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A Survey of the Familiarity of Gloucester County Secondary School Librarians,  
Child Study Teams, and Special Education Teachers  
with Assistive Technology

by  
Dianne Clement

A Thesis

Submitted in partial fulfillment of the requirements of the Master of Arts  
Degree in the Graduate Division of Rowan University  
April 27, 1998

Approved by

Professor

Date Approved May 4, 1998

## ABSTRACT

Dianne S. Clement. A Survey of the Familiarity of Gloucester County Secondary School Librarians, Child Study Teams, and Special Education Teachers with Assistive Technology. 1998. (Under the Direction of Dr. Holly G. Willett, Program in School and Public Librarianship).

The purpose of this survey was to assess the familiarity of Gloucester County high school librarians, child study team members, and special education teachers about different types of adaptive technologies. Two hundred twenty-one surveys were sent to the 13 school districts in Gloucester County. Eighty-four participants responded. The largest response was from librarians. Results indicated that all three groups were more unfamiliar than familiar with the technology on the survey. Librarians were the group with the most overall familiarity response, 31%. Child study teams and special education teachers were very close in familiarity responses with 26%. Taped text, large-print materials, and joysticks were the most familiar items among all three groups. Recommendations are given on ways to improve the knowledge about adaptive technology for all three groups. •

### MINI-ABSTRACT

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## Chapter 1

### Introduction

Approximately 15% of the population has some form of learning disability. Learning disabilities are found in all segments of society and they last a lifetime (Gorman, 1997). The number of people in the U.S. who have disabilities is likely to grow for a number of reasons. Medical technology is increasing the chances of survival for infants with severe disabilities. Health care is becoming more expensive and public funding for health care is decreasing, putting children at risk for birth defects (Deines-Jones, 1995).

The impact of learning disabilities is felt throughout our society. Students with learning disabilities have lower self-esteem, and a high dropout rate. Businesses have a diminished pool of skilled workers (Gorman, 1997). These learning disabilities need not be handicaps. There are many technological advances that provide new opportunities for the learning disabled to succeed in learning. Laws such as the Americans with Disabilities Act (ADA) are helping to ensure that all people, regardless of disability, are able to participate to the fullest extent possible in all aspects of life (Deines-Jones, 1995).

Librarians and educators need to become more familiar with these technological advances so that students can reach their full potential and become contributing members of society.

### Statement of the Problem

Many adaptive technologies are available for students with learning disabilities. Items such as computers with a flatbed scanner, voice synthesizers, and text highlighters make libraries useable for people with learning disabilities. However, professionals who work with these students may not be familiar with these technologies, how they can help their students, or where to obtain them. Librarians and special education teachers need to work together to provide the widest and most positive learning experience for these students.

Librarians are not diagnosticians of learning disabilities, but they must know about programs and technologies that can help these students (Gorman, 1997). Special education teachers and child study team members, who diagnose children's disabilities, should consult with the librarian about the needs of special education students in the school.

### Purpose

This survey assessed how knowledgeable Gloucester County school librarians, special education teachers, and child study team members are in various types of adaptive technology. The adaptive technologies were in the areas of visual/learning disabilities and motor and speech disabilities. The categories are based on the knowledge that much of the same technology works for all types of disabilities (Lisiecki, 1996).

Library programs were not included in the survey. The survey concentrated on hardware adaptations for computers, computer software needed for adaptations, and some other types of assistive technology. A description of the technology can be found in Appendix B.



### Procedure

A survey instrument was designed and sent to librarians, special education teachers, and child study team members in 13 Gloucester County secondary schools. Middle schools were only included when they were a part of the high school. The districts that included middle schools were: Clayton, Gateway, Kingsway, and Woodbury. A brief demographic explanation of each school district is given, listing school enrollment, number of students assigned to the Resource Room, and the number of special education teachers, librarians, and CST members.

### Definitions

A complete list of classification definitions from the New Jersey Administrative Code is located in Appendix C.

The following is an abridged list.

1. Auditorily handicapped means an inability to hear within normal limits due to physical impairment or dysfunction of auditory mechanisms.
2. Chronically ill means a health condition which makes it impractical to receive adequate instruction through a regular school program.
3. Communication handicapped means a severe speech or language disorder which interferes with the ability to use oral language to communicate.
4. Emotionally disturbed means the exhibiting of seriously disordered behavior over an extended period of time.
5. Multiply handicapped means the presence of two or more educationally disabling

conditions which interact in such a manner that programs designed for the separate disabling conditions will not meet the pupil's educational needs.

