest Degree Earned

Employment Immediately Prior to Taking the ARTC Teaching Position

Most ARTC teachers come into teaching directly from other careers and professions (Figure II-11). In the year prior to taking their ARTC positions, about two-thirds (66%) were employed in business, industry, or government service. About one-quarter (26%) were employed in an educational setting (teaching full- or part-time, working as aides or paraprofessionals, or substitute teaching) for at least some portion of the year. This group is extremely varied, ranging from those who had been teaching in private schools for as long as 17 years to those who substituted for a few weeks or months before being offered their ARTC position. Only one in ten was a full-time student prior to taking their ARTC position, though there may be a slight trend toward more candidates entering the program immediately after finishing college degrees.

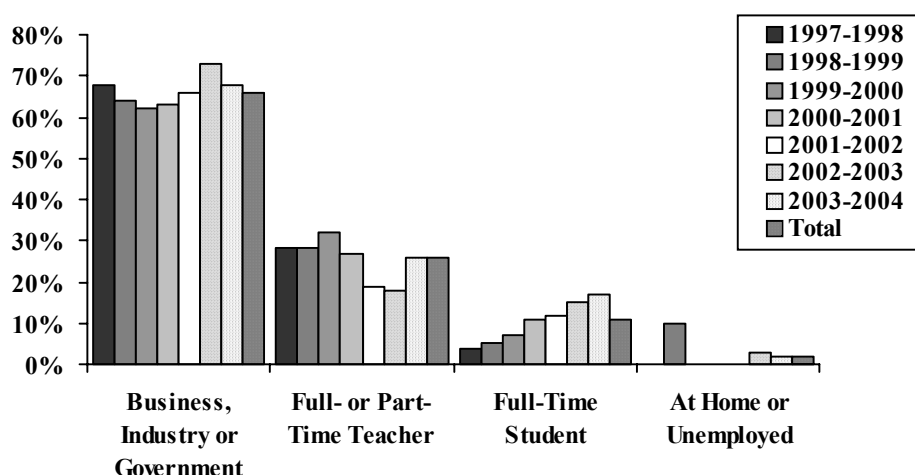


Figure II-11.
Employment in the Year Immediately Prior to Taking ARTC Position By Cohort

Prior Experience Related to Education, Teaching or Working with Children

Most candidates reported taking no education courses in the past (Figure II-12) and there has been a trend toward more candidates entering the program without any prior education coursework.

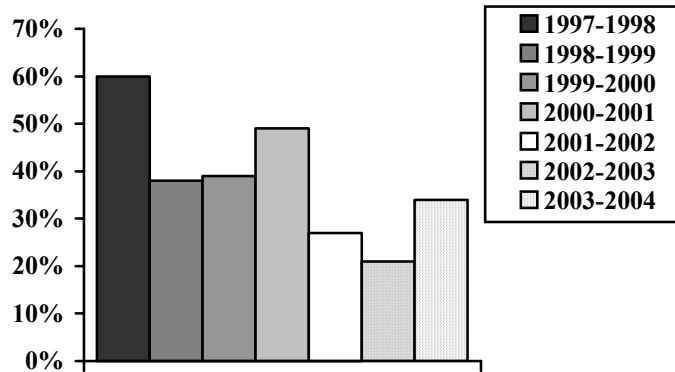


Figure II-12.
Proportion of Candidates Taking At Least One Education Course Prior to Enrolling in ARTC

Candidates also report little or no experience related to teaching or working with children at any time prior to entering the program (Figure II-13). About one-third of candidates reported substitute teaching (32%) and/or teaching full- or part-time (30%) at some time before entering the program; another 22% had served as classroom aides or paraprofessionals. Only 16% had volunteered in schools. In the community, 35% did report having volunteered in youth programs like scouting, Sunday school, or Little League, and 21% had coached youth sports. About one in four (22%) reported at some point providing training for adults in business, industry or the military, and one in five had previously taught at the college level.

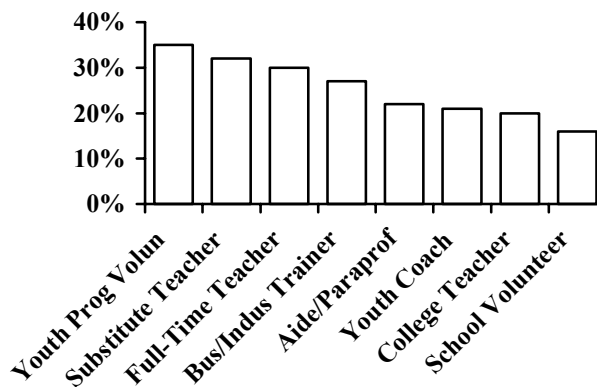


Figure II-13.
Reported Experience With Teaching or Children at Any Time Prior to Entering ARTC

III. Completion, Retention and Classroom Performance of ARTC Graduates

Are ARTC Teachers Completing Courses?

