

# **Investing in Better Outcomes: Reaping Continued Dividends**

*The Delaware Early Childhood  
Longitudinal Study  
Follow-Up with Fifth Graders*

June 2005

Prepared for the Delaware Interagency Resource Management Committee  
and the  
Department of Education,  
Department of Health and Social Services, and the  
Department of Services for Children, Youth, and Their Families

Michael Gamel-McCormick, Ph.D.  
Deborah Amsden, M.S.  
Denise Hartranft, M.Ed.



Center for Disabilities Studies  
College of Human Services, Education, and Public Policy  
University of Delaware  
Newark, DE 19716  
(302) 831-6974 (voice)  
(302) 831-4690 (FAX)  
(302) 831-4689 (TTD)  
[www.udel.edu/cds](http://www.udel.edu/cds) (web site)





# **Investing in Better Outcomes: Reaping Continued Dividends**

*The Delaware Early Childhood  
Longitudinal Study  
Follow –Up with Fifth Graders*

June 2005

Prepared for the Delaware Interagency Resource Management Committee  
and the  
Department of Education,  
Department of Health and Social Services, and the  
Department of Services for Children, Youth, and Their Families

Michael Gamel-McCormick, Ph.D.  
Deborah Amsden, M.S.  
Denise Hartranft, M.Ed.



Center for Disabilities Studies  
College of Human Services, Education, and Public Policy  
University of Delaware  
Newark, DE 19716  
(302) 831-6974 (voice)  
(302) 831-4690 (FAX)  
(302) 831-4689 (TTD)  
[www.udel.edu/cds](http://www.udel.edu/cds) (web site)





## **About the *Center for Disabilities Studies***

The *Center for Disabilities Studies* at the University of Delaware is one of the 61 university affiliated program Centers for Excellence in Developmental Disability Research Education and Service (UCEDD) in the United States. The *Center* was established in 1992 and works in conjunction with individuals with disabilities to better their lives. The *Center* staff and affiliated faculty teach both pre-service and in-service courses for teachers, social service workers, and other service providers working with individuals with disabilities and their families. The *Center* operates state-of-the-art programs and assists both public and private organizations in adopting the procedures developed to operate those programs. *Center* staff and affiliated faculty also serve on state and national policy boards and commissions that address housing, transportation, education, advocacy, child care, health care, and other service areas. *Center* staff also conducts evaluations of programs serving individuals with disabilities and assists in policy development at both the local and state levels. The *Center for Disabilities Studies* is located in 166 Graham Hall at the University of Delaware in Newark. The Director of the Center is Dr. Michael Gamel-McCormick.

## **About the *Interagency Resource Management Committee***

The Interagency Resource Management Committee (IRMC) is a Delaware state level governmental committee that includes the Secretaries of Education, Health and Social Services and Services for Children, Youth and Their Families as well as the state Budget Director and Controller General. The Committee makes both policy and budgetary decisions for three major early intervention programs: the Birth to Three Early Intervention System of Part C of the Individuals with Disabilities Education Act; the state Early Childhood Assistance Programs, programs for four-year-olds and their families; and the Preschool Disabilities Program, programs for three and four-year-olds with mild disabilities and speech and language delays. The Committee also oversees a statewide data management system for child and family support services. The Chair of the IRMC is Ms. Valerie Woodruff, Secretary of Education. The IRMC Coordinator during this project was Peg Bradley.

This document was prepared with the support of the Delaware Public Assistantship Program through the College of Human Services, Education and Public Policy. The Public Service Assistantship Program is designed to provide both graduate and undergraduate students with experiences that will aid the citizens of the state of Delaware. We greatly appreciate the funding provided to support this program which allows for work such as this to continue.



# Investing in Better Outcomes: Reaping Continued Dividends *The Delaware Early Childhood Longitudinal Study*

## Introduction

**A**S a follow-up to the 2002 report on “Investing in Better Outcomes” this report continues to follow the children who received early intervention services as four-year-olds during the 1996-1997 school year to determine what their outcomes have been during their fifth-grade year of school. Even more so than in 2002, there is a general consensus that early intervention programming is effective for students with disabilities and living in poverty (Guralnick, 1997). However, the long-term impact of early intervention services remains controversial. Some researchers, in particular those with the Perry Preschool Project (Schweinhart, 2001, 2002, 2003) and the Abecedarian Study (Campbell, & Ramey, 1999, 2003), have documented long-term benefits of high quality early intervention programs with children with disabilities and living in poverty. Others, however, continue to question the long-term impact of early intervention services (Kafer, 2003), with questions about dissipated effects after second or third grade.

This follow-up report details the outcomes of children as fifth graders who were enrolled in two different types of early intervention programs serving young children with disabilities and young children living in poverty when compared to their peers. The results are even more striking and encouraging than from the first report, the April 2002 report of *Delaware Early Childhood Longitudinal Report* which reports on the children’s outcomes as third graders. Children were third graders in the 2000-2001 school year.

## Delaware's Early Intervention Efforts

**D**elaware has been providing early intervention services to young children since the early 1980s. However, widespread availability of comprehensive early intervention services, in the form of programming for infants and toddlers with disabilities, preschoolers with disabilities, both mild and moderate, and four-year-olds living in poverty occurred in the 1990s. In the early part of the decade, Delaware legislated the Programs for Children with Disabilities and began serving three- and four-year-olds with mild delays in addition to preschoolers with moderate and severe disabilities, who had been served since the 1980s. The programs for Children with Disabilities (PCD) differed from the traditional preschool special education programs in that there was more flexibility in how children could be served. Services were either provided by the school district or by the school district arranging for services to be provided by a contractor. With the institution of these changes, preschool special education (PSE) programs now provided intervention programming for children with disabilities as wide ranging as Down syndrome, cerebral palsy, spina bifida, fragile X syndrome, communication disorders, and developmental delays.

In the mid-1990s, Delaware began to provide comprehensive early childhood programming for all children aged four who were living in poverty. The Early Childhood Assistance Programs (ECAP) are modeled after the federal Head Start program and use the Head Start Performance Standards as their program standards. In combination with federal Head Start funding, the ECAPs made Delaware one of the first states to provide comprehensive four-year-old early childhood programming for every child living in poverty.