6. Neurologically or perceptually impaired means impairment in the ability to process information due to physiological, organizational, or integrational dysfunction which is not the result of any other educationally disabling condition or environmental, cultural, or economic disadvantage.
7. Visually handicapped means an inability to see within normal limits.

The current classification guidelines will change next school year, 1998-1999. A brief summary of the proposed changes in classification can be found in NJEA Review, April 1998, pages 7-8.

#### Questions to be Answered from Survey

The survey was used to find the answers to the following questions:

1. Are librarians, child study team members, and special education teachers familiar with adaptive devices for assistive technology? To what degree are they familiar?
2. Which of these three groups is most familiar overall with the technology in the survey?
3. With which type(s) of adaptations to assistive technology are the three groups most familiar?

## Chapter 2

### Literature Review

Attitudes toward people with disabilities have been changing. In the last two decades there has been a trend to include people with disabilities, who in the past, were often excluded by physical barriers or lack of technology that could allow them to function to their fullest potential. Computers have greatly expanded the ability of disabled people to communicate and lead productive lives. New types of assistive technology are being developed every day. For computers, this field of assistive technology encompasses things as mundane as a magnifying screen and as futuristic as software that lets people “type by staring at a word on a list. People with disabilities are not the only ones taking advantage of some of these advances” (Nicholson, 1997, p. F-1).

People with learning disabilities and handicaps have always been a part of our society. However, in the past these people were often ignored or only minimally helped. Before the 1970’s, if you had a disability the burden of dealing with it rested on you. There was no larger societal responsibility for dealing with the burden (Breslin, 1993).

In the late 1960’s, the federal government began to be more responsive to complaints from the disabled. There was a major move for voluntary compliance to make buildings more accessible. That did not cause change in attitudes or removal of barriers, so in 1968 the first disability rights law was passed. It was the Architectural Barriers Act of 1968 and required

access to federal facilities (Breslin, 1993). Congress then passed the Rehabilitation Act of 1973 with emphasis on Section 504. Section 504 was modeled after the 1964 Civil Rights Act which banned discrimination. This was important because Congress recognized that discrimination was the root cause of isolation and segregation of people with disabilities. Section 504 also acknowledges that people with disabilities belong to a class. The policy changed from a charity based model to a sociopolitical model (Breslin, 1993).

These laws led to the passage of the Americans with Disabilities Act (ADA). Equity became the moral force behind the ADA. It was important because there are forty-three million people in the United States with disabilities. Many are still isolated and segregated, not only by physical barriers, but also by attitudes about disabilities which are very deeply seated (Breslin, 1993).

Another landmark piece of legislation in ADA was passed in 1972. It is PL 94-142, which was called the Education of All Handicapped Children's Act. Its two principles are: integration and placing persons with disabilities in the least restrictive environment and the individualization of decisions regarding reasonable accommodation or employment as it relates to persons with disabilities (Breslin, 1993).

Programs and accommodations for special learners have been imposed through laws and regulations upon the school. Attitudes of those involved in complying with these laws are of paramount importance in reaching and teaching the special learner. Most educators would support the intent behind the mandates of PL 94-142 and other special learner mandates. Library media specialists can do a great deal to help most teachers see the new

responsibilities in a more positive light by giving them some achievability (Baker and Bender, 1981).

The more teachers are involved with library media specialists in planning and putting changes into practice, the less onerous the changes and the onset of the new programs will seem. The library media specialist has a very special and important role in helping to plan and gain teacher support for special learners. Over the past two decades library media specialists have come to realize that a certain amount of their talent must be devoted to helping teachers adopt innovative practices that will improve teaching. This in-service education role not only helps teachers to strengthen their use of the library media program but strengthens the library media program as well (Baker and Bender, 1981). The library can become a clearinghouse for information on how to achieve complete information accessibility for disabled persons (Dalton, 1986).

Library use is essential to all students, whether they are able-bodied or disabled. The latter have special needs that must be met in order for them to make use of the library resources (Huang, 1986). The library can play a key role in support services that will meet such needs. The library can provide disabled students with the special equipment and devices they need in order to access the information available to them in the library (Huang, 1986).