Forty-four (21%) of those who enrolled in at least one ARTC course failed to complete their ARTC classes (Appendix C and Figure III-1). Overall, this is consistent with statistics compiled by the National Education Association, indicating that about 20% of new teachers leave teaching by the end of the first year.

Performance in ARTC courses and/or in the classroom was an issue for more than half (61%) of the 44 candidates who failed to complete the core program of courses and seminars (Appendix C). The remaining candidates withdrew for a variety of personal and professional reasons unrelated to satisfactory performance in courses or in the classroom, and a number of those have continued to teach in Delaware and elsewhere.

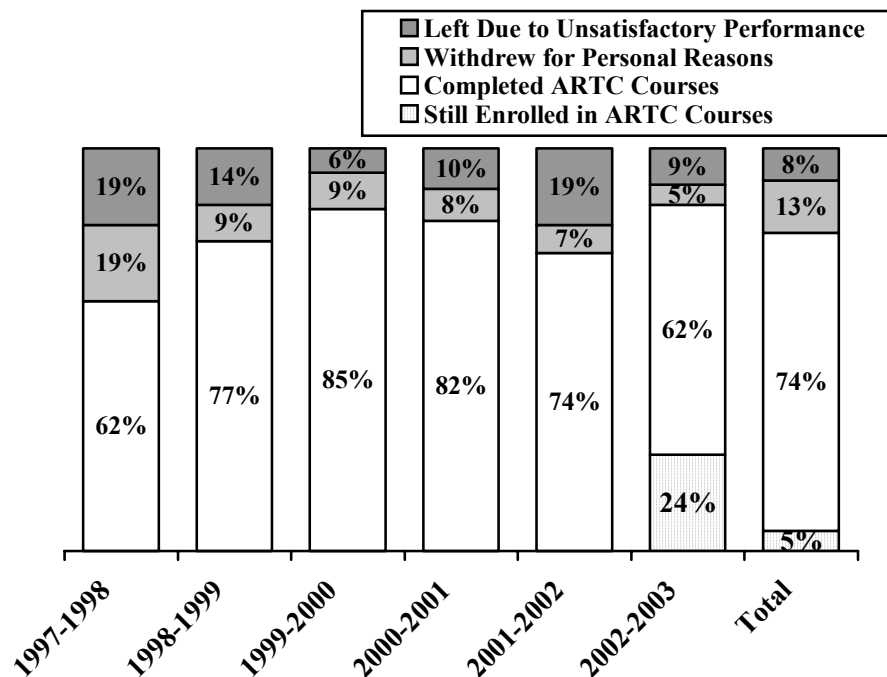


Figure III-1.
Patterns of Attrition by Cohort

Comparison of Candidates Who Completed Courses versus Those Who Did Not

Candidates who complete their ARTC courses are very similar to those who did not across almost all demographic measures (Appendix D). Successful candidates did more often tend to

- be female (84%) than male (70%);
- be Hispanic (89%) than other (50% to 77%);
- be employed in middle schools (92%) rather than high schools (73%);
- have taught part-time immediately prior to taking their teaching job (93%) as opposed to other types of prior employment (58% to 82%); and
- have had some past experience either as a regular or substitute classroom teacher (79% to 81%) or with community youth groups (80% to 85%).

Less successful candidates appear to include those who were

- over 50 (56%) versus other age groups (73% to 82%);
- full-time students (58%) immediately prior to entering the program versus other employment (74% to 100%);

Given the small number of candidates in many of these categories, these can only be regarded as very preliminary observations. Many are intuitively sensible: those who have worked with kids in or out of schools and shown prior interest (or actual experience) in teaching might be expected to make a smoother transition than those who have not had these experiences.

Are ARTC Teachers Staying?