**T**o oversee this flourishing activity in the area of early intervention, an innovative governmental structure was created. The Delaware Interagency Resource Management Committee<sup>1</sup> (IRMC), an inter-departmental committee designed to oversee some of the resources allocated to Delaware's early intervention programs, was formed in 1992. The IRMC was and is currently charged with overseeing three major early

---

<sup>1</sup> The Interagency Resource Management Committee is composed of the state Budget Director, the state Comptroller, the Secretary of the Department of Health and Social Services, the Secretary of the Department of Services for Children, Youth and Their Families, and the Secretary of the Department of Education, who also has the role of Committee Chair.



intervention programs: 1) the Birth to Three Early Intervention System for very young children with disabilities and their families, 2) the state-funded Early Childhood Assistance Programs (ECAP) for four-year-olds living in poverty and their families, and 3) the Preschool Children with Disabilities programs operated through local school districts for three- and four-year-olds with mild disabilities that included developmental delays and speech and language delays.

Once formed, one of the first questions asked by the IRMC members was about the impact that such programs have on children's long-term outcomes. Committee members wanted to know what academic, behavioral, and social impact these early intervention programs were having on children who were living in poverty and children who had disabilities.

## The Genesis of a Longitudinal Study

Prompted by the IRMC members' questions about the impact of early intervention programming, the Delaware Early Childhood Longitudinal Study (DECLS) was born. In the Spring of 1997, a team of researchers, policy analysts, and program managers at the University of Delaware Center for Disabilities Studies and the Delaware Departments of Education, Health and Social Services and Services for Children, Youth, and Their Families designed and proposed a study to follow a group of children as they entered kindergarten in the Fall of 1997. The study was originally designed to follow the children from their kindergarten experience through their third grade year, coinciding with their participation in the 3<sup>rd</sup> grade Delaware State Testing Program (DSTP). The students in this study have continued to be followed to determine their outcomes at later testing time periods, including their participation in the fifth grade DSTP.

One of the primary questions of the current report is whether or not the students who received early intervention services as four-year-olds continue to retain their relatively strong outcomes when compared to peers who did not have early intervention services when they were four years of age.

## Study Design

The Delaware Early Childhood Longitudinal Study (DeCLS) was designed as a retrospective, two-group, post-test only design (see Campbell & Stanley, 1963). That is, it was designed to ensure that there was no bias in the sampling process and that there was a group of children to whom the intervention group could be compared.

A stratified random sampling process was used to select 717 kindergarten students entering school in the fall of 1997 in eight of Delaware's school districts. The random selection increased the likelihood that the two groups of students compared would be equal in characteristics except for their early intervention experiences.

## Sample

A stratified random sample of kindergarten students from eight school districts throughout the state was selected for inclusion in the DECLS. The sample was stratified according to socioeconomic level and presence of disability. The randomized sample included 217 kindergarten students with active Individualized Education Plans (IEPs), 250 students who qualified for free or reduced lunch as they started kindergarten, and 250 students from the general student population who did not have a disability and did not qualify for free or reduced lunch as they started kindergarten (see Table 1).

Table 1. DeCLS Sample Categories (2002)

Category	Number	Percentage
Children Living in Poverty	250	34.9%
Children with an active IEP	250	34.9%
Children without a disability/not living in poverty	217	30.2%
<b>Total</b>	<b>717</b>	<b>100.0%</b>

For the first report in 2002, found within the randomized sample of kindergarten students were children who had received early intervention services during their preschool years. Forty-nine (49) of the 717 children

had received either ECAP or federal Head Start services when they were four years of age. Eighty-nine (89) of the children had received services from the local school district preschool special education (PSE) programs when they were three and/or four years of age. Five children had received services from the Birth to Three Early Intervention System and specifically from Child Development Watch (see Table 2). Because of the small number of students who were found to have received early intervention services from the Birth to Three Early Intervention System, analysis of this program's services on child outcomes was not conducted.

Table 2. DeCLS Sample Receiving Early Intervention Services (2002)

<b>Early Intervention Programming</b>	<b>Number</b>	<b>Percentage</b>
Birth to Three/Child Development Watch	5	0.7%
Early Childhood Assistance Program/Head Start	49	6.8%
Preschool Special Education programs	89	12.4%

For the fifth-grade follow-up analysis for this study, a number of children receiving early intervention services as well as children from the peer comparison groups could not be found. The fifth grade sample showed a small level of attrition from the original sample group. Those numbers can be found in Table 3. As with the 2002 analysis of these children as third graders, the analysis of the impact of the Birth to Three services was not conducted due to the small number of students in the sample who had received services.

Table 3. DeCLS Sample Receiving Early Intervention Services (2004)

<b>Early Intervention Programming</b>	<b>Number</b>	<b>Percentage Attrition from 2002</b>
Birth to Three/Child Development Watch	4	20%
Early Childhood Assistance Program/Head Start	26	47%
Preschool Special Education programs	52	42%

## Outcomes Measured

**S**uccess of students can be measured in many ways. For the purposes of this study, the outcome variables measured included academic as well as behavioral variables. The outcome measures collected for this study included:

- annual grade promotion/retention
- formal behavioral reports
- referrals to and enrollment in special education services
- referrals to and enrollment in other school services
- fifth grade Delaware State Testing Program results in reading and math

## Analysis

**F**or this follow-up analysis, comparisons of the outcomes for students who received early intervention services and those who did not receive early intervention services were conducted using the students' fifth grade DSTP scores in math and reading. These comparisons were conducted using statistical analyses such as analysis of variance or means testing such as t-tests. These statistical tests measure for the differences between groups.

In the sixth year of the study, an analysis of the number of students remaining in the study who had received early intervention services was conducted. At the same time, comparable comparison groups of students to those who received the ECAP/Head Start or Preschool special education (PSE) services were determined. These analyses revealed there were 399 of the original 717 students who remained available to the study. This is an attrition rate of 44.4% or 318 students.