Because of ADA, disabilities need not always be considered handicaps. A handicap prevents someone from going about life normally. Because of assistive technology, people may still have disabilities but they need not have handicaps (Lisiecki, 1996). Much of the same adaptive technology works for all types of disabilities (Lisiecki, 1996). There is

assistive technology for people with vision impairment, hearing loss, motor and speech disabilities, and learning disabilities. Assistive technology need not be expensive; it can be something as simple as a reacher for someone with a physical disability.

Technology has helped open the schoolhouse doors for disabled students and given impetus to the full inclusion movement which calls for teaching disabled students in regular classrooms whenever possible (Viadero, 1997). Instructional technology can also help students with learning problems. Researchers have developed CD-ROM-based reading programs that have produced results for both disabled and non-disabled students with low literacy skills (Viadero, 1997).

Computers are a valuable help to students with learning disabilities. They make the tasks of editing and writing information easier. CD-ROM's are great tools for students. The searching on a CD-ROM tends to promote divergent thinking skills. "CD-ROM's help students to think in concrete terms which is usually beneficial for a lower level student" (Mendrinis, 1992, p. 31). Special education students and staff have higher expectations using the CD-ROM technology. Mainstreamed students use it by themselves. It overcomes previous learning barriers opening up a world of information to this group of former library non-users (Mendrinis, 1992).

Students with certain handicaps including learning disabilities are eligible for help from the National Library Service (NLS). The service includes books recorded on tapes, large-print books, records, and books in braille. The play back equipment is also provided by the service, without any cost to the user (Simpson, 1991).

The concept of a national library for the blind was first developed in 1897 by John Russell Young, Librarian of Congress, when he established a reading room for the blind with about 500 books and music items in raised type (Simpson, 1991). The present National Library Service was established in 1931. All fifty states, the District of Columbia, Puerto Rico, and the Virgin Islands have regional libraries (Simpson, 1991).

Recordings for the Blind, in Princeton, offers most standard textbooks for a one-time fee of \$25 (Simpson, 1991). These can be used with a tape player or disc player. These items are small and easy to use. Books on tape are also useful for persons with tremors who cannot hold a book.

Closed circuit TV (CCTV) has a detachable video camera to scan a printed page and television monitor that can provide 2x to 60x magnification. Software programs can be added to increase the size of print available (Lisiecki, 1996).

Optical Character Recognition and Scanners (OCR) convert printed text to a computer file. Optical Character Recognition software makes the computer file capable of being edited. It can also transfer printed documents so they can be read aloud by a speech synthesizer, printed in large text, or embossed in braille (Alliance, 1996). Many students with learning disabilities have problems processing information visually; so, technology that has speech output might be helpful.

As technology improves it is likely that reading machines will become smaller, cost less, and perform better. The newest addition to reading machines is software that enables a CD to hold forty-five hours of recorded material (Becker, 1996).

People with a hearing loss often have communication problems. A computer with a word processing program would help communication with library staff and patrons.

A hearing-impaired person needs information through his other senses. It is important to have a light that flashes, especially for emergencies, or something that vibrates (Anderson, 1993).

An important device to have in the library is a TDD/TYY telephone device for the deaf. There is a cradle on which to lay the telephone receiver. The person simply types a message. The message appears digitally so the user can tell if he has made an error. Whatever scrolls across the screen goes out over the telephone line and is received at the other end. This could also be used for a person with speech difficulties (Anderson, 1993).

Technology that is designed with the needs of disabled students in mind is also designed for the needs of everyone. Many technologies that were designed to aid people with disabilities, such as automatic door openers, are now used by all in society (Nicholson, 1997).

“This is normalization. The trend is not going to be adaptive technology. Five years from now, there will not be adaptive-technology, because there will not be such a field anymore. It will just be technology” (Nicholson, 1997, p. F-2).



## Chapter 3

### Method

#### Introduction

Adaptations to assistive technology are developed every day. These adaptations make computers and other types of assistive technology useable for people with disabilities. There are also many new computer programs that aid the learning disabled in using computers. Sometimes it is necessary for both adaptive hardware and computer programs to be used together in order for some learning disabled or handicapped persons to use computers.

Professionals in special education may not know about all the new technology available for students with learning disabilities. School librarians may know about some of the new adaptive technology, but they may not know which students in their schools could benefit from that technology. The purpose of this survey was to assess the familiarity of various types of adaptive technologies among three groups: librarians, child study team members, and special education teachers. The survey dealt primarily with adaptive hardware for computers, but included a few other types of adaptive technologies.