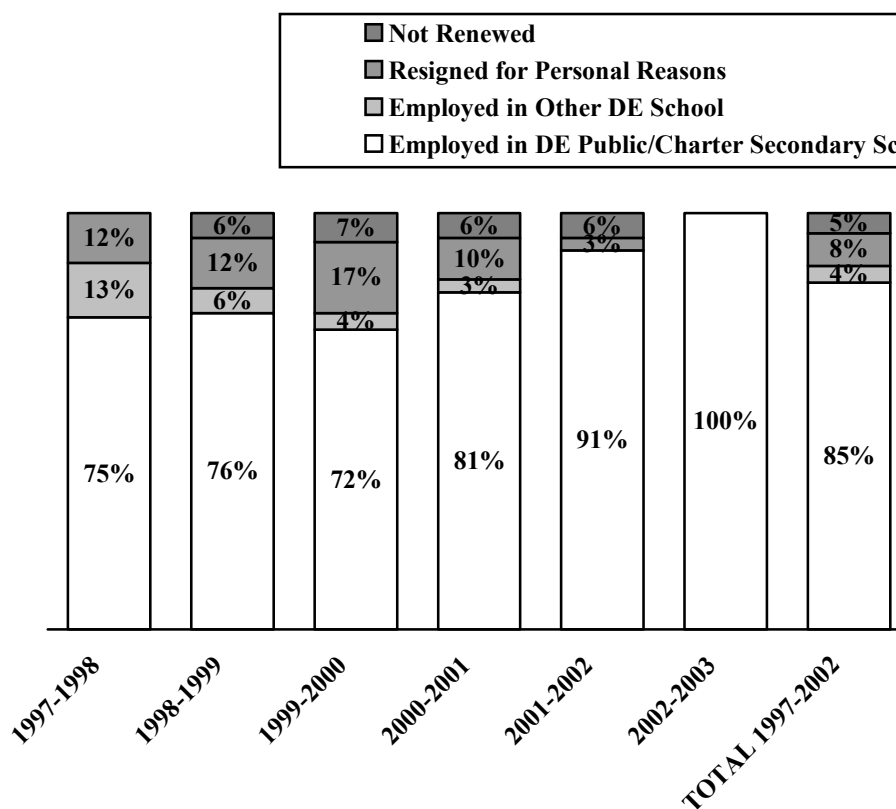
Retention data was obtained from Supervisor Surveys (see below) and Delaware Department of Education records for all 155 teachers who completed ARTC courses between 1997 – 1998 and 2003 – 2004.

Retention has been very high among ARTC graduates (Appendix E and Figure III-2). Eighty-four percent of all teachers who completed ARTC course work are still teaching or performing administrative duties in Delaware public or charter secondary schools. Eighty-eight percent are still teaching in Delaware public, private or charter schools.

Using the most conservative measure of “retention” (including only those who are still employed in the secondary public or charter schools that are specifically targeted by ARTC) and including the ARTC internship year, this translates to retention rates of 75% at five or more years; 81% at four years; 91% at three years; and

100% at one and two years.

As indicated Figure III-2, very few candidates who successfully complete their ARTC courses are later not renewed due to unsatisfactory classroom performance (5%). Most of those who leave their positions after completing courses (71%) do so for personal or professional reasons unrelated to classroom performance, and many continue to teach in Delaware and elsewhere.



**Figure III-2.
Retention of ARTC Graduates by Cohort**

Are ARTC Teachers Succeeding in Becoming Certified and Tenured?

Department of Education records were used to determine whether ARTC teachers who completed their courses also completed all certification requirements (Praxis I, any additional content-area courses required, documentation of their internship year and school recommendation for certification). ARTC teachers who complete courses and are renewed by their school districts are successfully completing certification (Appendix F and Figure III-3) and receiving a Standard Certificates in their content areas.

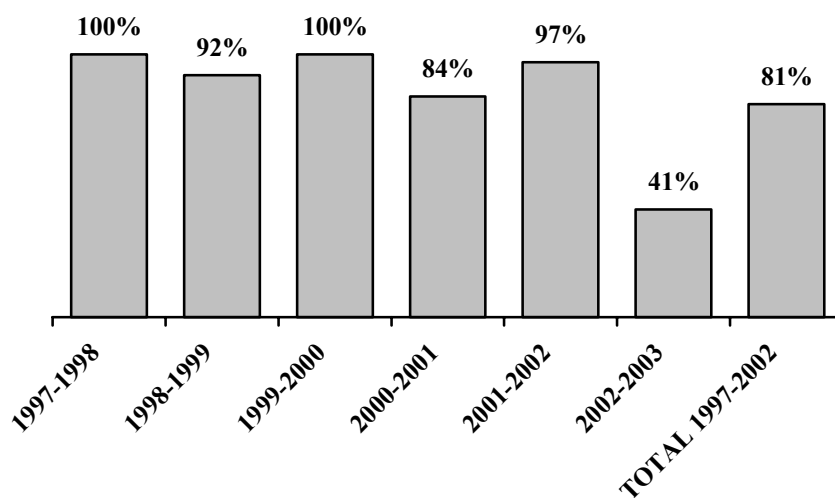


Figure III-3.
Percent of Fully Certified Graduates by Cohort

Tenure status of ARTC teachers was assessed based upon supervisor reports. ARTC teachers are being granted tenure, where applicable (Appendix F). All of those who are not yet tenured are working in settings where tenure is not an option (administrative positions or in charter schools where tenure is not offered) or are not yet eligible.

Are They Succeeding in the Classroom?

Surveys (Appendix H) were sent to the current supervisors of all 118 candidates in the 1998 – 1999 to 2003 – 2004 cohorts who had completed their ARTC course work and were still employed in target schools. Surveys were completed by 115 supervisors. The remaining 3 candidates were either employed in an administrative position or on medical or military leave from their positions (Appendix G).