For purposes of the fifth grade comparative analysis, the 26 students who received ECAP or Head Start services when they were four years of age in 1996-97 and remained in the study at the end of the 2002-2003 school year were compared with 103 students who were living in poverty at the time they began kindergarten who did not receive ECAP or Head Start services.

Also for purposes of the fifth grade comparative analysis, the 52 students who received PSE services when they were three and four years of age in 1995-96 and 1996-97 and began the 1997-98 school year in kindergarten with an IEP were compared with 41 students who began kindergarten in 1997-98 and were identified as needing special education services while in kindergarten, first, or second grade.

## Findings

### *Students with Disabilities*

***Students in fifth grade who received preschool special education services...had significantly higher DSTP scores than their peers.***

**F**or students who had identified disabilities at the start of their kindergarten public school experience and who received early intervention services as four-year-olds or as three- and four-year-olds, the outcomes continue to be significantly better than for those students who were not identified with a disability until they began kindergarten or later. Students who received preschool special education (PSE) services operated by the public school districts had significantly higher fifth grade DSTP scores than their peers who were not identified with disabilities until they were in kindergarten, first, or second grade.

Fifty-two students who received PSE services were tracked through their fifth grade year and compared to 41 students who were identified as having a disability while in kindergarten, first, or second grade. The findings of these comparisons indicated that:

- Students who participated in preschool special education (PSE) services when they were three and/or four years old were significantly more likely to meet or exceed the standard on their fifth grade reading, math and writing DSTPs than were those students who were identified with a disability in kindergarten, first, or second grade ( $p < .001$ ).
- 55.8% of the students who received PSE services when they were preschoolers met or exceeded the standard for reading on the March 2003 DSTP.
- 53.8% of the same students met or exceeded the standard for mathematics on the March 2003 DSTP.
- 38.7% of the same students met or exceeded the standard for writing on the March 2003 DSTP.

***Fifth grade students who participated in Preschool Special Education services met state standards in reading, math and writing at a significantly higher rate than those students identified with a disability in kindergarten, first, or second grade.***

- 34.1% of the students in the DeCLS study who were identified for special education services in kindergarten, first, or second grade met or exceeded the standard for reading; only 19.5% met or exceeded the standard for mathematics and only 12.2% met or exceeded the standard for writing on the March 2003 DSTP.
- Only 35.4% of all fifth grade students with an IEP statewide met or exceeded the standard for reading, only 29.3% met or exceeded the standard for mathematics and only 22.8% met or exceeded the standard for writing on the March 2003 DSTP (See Table 4 and Figures 1, 2 and 3 for further details.)

Table 4. Percentage of Students with IEPs Meeting or Exceeding Fifth Grade Standards for Reading and Mathematics in March 2003

<b>Group of Students</b>	<b>% Meeting or Exceeding Reading Standard</b>	<b>% Meeting or Exceeding Math Standard</b>	<b>% Meeting or Exceeding Writing Standard</b>
DeCLS Students Receiving PSE Services (n=52)	55.8%	53.8%	38.7%
DeCLS Students Identified for Special Education in K, 1, or 2 (n=41)	34.1%	19.5%	12.2%
All 3 <sup>rd</sup> grade Students with an IEP Statewide (n=664 reading, 1156 math, 1152 writing)	35.4%	29.3%	22.8%
All 5th Grade Students Statewide (n=8257 reading, 7901 math, 9444 writing)	78.5%	71.0%	77.8%

Figure 1. Students with disabilities meeting or exceeding the standard on the 5<sup>th</sup> grade reading DSTP in March 2003.

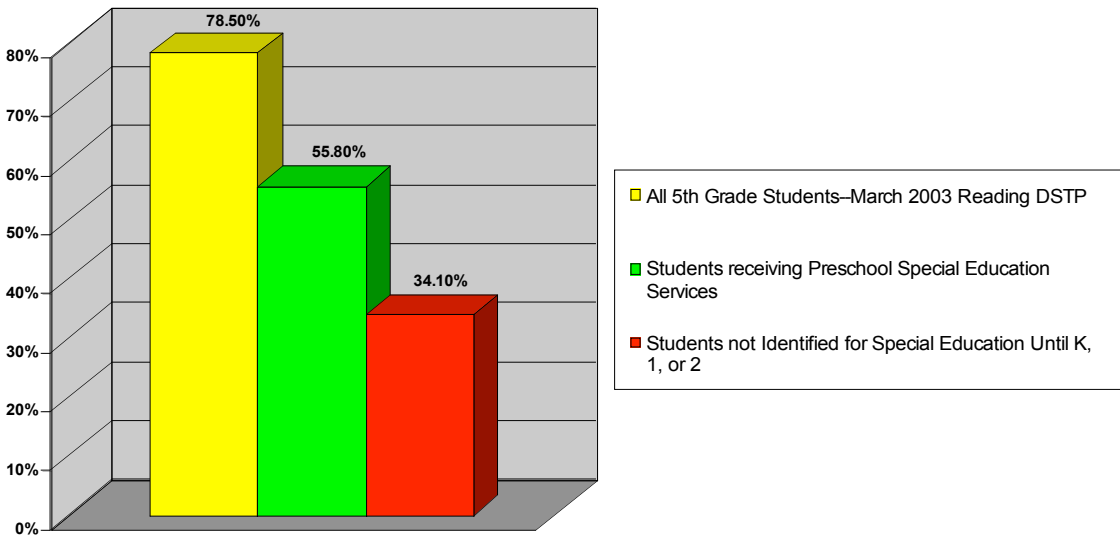


Figure 2. Students with disabilities meeting or exceeding the standard on the 5<sup>th</sup> grade mathematics DSTP in March 2003.