#### Design and Procedure

Information about the school districts was collected in order to analyze the data. Items which have low familiarity responses may indicate that there are few students in these schools who need that particular type of technology. Responses were compared with the

types of classifications served in the districts. Sources of information were district factor groupings and the New Jersey Department of Education/Office of Finance 1997-1998 Application for State School Aid.

All participants received the same survey; however, the surveys were color-coded—blue for librarians, buff for child study team members, and green for teachers, to make tabulating answers easier.

Surveys were delivered to the schools. Participants were asked to sign a consent form and to complete the survey. They were asked to rate the degree of familiarity they had with various types of adaptive technology. The choices were very familiar, familiar, and unfamiliar. Participants were also asked to indicate which types of adaptive technology were in their schools. A stamped, self-addressed envelope was included for their convenience.

### Participants

The participants in this study were school librarians, special education teachers, and child study team members, which included learning disabilities consultants, psychologists, and social workers from the high schools in Gloucester County. There were 13 school districts included in the study. The 13 districts were: Clayton, Clearview Regional, Deptford, Gateway Regional, Glassboro, Kingsway Regional, Williamstown High School (Monroe Township), Paulsboro, Pitman, Delsea Regional (Southern Gloucester County Regional), Washington Township, West Deptford, and Woodbury. Gloucester County Institute of Technology was not included because this district shares students with the other 13 districts in the county. Several school districts are combined in a regional district; Clearview, Delsea,

Gateway, and Kingsway. In districts where there was a distinct separation between junior and senior high school, only the high school staff was surveyed.

#### Demographic Information of Schools in Survey

Table 3-01 contains demographic data of the school districts surveyed. It includes the name of the school, the enrollment, number of professional staff, number of students in Resource Room, and the district factor grouping. For information about district factor grouping, see Appendix D. Figures were obtained from the New Jersey Department of Education/Office of Finance 1997-1998 Application for State School Aid records. These records are on file at the County Superintendent's office. A complete listing of this information is located in Appendix E.

Table 3-01

#### Demographic Information of Schools in Survey

---

Clayton Middle/High School	
Grades 7-12: 4 Special Education, 45 Professional Staff	
DFG	B
District Enrollment as of 2/3/97	1189
Middle/High School Enrollment	527
Resource Room 7-12	38
Special Education Teachers	6
Librarians	0
Child Study Team	4

---

Clearview Regional High School  
 Grades 7-12: 9 Special Education, 126 Professional Staff  
 DFG FG

District Enrollment as of 2/3/97	1517
High School Enrollment 9-12	1013
Resource Room	125

Special Education Teachers	9
Librarians	1
Child Study Team	5

---

Deptford High School  
 Grades 9-12: 2 Special Education, 9 Res. Ctr., 78 Professional Staff  
 DFG CD

District Enrollment as of 2/3/97	3661.5
High School Enrollment	978
Resource Room 9-12	131

Special Education Teachers	10
Librarians	2
Child Study Team	7

---

Gateway Regional High School  
 Grades 7-12: 1 Self-Contained Mixed, 10 Res. Ctr., 92 Professional Staff  
 DFG CD

District Enrollment as of 2/3/97	1082.5
High School Enrollment	753.5
Resource Room 9-12	71

Special Education Teachers	13
Librarians	1
Child Study Team	5

---

Glassboro High School  
Grades 9-12: 7 Special Education, 56 Professional Staff  
DFG B

District Enrollment as of 2/3/97	2374.5
High School Enrollment	555
Resource Room 9-12	71

Special Education Teachers	9
Librarians	1
Child Study Team	3

---

Kingsway Regional High School  
Grades 7-12: 7 Res. Ctr., 95 Professional Staff  
DFG DE

District Enrollment as of 2/3/97	926
High School Enrollment	590.5
Resource Room 9-12	48

Special Education Teachers	9
Librarians	2
Child Study Team	4

---

Williamstown High School  
Grades 9-12: 7 Res. Ctr., 88 Professional Staff  
DFG CD

District Enrollment as of 2/3/97	4494.5
High School Enrollment	1206.5
Resource Room	119

Special Education Teachers	9
Librarians	1
Child Study Team	8

---

Paulsboro High School  
Grades 9-12: 9 Special Education, 62 Professional Staff  
DFG A

District Enrollment as of 2/3/97	1244.5
High School Enrollment	290
Resource Room 9-12	18

Special Education Teachers	10
Librarians	1
Child Study Team	5

---

Pitman High School  
Grades 9-12: 2 Special Education, 49 Professional Staff  
DFG DE