Supervisor Ratings of Overall Performance

Supervisors compared the overall performance of their ARTC teachers with the performance of other teachers at similar points in their careers using a 5-point scale from "much poorer" to "much better." Their responses indicate that ARTC teachers are performing very well in the classroom (Appendix G and Figure III-4). Ninety-one percent rated their ARTC teacher as performing as well as or better than their peers and over half were performing better.

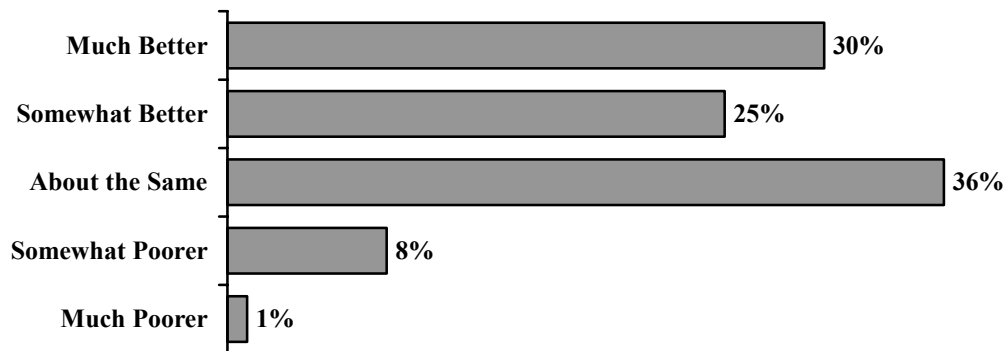
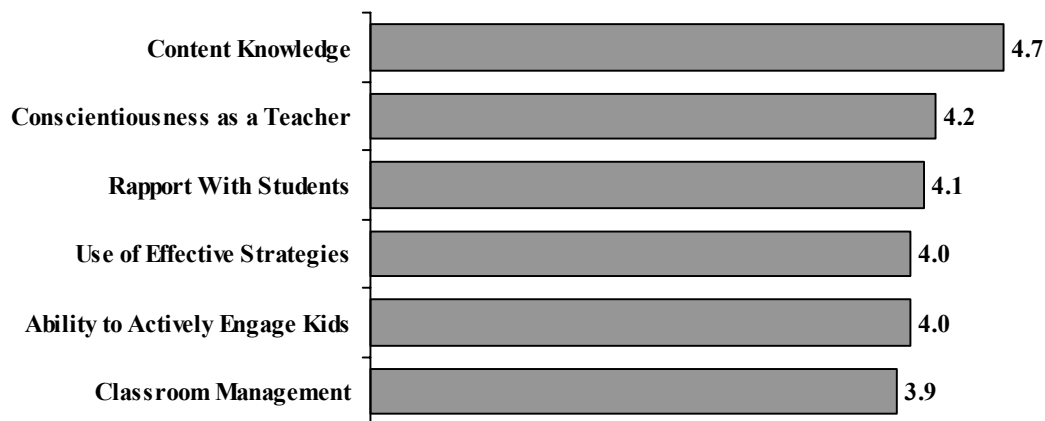


Figure III-4.
Supervisor Ratings of ARTC Graduates' Overall Performance

Supervisors' Ratings of Performance in Specific Domains of Teaching

Supervisors also evaluated their ARTC teachers' performance in several specific domains of teaching, ARTC graduates are perceived as "strong" or "very strong" across all dimensions (Appendix G and Figure III-5), especially in their knowledge of subject matter.



(1 = very weak; 2 = weak; 3 = adequate; 4 = strong; 5 = very strong)

Figure III-5.
Supervisor Ratings of Performance in Specific Domains of Teaching

Supervisor Satisfaction With ARTC Teachers

Satisfaction with ARTC teachers is very high among supervisors. Based on their experiences with a particular ARTC teacher, only one would be unlikely to recommend hiring another ARTC teacher in the future (Appendix G).

APPENDIX A
District and School Participation
1997 – 1998 to 2003 – 2004 Cohorts (N=274)