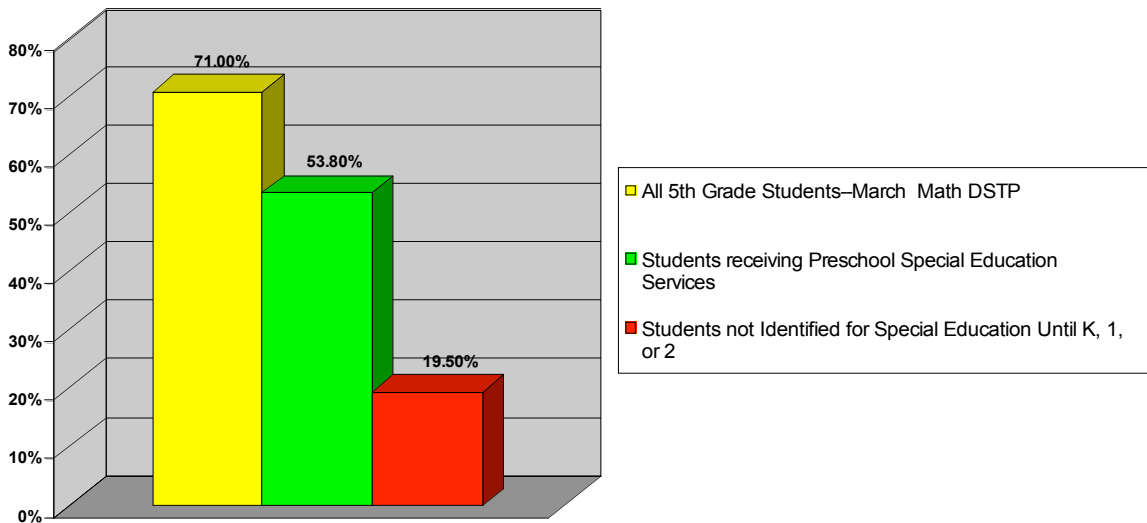
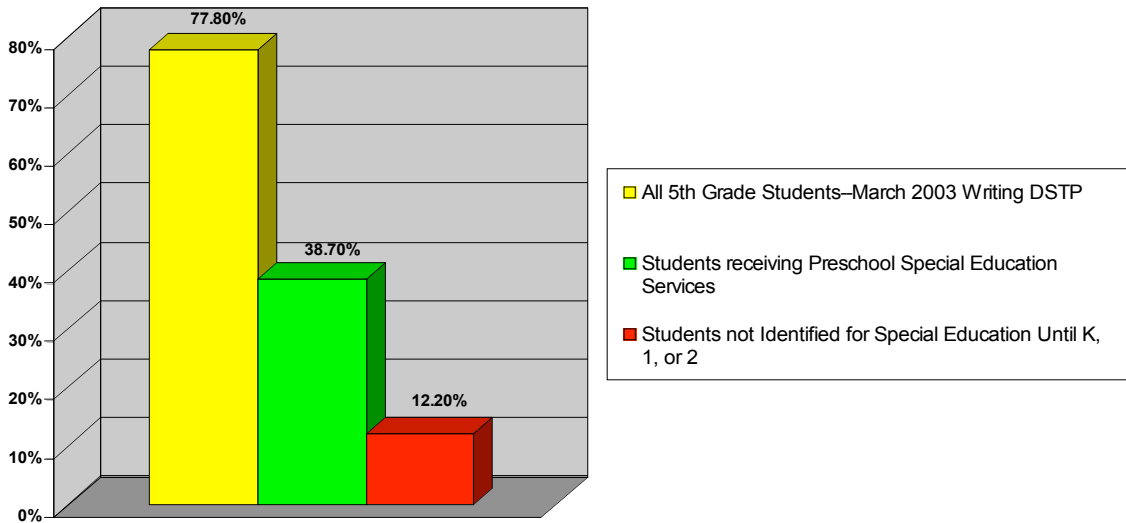


Figure 3. Students with disabilities meeting or exceeding the standards on the 5<sup>th</sup> grade writing DSTP in March 2003.



### *Students Living in Poverty*

***Students in fifth grade who received ECAP or Head Start services...had significantly higher DSTP scores and grades than their peers.***

**F**or students who were living in poverty at the start of their kindergarten public school experience, the outcomes for those with Early Childhood Assistance Program (ECAP) or Head Start experience continued to be significantly better than those who did not receive ECAP or Head Start early intervention services. Students who received ECAP or Head Start services had significantly better academic outcomes compared to those children who were living in poverty and did not receive these early intervention services.

Twenty-six students who received ECAP or Head Start services who took the DSTP as fifth graders were compared to 103 students who were also living in poverty at the start of their kindergarten experience. The findings of these comparisons indicate that:



***Students who participated in ECAP or Head Start services met or exceeded fifth grade reading, math, and writing standards at a significantly greater rate than their peers living in poverty who did not receive the ECAP or Head Start services.***

- Students who received ECAP or Head Start services at age four were significantly more likely to perform at or above the standard on their fifth grade reading, math, and writing DSTP than their peers living in poverty who did not receive ECAP or Head Start services ( $p < .001$ ).
- Over 73% of the students who received ECAP or Head Start services at age four met or exceeded the standard for reading on the March 2003 DSTP.
- Over 65% of the same students met or exceeded the standard for mathematics on the March 2003 DSTP.
- Over 61% of the same students met or exceeded the standard for writing on the March 2003 DSTP.
- Only 57.3% of the students in the DeCLS study who lived in poverty but did not receive ECAP or Head Start services met or exceeded the standard for reading; only 49.8% met or exceeded the standard for mathematics, and only 36.9% met or exceeded the standard for writing. (See Table 5 and Figures 4, 5, and 6 for further details.)
- The percentage of students meeting or exceeding the reading standard at the fifth grade level and who received ECAP or Head Start services when they were age four was only five percentage points fewer (73.1%) than the general population of students in Delaware (78.5%). (See Table 5 and Figure 4 for details.)