District Enrollment as of 2/3/97	1817.5
High School Enrollment	579.5
Resource Room 9-12	63

Special Education Teachers	5
Librarians	1
Child Study Team	5

---

Delsea Regional High School  
Grades 9-12: 16 Special Education, 106 Professional Staff  
DFG CD

District Enrollment as of 2/3/97	1687.5
High School Enrollment	1052.5
Resource Room 9-12	179

Special Education Teachers	17
Librarians	3
Child Study Team	5

---

Washington Township High School  
Grades 9-12: 5 Special Education, 17.5 Res. Ctr., 238 Professional Staff  
DFG GH

District Enrollment as of 2/3/97	9323
High School Enrollment	2519
Resource Room 9-12	165

Special Education Teachers	24
Librarians	1
Child Study Team	7

---

West Deptford High School  
Grades 9-12: 9 Special Education, 81 Professional Staff  
DFG DE

District Enrollment as of 2/3/97	3077
High School Enrollment	921.5
Resource Room 9-12	138

Special Education Teachers	10
Librarians	1
Child Study Team	5

---

Woodbury Junior/Senior High School  
Grades 7-12: 7 Special Education, 80 Professional Staff  
DFG B

District Enrollment as of 2/3/97	1706
High School Enrollment	422
Resource Room 9-12	56

Special Education Teachers	9
Librarians	1
Child Study Team	3

---

The survey was sent to 16 high school librarians, 140 special education teachers, and 65 child study team members. Responses were received from 11 librarians, 48 special education teachers, and 25 child study team members. Participation was voluntary.

### Instrument

A survey about adaptive technology was developed. The types of technology surveyed were broken into three categories: input, output, and assistive communication products. The participant indicated his or her degree of familiarity with each type of adaptive technology. In addition to that information, the survey also collected demographic data about the participant, including the number of years in education, the number of years in his or her current position. This information was voluntary. The surveys were anonymous unless the participants wished to indicate their identity. A sample survey and consent letter are located in Appendix A.

### Data Collection

Surveys were tabulated as they were received. Not all participants responded to all the questions or indicated the degree of familiarity with each type of adaptive technology.

A personal follow-up was made with librarians in order to increase the number of responses. This contact was successful in increasing the number of librarian responses. No additional contact was made with the other two groups due to the time factor involved and the lack of specific teacher and child study team member names in each school. The number of responses in each category was converted into percentages for data analysis. The responses for each type of technology were compared with each of the three groups.



## Chapter 4

### Results

Surveys were delivered to 13 school districts in Gloucester County. Of the 13 school districts surveyed, 12 districts had some participants who replied. The one school in which no participants replied was Kingsway Regional High School. The reason why there were no participants at Kingsway has not been determined.

The group with the highest percentage of replies was librarians, with 11 of 16 or 69%. This may have been due to more personal follow-up methods than with the other two groups. The percentage of child study team (CST) members who replied was 38% or 25 of 65. The replies from special education teachers were 48 of 140 or 34%. A total of 221 surveys were delivered to the schools. The combined response rate was 84 of 221 or 38%. The number of surveys sent to the special education teachers and CST members may be inflated due to inaccurate information given by the schools. It is also likely that not all of the chosen participants received survey forms. Five replies came after the survey deadline, when results had been tabulated, with the comments that the participants had just received them.

Tables 4-01, 4-02, and 4-03 show the results in percentages by each participant category. All categories do not have a 100% response rate because participants did not always answer each question.

### Special Educational Teacher Responses

Special education teachers who responded to the survey averaged 13 years in education, with a range of 0.5 to 25 years. The number of years in their current position had a range of 0.5 years to 25 years with the average number of years being 7.08. Twenty-six teachers held Bachelor's degrees, 13 held Master's degrees, and nine held Master's plus. The majority of special education teachers had more than the Teacher of the Handicapped certification. Some of the other certifications held were in Elementary Education, English Literature, Reading, Social Studies, and Science.

Thirty-three indicated they had students who required assistive technology, with 13 that said their students did not require assistive technology. Computer access was the greatest need (28); cognitive assists were the next most frequently stated need (17), and augmentative communication was the lowest need with 10. Only 14 were familiar with sources for the technology, 31 were not familiar with technology sources. Forty-two were comfortable using technology, primarily computers, and 6 were not comfortable.