NEW CASTLE COUNTY	187	KENT & SUSSEX COUNTIES	87
Appoquinimink	24	Caesar Rodney	12
Middletown Middle School	2	Fifer Middle School	1
Redding Middle School	3	Caesar Rodney High School	11
Middletown High School	19	Cape Henlopen	2
Brandywine	21	Cape Henlopen High School	2
Hanby Middle School	1	Capital	14
Talley Middle School	3	Central Middle School	1
Brandywine High School	5	Dover High School	13
Concord High School	6	Delmar	3
Mt Pleasant High School	5	Delmar Middle School	1
D.A.P.I.	1	Delmar High School	2
Christina	50	Indian River	24
Gauger-Cobbs Middle School	5	Selbyville Middle School	1
Kirk Middle School	2	Indian River High School	7
Shue-Medill Middle School	4	Sussex Central High School	16
Christiana High School	11	Lake Forest	6
Glasgow High School	13	Chipman Middle School	2
Newark High School	15	Lake Forest High School	4
Colonial	16	Laurel	7
George Read Middle School	2	Laurel High School	7
William Penn High School	14	Milford	5
Red Clay	45	Milford Middle School	1
AI duPont Middle School	2	Milford High School	4
Conrad Middle School	2	Seaford	5
HB duPont Middle School	1	Seaford Middle School	2
Skyline Middle School	1	Seaford High School	3
Stanton Middle School	3	Woodbridge	5
AI duPont High School	6	Woodbridge Middle School	1
Cab Calloway School of the Arts	4	Woodbridge High School	4
Concord High School	1	Polytech High School	1
Dickinson High School	12	Sussex Technical High School	1
McKean High School	12		
Positive Learning Center	1		
New Castle Co Vo-Tech	9		
Delcastle Technical High School	4		
Hodgson Vo-Tech High School	3		
Howard High School of Technology	2		
DSCYF	1		
Ferris School for Boys	1		
Charters	21	Charters	2
The Charter School of Wilmington	14	Positive Outcomes Charter School	2
Delaware Military Academy	3		
Marion T. Academy	2		
Richard Milburn Academy	2		

APPENDIX B
Profile of Candidates Enrolled in ARTC
1997 – 1998 to 2003 – 2004 Cohorts (N = 274)

COHORT:	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	TOTAL
TOTAL ENROLLMENT	26 (9%)	22 (8%)	33 (12%)	38 (14%)	43 (16%)	45 (16%)	67 (25%)	274 (100%)
STATUS IN PROGRAM								
Completed ARTC Courses	16 (62%)	17 (77%)	28 (85%)	31 (82%)	32 (74%)	27 (60%)	4 (6%)	155 (57%)
Did Not Complete ARTC Courses	10 (38%)	5 (23%)	5 (15%)	7 (18%)	11 (26%)	6 (13%)	4 (6%)	48 (18%)
Currently Enrolled						10 (22%)	55 (82%)	65 (24%)
Currently Enrolled: On Leave						2 (5%)	4 (6%)	6 (1%)
RECRUITMENT								
thru ARTC	1 (4%)	4 (18%)	18 (55%)	23 (59%)	27 (63%)	38 (84%)	44 (66%)	155 (57%)
thru Schools	25 (96%)	18 (82%)	15 (45%)	16 (41%)	16 (37%)	7 (16%)	23 (34%)	119 (43%)
GEOGRAPHIC AREA								
New Castle County	19 (73%)	16 (73%)	17 (52%)	24 (63%)	31 (72%)	34 (76%)	46 (69%)	187 (68%)
Kent and Sussex Counties	7 (27%)	6 (17%)	16 (48%)	14 (37%)	12 (28%)	11 (24%)	21 (31%)	87 (32%)
LEVEL TAUGHT								
High School	21 (81%)	17 (77%)	28 (85%)	28 (74%)	37 (86%)	41 (91%)	55 (82%)	227 (83%)
Middle School	5 (19%)	5 (23%)	5 (15%)	10 (26%)	6 (14%)	4 (9%)	12 (18%)	47 (17%)
AGE								
20 – 29	8 (31%)	7 (32%)	12 (37%)	15 (40%)	20 (47%)	20 (50%)	24 (38%)	106 (40%)
30 – 39	14 (54%)	11 (50%)	15 (46%)	11 (29%)	8 (19%)	12 (30%)	22 (35%)	93 (35%)
40 – 49	3 (12%)	2 (9%)	5 (15%)	8 (21%)	11 (25%)	4 (10%)	12 (19%)	45 (17%)
50 +	1 (4%)	2 (9%)	1 (3%)	4 (10%)	4 (9%)	4 (10%)	5 (8%)	21 (8%)