Table 5. Percentage of Students Living in Poverty Meeting or Exceeding Fifth Grade Standards for Reading and Mathematics in March 2003

Group of Students	% Meeting or Exceeding Reading Standard	% Meeting or Exceeding Math Standard	% Meeting or Exceeding Writing Standard
DeCLS Students Receiving ECAP or Head Start Services (n=26)	73.1%	65.4%	61.5%
DeCLS Students Not Receiving ECAP or Head Start Services (n=103)	57.3%	49.5%	36.9%
All 5th grade Students Living in Poverty Statewide (n=3263 reading, 3604 math, 3601 writing)	65.1%	54.9%	45.8%
All 5th Grade Students Statewide (n=8257 reading, 7901 math, 9444 writing)	78.5%	71.0%	77.8%

Figure 4. Students living in poverty meeting or exceeding the standards on the 5<sup>th</sup> grade reading DSTP in March 2003.

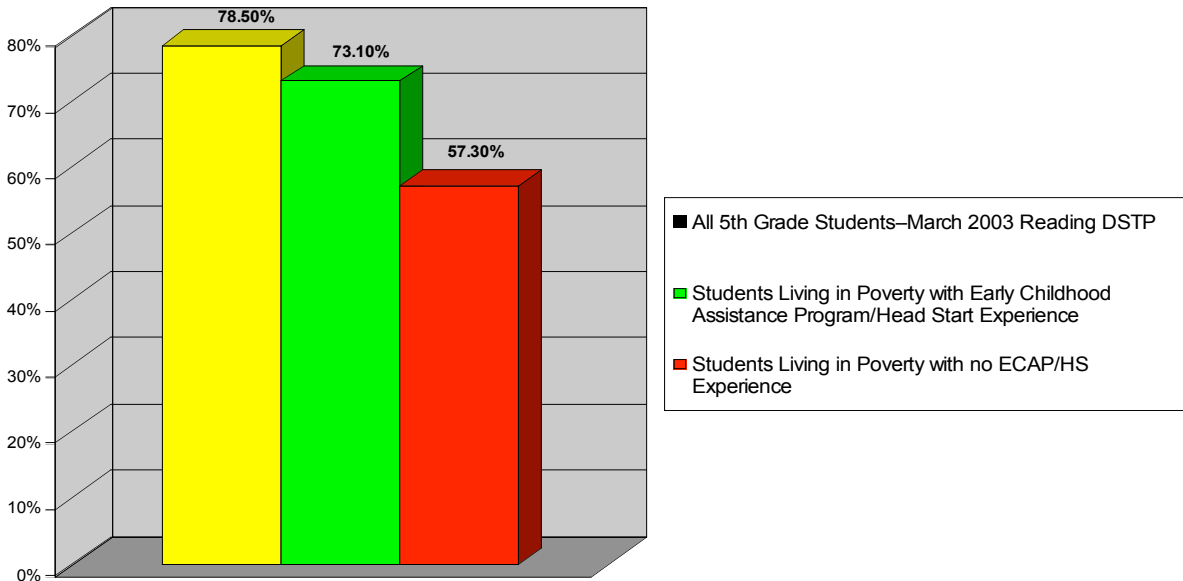


Figure 5. Students living in poverty meeting or exceeding the standard on the mathematics DSTP in March 2003.

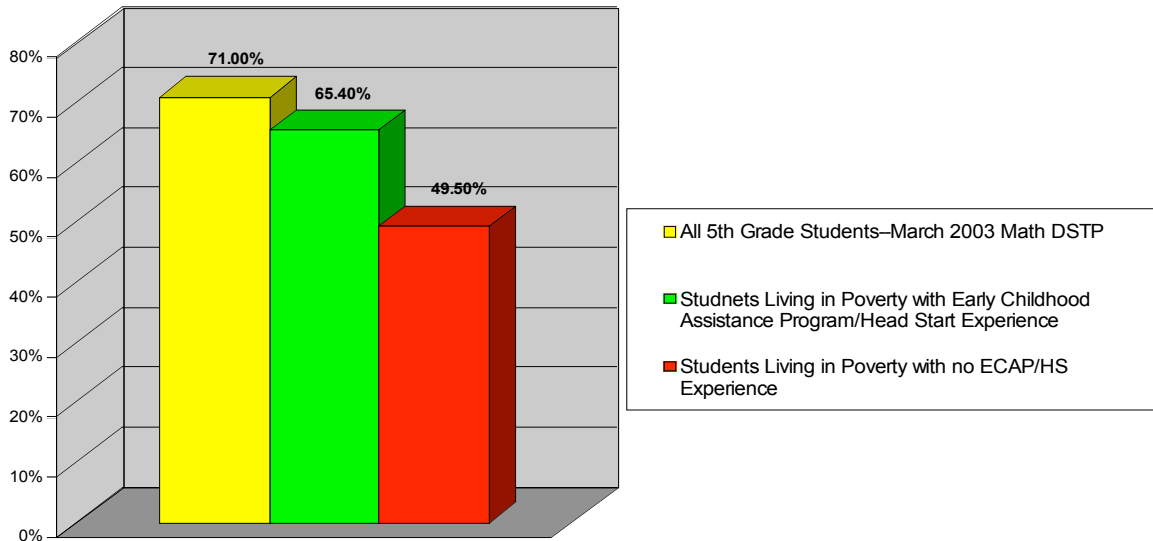
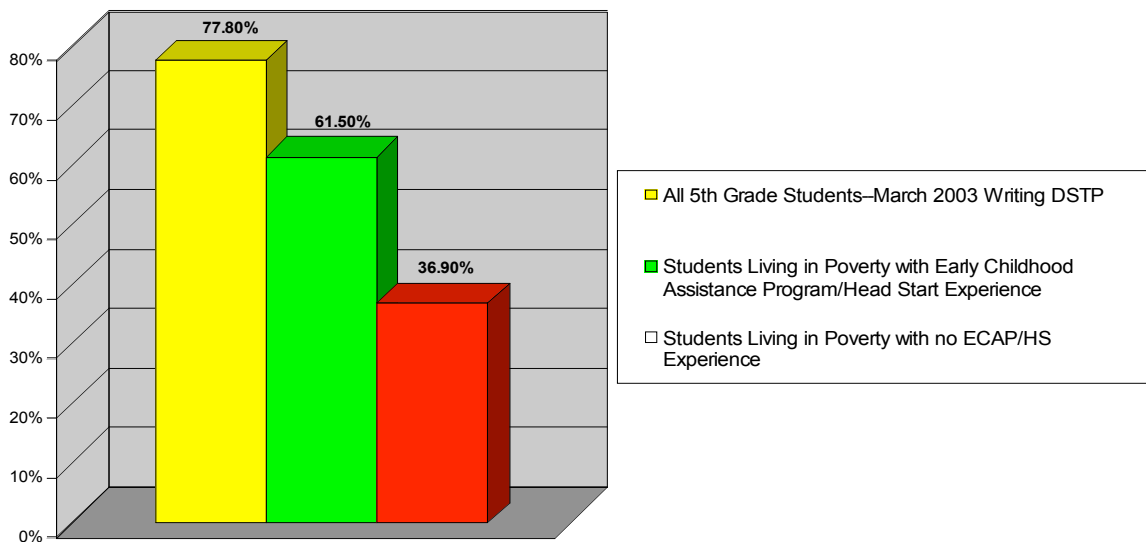


Figure 6. Students living in poverty meeting or exceeding the standard on the writing DSTP in March 2003.



## Change Over Time

**While** students who received early intervention services prior to entering kindergarten achieve higher academic standards than their peers who do not achieve those standards, the change in academic achievement over time for these two groups is more complex. Students living in poverty who have received early intervention services, continue to improve their academic skills in both reading and mathematics from third grade to fifth grade. Even when the mathematics achievement of all students decreased from third grade to fifth grade, students living in poverty who received ECAP or Head Start services continue to improve their mathematics skills. Students living in poverty who did not receive early intervention services also improved their reading and academic achievements from third to fifth grade, however they remained significantly behind those students who did receive early intervention services (see Figures 7 and 8).

Figure 7. Comparison of academic achievement of students living in poverty over time as measured by the reading scores of the DSTP in March 2001 and March 2003.

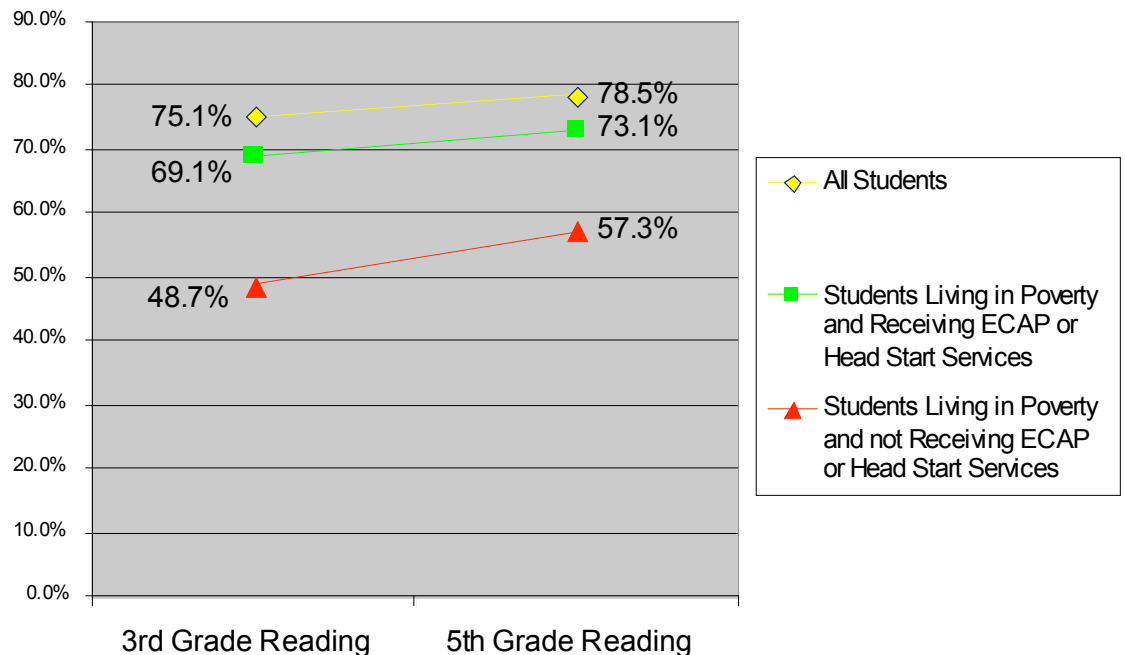
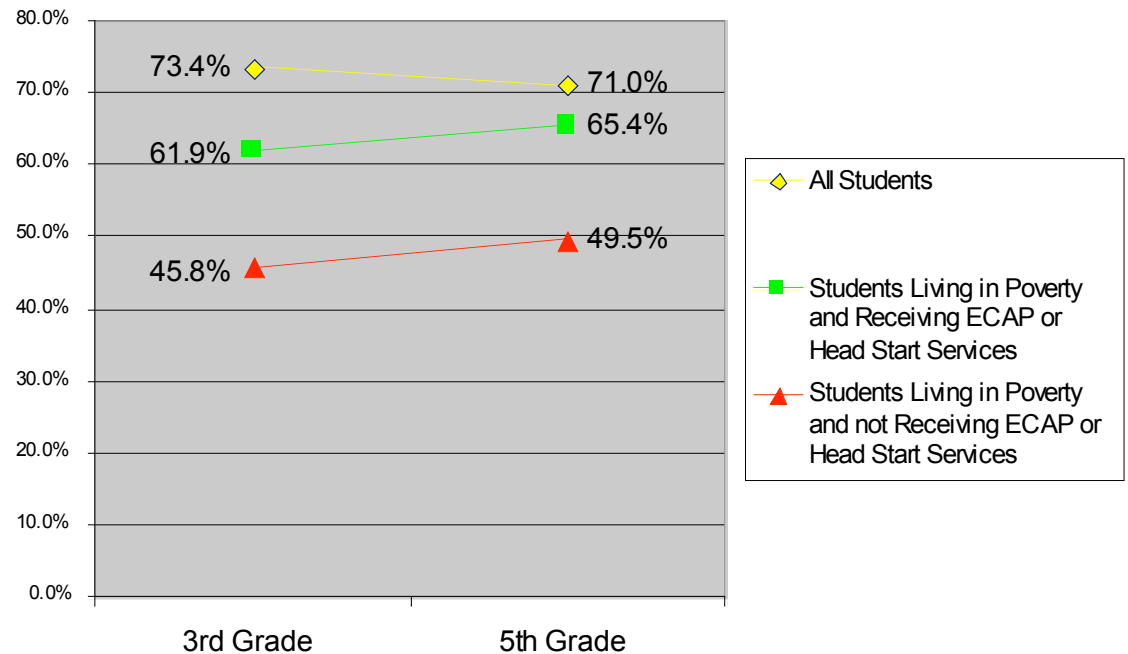


Figure 8. Comparison of academic achievement of students living in poverty over time as measured by the mathematics scores of the DSTP in March 2001 and 2003.