	COHORT:	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	TOTAL
GENDER									
Female		7 (27%)	15 (68%)	17 (52%)	17 (45%)	23 (54%)	24 (53%)	35 (52%)	138 (50%)
Male		19 (73%)	7 (32%)	16 (48%)	21 (55%)	20 (46%)	21 (47%)	32 (48%)	136 (50%)
MINORITY STATUS									
African-American		6 (23%)	4 (18%)	8 (24%)	5 (13%)	11 (26%)	4 (9%)	15 (22%)	53 (19%)
Hispanic			1 (5%)	3 (9%)	3 (8%)	2 (5%)	1 (2%)	1 (2%)	11 (4%)
Asian & Other		2 (8%)				1 (2%)	1 (2%)	1 (2%)	5 (2%)
Caucasian		18 (69%)	17 (77%)	22 (67%)	30 (79%)	29 (67%)	39 (87%)	50 (74%)	205 (75%)
HIGHEST DEGREE EARNED									
Bachelor's		16 (76%)	15 (75%)	22 (69%)	25 (68%)	27 (63%)	30 (68%)	43 (64%)	178 (68%)
Master's		4 (19%)	2 (10%)	9 (28%)	11 (30%)	12 (28%)	12 (27%)	21 (31%)	71 (27%)
Doctorate		1 (5%)	3 (15%)	1 (3%)	1 (3%)	3 (6%)	2 (5%)	3 (4%)	14 (5%)
GPA (HIGHEST DEGREE)									
2.0 - 2.4		4 (27%)	1 (8%)	7 (25%)	3 (9%)	2 (5%)	3 (9%)	3 (7%)	23 (11%)
2.5 - 2.9		4 (27%)	4 (33%)	7 (21%)	10 (29%)	6 (16%)	6 (17%)	14 (33%)	51 (25%)
3.0 - 3.4		5 (33%)	5 (42%)	8 (29%)	8 (24%)	13 (35%)	11 (31%)	6 (15%)	57 (28%)
3.5 - 4.0		2 (13%)	2 (17%)	7 (25%)	13 (38%)	16 (44%)	15 (43%)	19 (45%)	74 (36%)
SUBJECT AREA									
Sciences		7 (27%)	6 (28%)	7 (21%)	5 (13%)	12 (28%)	13 (30%)	21 (31%)	71 (26%)
Business & Marketing		10 (38%)	4 (18%)	4 (12%)	5 (13%)	6 (14%)	5 (11%)	13 (20%)	47 (17%)
Mathematics			2 (9%)	3 (9%)	7 (18%)	4 (9%)	12 (27%)	15 (22%)	43 (16%)
English				4 (12%)	4 (12%)	8 (19%)	10 (22%)	9 (13%)	35 (13%)
Foreign Languages		3 (12%)	6 (27%)	2 (6%)	7 (18%)	5 (12%)	2 (4%)	6 (9%)	31 (11%)
Technology Education		3 (12%)	2 (9%)	3 (9%)	5 (13%)	5 (12%)	2 (4%)	3 (5%)	23 (8%)
Agriculture		2 (7%)	2 (9%)	1 (3%)	1 (3%)	1 (2%)	1 (2%)		8 (3%)
Computer Science		1 (4%)			2 (5%)				3 (1%)
Other				9 (28%)	2 (5%)	2 (4%)			13 (5%)

COHORT:	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	TOTAL
PRIOR CERTIFICATION								
Yes	2 (8%)	0 (0%)	0 (0%)	0 (0%)	3 (7%)	0 (0%)	0 (0%)	5 (2%)
PRIOR ED COURSES								
None	10 (40%)	13 (62%)	19 (61%)	19 (51%)	30 (73%)	31 (79%)	35 (66%)	157 (64%)
One or More	15 (60%)	8 (38%)	12 (39%)	18 (49%)	11 (27%)	8 (21%)	18 (34%)	90 (36%)
EMPLOYMENT IN YEAR PRIOR TO ARTC								
Business	11 (44%)	6 (27%)	12 (39%)	14 (38%)	16 (39%)	15 (39%)	18 (34%)	92 (37%)
Industry	5 (20%)	5 (23%)	4 (13%)	5 (14%)	9 (22%)	10 (26%)	11 (21%)	49 (20%)
Government or Social Services	1 (4%)	3 (14%)	3 (10%)	4 (11%)	2 (5%)	3 (8%)	7 (13%)	23 (9%)
Full-time Teaching	6 (24%)	5 (23%)	6 (19%)	7 (19%)	5 (12%)	5 (13%)	7 (13%)	41 (17%)
Part-time Teaching	1 (4%)	1 (5%)	4 (13%)	3 (8%)	3 (7%)	2 (5%)	7 (13%)	21 (9%)
Full-time Student	1 (4%)	1 (5%)	2 (7%)	4 (11%)	5 (12%)	6 (15%)	9 (17%)	28 (11%)
At Home or Unemployed		2 (10 %)				1 (3%)	1 (2%)	4 (2%)
RELATED EXPERIENCE (percentages within cohort may exceed 100%)								
Substitute Teacher	6 (24%)	6 (27%)	13 (41%)	14 (38%)	14 (33%)	11 (28%)	17 (32%)	81 (34%)
Youth Program Volunteer	3 (12%)	6 (27%)	13 (42%)	13 (35%)	18 (43%)	12 (31%)	22 (42%)	88 (35%)
Full- or Part-Time Teacher	8 (32%)	6 (27%)	13 (42%)	9 (24%)	11 (26%)	7 (18%)	13 (24%)	72 (29%)
Teacher in Business or Military	1 (4%)	5 (23%)	7 (23%)	13 (35%)	13 (31%)	10 (26%)	18 (34%)	67 (27%)
Classroom Aide or Paraprofessional	5 (20%)	6 (27%)	8 (23%)	10 (27%)	8 (19%)	4 (10%)	14 (26%)	55 (22%)
Youth Coach	2 (8%)	3 (14%)	10 (32%)	9 (24%)	7 (17%)	7 (18%)	14 (26%)	52 (21%)
College Teacher	3 (12%)	4 (18%)	7 (23%)	8 (22%)	10 (24%)	6 (16%)	12 (23%)	50 (20%)
School Volunteer	2 (8%)	6 (27%)	1 (3%)	8 (22%)	7 (17%)	5 (13%)	10 (19%)	39 (16%)