For students with disabilities, the change in their academic achievement over time is more complex. For reading achievement, the achievement of all students slightly increases from 75.1% to 78.5%. For students with disabilities, those who received early intervention services show a trend of reduced academic achievement in reading while the academic achievement of their peers who did not receive early intervention services remains low but stable (see Figure 9).

For mathematics achievement, students with disabilities who received early intervention services remained relatively stable in their academic achievement from third to fifth grade, much like the same pattern of achievement as all students. However, for students with disabilities who did not receive early intervention services, their mathematics achievement between third and fifth grade plummets from 33.4% meeting or exceeding the mathematics standards in third grade to only 19.5% meeting or achieving the mathematics standards in fifth grade (see Figure 10).

Figure 9. Comparison of academic achievement of students with disabilities over time as measured by the reading scores of the DSTP in March 2001 and March 2003.

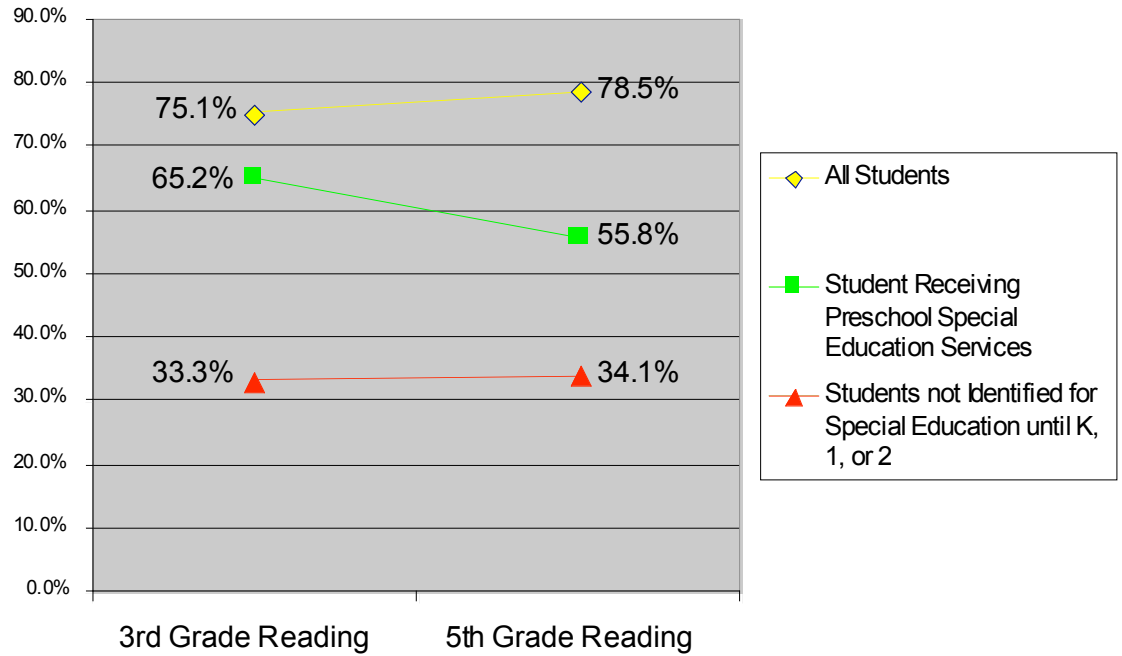
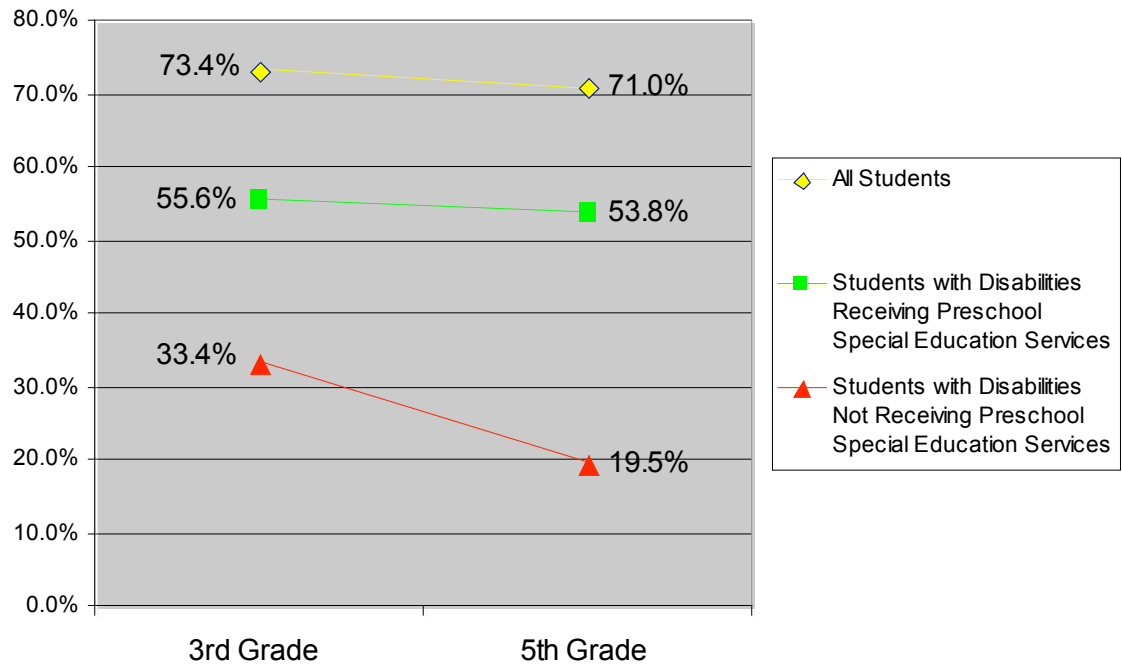


Figure 10. Comparison of academic achievement of students with disabilities over time as measured by the mathematics scores of the DSTP in March 2001 and March 2003.



## Summary

**A**t the conclusion of fifth grade, after six years of public education, students who received early intervention services through the state-funded Early Childhood Assistance Programs, the federally funded Head Start programs, or the state- and federally funded Preschool Children with Disabilities programs continued to show significantly better academic outcomes in comparison to their peers who did not receive these early intervention services.

It is clear that those children living in poverty who receive ECAP and Head Start services perform better academically six years after receiving those services than those children living in poverty who did not participate in ECAP or Head Start services. Likewise, those students with disabilities who were identified in their preschool years and who received special education preschool services when they were three and four years old performed better academically six years after receiving those services than those children who were not identified as needing special education services until they entered kindergarten or later.

Two trends over time should be carefully watched during the next two to three years. First, the significant trend of students with disabilities who did not receive early intervention services to have lower mathematics achievement over time should be tracked (Figure 10). This decline in mathematics achievement is startling and shows a widening mathematics achievement gap between students with disabilities who did and did not receive early intervention.

The second trend to carefully watch is the trend toward declining reading achievement for students with disabilities who had received early intervention services. While students with disabilities who had received early intervention services continued to significantly outperform their peers who did not receive early intervention services in the area of reading, as a group, they showed a significant decrease in reading achievement (Figure 9). This trend should be carefully tracked. This may be an area for more intensive intervention in intermediate and middle schools.

## Limitations

**T**here are some possible sources of bias and concern regarding this fifth grade analysis of children who received early intervention services prior to entering public kindergarten. The most significant source of possible bias is the attrition rate of students from the study. With 40% of the students with disabilities and students living in poverty not continuing in the study due to moving out of state or leaving the public school system, there is the possibility that those students remaining have different family support, different levels of perseverance, or other different characteristics than those students who could not continue to be tracked by the study.

Even with this threat, however, the significant achievement gap documented for students from lower socioeconomic backgrounds (Delaware Education Research and Development Center, 2002) is sufficient reason to continue to use early intervention services such as the state-funded Early Childhood Assistance Programs, the federally funded Head Start programs, and the jointly funded preschool special education programs to address the needs of students and their families.

## Conclusion

**F**rom the results of this analysis of fifth grade DSTP scores for students receiving and not receiving early intervention services, it appears that those students receiving services from state-funded Early Childhood Assistance Programs, the federally funded Head Start programs, and the jointly funded preschool special education programs have significantly greater academic achievement in fifth grade than their peers who did not receive early intervention services.

For students living in poverty who received early intervention services, the trend over time was toward improvement in both their reading and mathematics achievement. For students with disabilities who had received early intervention, their mathematics achievement remained stable between third and fifth grade. For these students, however, their reading achievement decreased from third to fifth grade while remaining significantly better than their peers who had not received early intervention services.



While there is one negative trend for students with disabilities that should continued to be tracked, overall, the results of this second analysis of the Delaware Early Childhood Longitudinal Study data indicate that the initial investment of early intervention services in children prior to kindergarten continues to reap benefits for those children and for Delaware.



## References

- Campbell, D., & Stanley, J. (1963). *Experimental and quasi-experimental designs for research*. Boston: Houghton Mifflin.
- Campbell, F., & Ramey, C. (1999). *Early Learning, Later Success: The Abecedarian Study—Early Childhood Educational Intervention for Poor Children. Executive Summary*. Chapel Hill, NC: Frank Porter Graham Child Development Center.
- Campbell, F., Helms, R., Sparling, J., & Ramey, C. (1998). Early childhood programs and successes in school: The Abecedarian Study. In *Early Care and Education for Children in Poverty: Promises, Programs, and Long-term Results*, S. Barnett & S. Boocock, (pp. 145-166), Albany, NY: State University of New York Press.
- Campbell, F., & Ramey, C. (2001). The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. *Developmental Psychology*, 37(2), 231-242.
- Delaware Education Research and Development Center. (2002). *Awareness to action: Recognizing and addressing the achievement gaps in Delaware schools*. Newark, DE: Author.
- Guralnick, M. (1997). *The effectiveness of early intervention*. Baltimore, MD: Paul H. Brookes Publishers.
- Kafer, K. (2003). *What Congress Can Do to Get a Better Head Start*. Washington, DC: Heritage Foundation.
- Schweinhart, L. (2001). *Recent Evidence on Preschool Programs* (report no. EDO-PS-01-9). Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education. ERIC Document Reproduction Service No. ED 458 046.
- Schweinhart, L. (2002). How the High/Scope Perry Preschool study grew: A researcher's tale. *Phi Delta Kappa Research Bulletin*, 32, 4-6.
- Schweinhart, L. (2003). Benefits, costs, and explanation of the High/Scope Perry Preschool Program. Paper presented at the meeting of the Society for Research in Child Development, Tampa, FL.





**AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER** The University of Delaware is committed to assuring equal opportunity to all persons and does not discriminate on the basis of race, color, gender, religion, ancestry, national origin, sexual orientation, veteran status, age, or disability in its educational programs, activities, admissions or employment practices as required by Title IX of the Education Amendments of 1972, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Americans with Disabilities Act, other applicable statutes, and University policy. Inquires concerning these statutes and information regarding campus accessibility should be referred to the Affirmative Action Officer, 305 Hullihen Hall, 302/831-2835 (voice), 302/831-4552 (TDD).