APPENDIX C

Patterns of Attrition Candidates Who Enrolled But Did Not Complete ARTC Courses 1997 – 1998 to 2002 – 2003 Cohorts

COHORT:	1997 – 1998	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	TOTAL
Candidates Enrolled	26	22	33	38	43	45	207
Still Completing ARTC Courses						11	11
Did Not Complete ARTC Courses	10	5	5	7	11	6	44
Percent Attrition	38%	23%	15%	18%	26%	13%	21%
REASONS FOR NOT COMPLETING							
Candidates Who Left Due to Unsatisfactory Performance in Courses and/or in the Classroom	5	3	3	4	8	4	27 61%
Candidates Who Withdrew For Personal Reasons:	5	2	2	3	3	2	17 39%
<i>Completed Certification Via Another Route</i>	<i>1</i>						<i>1</i>
<i>Took Other DE School Position (elementary; counseling)</i>	<i>1</i>	<i>1</i>					<i>2</i>
<i>Position eliminated</i>			<i>1</i>	<i>1</i>	<i>2</i>		<i>4</i>
<i>Moved out-of-state</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>2</i>			<i>5</i>
<i>Left Teaching</i>	<i>2</i>				<i>1</i>	<i>2</i>	<i>5</i>

APPENDIX D
Comparison of Candidates Who Completed
Versus Those Who Did Not
1997 – 1998 to 2002 – 2003 Cohorts

	PROPORTION OF CANDIDATES ENROLLED WHO . . .	
	COMPLETED ARTC COURSES	DID NOT COMPLETE ARTC COURSES
NUMBER OF CANDIDATES	155	48
GENDER		
Female	84%	16%
Male	70%	30%
MINORITY STATUS		
African-American	74%	26%
Hispanic	89%	11%
Asian & Other	50%	50%
White	77%	23%
AGE		
20 – 29	77%	23%
30 – 39	82%	18%
40 – 49	73%	27%
50 +	56%	44%
HIGHEST DEGREE EARNED		
Bachelor's	80%	20%
Master's or Doctorate	80%	20%
GPA FOR HIGHEST DEGREE		
2.0 - 2.4	95%	5%
2.5 - 2.9	79%	21%
3.0 - 3.4	87%	13%
3.5 - 4.0	86%	14%
GEOGRAPHIC LOCATION		
New Castle County	77%	23%
Kent & Sussex Counties	75%	25%
LEVEL TAUGHT		
High School	73%	27%
Middle School	92%	8%

**PROPORTION OF CANDIDATES
ENROLLED WHO ...**

COMPLETED ARTC COURSES	DID NOT COMPLETE ARTC COURSES
-----------------------------------	--

SUBJECT AREA

Agriculture	38%	62%
Business	83%	17%
English	68%	32%
Foreign Languages	73%	27%
Mathematics	82%	18%
Sciences	75%	25%
Technology Education	80%	20%

PRIOR EDUCATION COURSES

None	78%	22%
One or More	79%	21%

EMPLOYMENT PRIOR TO ARTC

Industry	82%	18%
Business	79%	21%
Government or Social Services	78%	22%
Full-time Teaching	74%	26%
Part-time Teaching	93%	7%
Full-Time Student	58%	42%
At Home/Unemployed	100%	

PRIOR RELATED EXPERIENCE

Substitute Teacher	81%	19%
Full- or Part-Time Teacher	79%	21%
Youth Program Volunteer	85%	15%
Classroom Aide or Paraprofessional	61%	39%
Youth Coach	80%	20%
Teacher in Business/Military	78%	22%
College Teaching	74%	26%
School Volunteer	73%	27%

APPENDIX E

Retention of ARTC Graduates

COHORT:	1997 – 1998	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 – 2004	TOTAL
Employed in DE Public or Charter Secondary School	12 (75%)	13 (76%)	20 (72%)	25 (81%)	29 (91%)	27 (100%)	4 (100%)	130 (84%)
Resigned for Personal Reasons	4 (25%)	3 (18%)	6 (21%)	4 (13%)	1 (3%)			18 (11%)
<i>to teach in a DE public or charter elementary school</i>	<i>1</i>			<i>1</i>				
<i>to teach in a DE private school</i>	<i>1</i>	<i>1</i>	<i>1</i>					
<i>for medical reasons</i>				<i>1</i>				
<i>to teach in another state</i>		<i>2</i>	<i>2</i>		<i>1</i>			
<i>to raise a family</i>	<i>2</i>		<i>3</i>	<i>1</i>				
<i>to return to prior job</i>				<i>1</i>				
Not Renewed		1 (6%)	2 (7%)	2 (6%)	2 (6%)			7 (5%)
TOTAL	16 (10%)	17 (11%)	28 (18%)	31 (20%)	32 (21%)	27 (17%)	4 (3%)	155 (100%)

APPENDIX F

Certification and Tenure Status of ARTC Graduates

Certification Status of ARTC Graduates

COHORT:	1997 – 1998	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 – 2004	TOTAL
Standard Certificate	12 (100%)	12 (92%)	21 (100%)	21 (84%)	28 (97%)	11 (41%)	1 (25%)	106 (81%)
Limited or Emergency		1 (8%)		4 (16%)	1 (3%)	16 (59%)	3 (75%)	25 (19%)
TOTAL	12	13	21	25	29	27	4	131

Tenure Status of ARTC Graduates

COHORT:	1997 – 1998	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 – 2004	TOTAL
Already tenured	10 (83%)	9 (69%)	17 (81%)	13 (52%)	3 (10%)	3 (11%)		55 (42%)
Not applicable (administrator, charter, private, state school)	2 (17%)	4 (31%)	1 (5%)	5 (20%)	4 (14%)	1 (4%)		17 (13%)
Not yet eligible			3 (14%)	7 (28%)	22 (76%)	23 (85%)	4 (100%)	59 (45%)
TOTAL	12	13	21	25	29	27	4	131 (100%)

APPENDIX G

Supervisor Survey Returns and Ratings

2004 Supervisor Survey Returns

COHORT:	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 - 2004	TOTAL
Completed ARTC Courses	17	28	31	32	27	4	139
Not Applicable: Administrator	1						1
Not Applicable: On Leave		2					2
Not Teaching in a Target School	4	8	6	3			21
FINAL SAMPLE	12	18	25	29	27	4	115

**Based on Your Experience With Other Teachers at Similar Points in Their Careers,
How Would You Compare the Overall Performance of Your ARTC Teacher?**

COHORT:	1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 – 2004	TOTAL
1 = Much Better	4 (36%)	2 (11%)	9 (38%)	13 (45%)	5 (19%)	1 (25%)	34 (30%)
2 = Somewhat Better	4 (36%)	7 (39%)	5 (21%)	5 (17%)	6 (22%)	1 (25%)	28 (25%)
3 = About the Same	3 (27%)	7 (37%)	10 (42%)	9 (25%)	12 (44%)		41 (36%)
4 = Somewhat Poorer		2 (11%)		2 (7%)	3 (11%)	2 (50%)	9 (8%)
5 = Much Poorer					1 (4%)		1 (1%)
TOTAL	11 (10%)	18 (16%)	24 (21%)	29(26%)	27 (24%)	4 (4%)	113 (100%)
Mean	4.0	3.5	4.0	4.0	3.4	3.3	3.7
Standard Deviation	.83	.86	.91	1.0	1.0	1.5	1.1

How Would You Rate This Teacher's . . .

	COHORT: 1998 – 1999		1999 – 2000		2000 – 2001		2001 – 2002		2002 – 2003		2003 – 2004		TOTAL	
	N =													
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
knowledge of subject matter?	4.4	.79	4.4	.70	4.6	.71	4.6	.57	4.0	.78	4.0	.82	4.4	.70
conscientiousness as a teacher?	4.1	1.1	4.2	.808	4.2	.98	4.5	.63	4.1	.85	3.5	1.3	4.2	.86
rapport with students?	4.5	.52	4.2	1.0	4.1	.81	4.3	.94	3.8	1.0	3.5	1.3	4.1	.92
ability to engage students in active learning?	4.3	.65	3.9	.83	4.2	.85	4.2	1.03	3.6	.97	3.0	.82	4.0	.90
use of effective instructional strategies?	4.2	.84	4.0	.77	4.1	.97	4.2	.92	3.5	1.0	3.5	1.3	4.0	.93
management of student behavior & activities?	4.1	1.0	3.8	.86	4.2	.85	4.1	1.1	3.4	1.0	3.0	1.4	3.9	.98

SCALE: 1 = very weak, 2 = weak, 3 = adequate, 4 = strong, 5 = very strong

Based on your Experience with this Teacher, How Likely Is It That You Would Recommend Hiring an ARTC Teacher in the Future?

	COHORT: 1998 – 1999	1999 – 2000	2000 – 2001	2001 – 2002	2002 – 2003	2003 – 2004	TOTAL
very likely	4 (67%)	11 (69%)	17 (81%)	21 (84%)	15 (83%)	2 (50%)	70 (78%)
somewhat likely	2 (33%)	4 (25%)	4 (19%)	3 (12%)	2 (11%)	1 (25%)	16 (18%)
not at all likely						1 (25%)	1 (1%)
Don't know		1 (6%)		1 (4%)	1 (6%)		3 (3%)