Comments included information that some students who need assistive technology were sent out of the district. Most of the technological needs were computer related. One teacher stated that his school was in need of adaptive technology and training but none was provided, despite technology being included in the students' IEP's. One teacher attended a workshop at the LARC School to learn about some of this technology. The LARC School is a private school that specializes in students with learning disabilities.

**Table 4-01**

Percentage of Familiarity Responses of Special Education Teachers to Adaptive Technology (n=48)

	Very Familiar	Familiar	Unfamiliar	Have in School
<b>Alternate Input</b>				
Programmable keyboard	9	33	58	2
Chording keyboard	0	11	89	0
On-Screen keyboard	7	30	59	2
Joysticks/Trackballs	22	50	28	6
Electronic pointing devices	9	43	46	4
Pointing & typing aids	9	41	50	2
Touch screens	15	52	33	1
Voice recognition	2	43	52	0
Optical Character Recognition & scanners (OCR)	7	15	72	2
<b>Alternate Output</b>				
Talking & large-print word processors	0	24	61	1
Braille embossers & translators	2	24	72	2
Speech synthesizers	0	30	70	0
Screen readers	0	0	91	0
Screen enlargement programs	0	20	80	2
Monitor additions (filters, magnifiers, mounts)	0	28	72	0
<b>Assistive Communication Products</b>				
Closed circuit TV	11	46	33	2
Notetakers	13	26	54	5
Reading machine	2	22	65	1
<b>Other</b>				
Taped text	41	41	18	10
Large-print materials	39	43	18	11

Special education teachers were most familiar with joysticks/trackballs and touch screens as a means of alternate input. Very few teachers were familiar with chording keyboards or optical character recognition and scanner systems. In the area of alternate output, speech synthesizers and monitor additions were the two most familiar items for special education teachers. No teachers were familiar with screen readers and 80% were unfamiliar with screen enlargement programs. Fifty-seven percent of the teachers were familiar with closed circuit TV (CCTV), but 65% of the teachers were unfamiliar with reading machines. The last two categories on the survey, taped text and large-print materials, had the highest familiarity response from teachers.

#### Child Study Team Responses

The number of years in education for child study team members ranged from 10 to 28 years, with an average of 19 years. The number of years in the current position ranged from 1 to 18 years, the average being 8.5 years. Two child study team members held Bachelor's degrees, five held Master's degrees, 14 held Master's degrees plus, and one had a Ph.D. Many child study team members (68%) held more than one certification. Other certifications included the following: Social Worker, School Psychologist, Learning Disabilities Teacher/Consultant (LDTC), Principal, Supervisor, and Pupil Personal Services.

Seventeen stated that their district had students who needed assistive technology, while seven answered no students needed this technology. Ten were familiar with sources for technology, and 12 were not familiar with sources for technology. Students' needs of assistive technology indicated by the child study team members were augmentative

**Table 4-02**

Percentage of Familiarity of Child Study Team Members to Adaptive Technology (n=25)

	Very Familiar	Familiar	Unfamiliar	Have in School
<b>Alternate Input</b>				
Programmable keyboard	9	8	73	1
Chording keyboard	0	0	40	0
On-Screen keyboard	5	30	60	0
Joysticks/Trackballs	10	40	50	0
Electronic pointing devices	5	40	55	0
Pointing & typing aids	0	30	70	1
Touch screens	0	50	50	0
Voice recognition	0	40	60	1
Optical Character Recognition & scanners (OCR)	0	10	77	0
<b>Alternate Output</b>				
Talking & large-print word processors	0	27	73	1
Braille embossers & translators	5	23	72	3
Speech synthesizers	5	23	72	0
Screen readers	0	23	73	0
Screen enlargement programs	0	27	68	2
Monitor additions (filters, magnifiers, mounts)	0	15	73	2
<b>Assistive Communication Products</b>				
Closed circuit TV	18	45	32	4
Notetakers	5	27	59	4
Reading machine	0	10	90	1
<b>Other</b>				
Taped text	30	45	20	7
Large-print materials	35	50	10	8

communication, 12 students; and cognitive assists, two students.

Four CST members were comfortable using technology, ten were somewhat comfortable using technology, and five were not comfortable using technology. The only comment from this group was in regard to using technology. One CST member said, “I’m a low tech gal in a high tech world.”

Child study team members were most familiar with joysticks/trackballs and touch screens as a means of alternate input. Programmable keyboards and optical character recognition and scanner systems were the two most unfamiliar items in the alternate input category. Chording keyboards had no familiar responses and a 40% unfamiliar response, because only ten CST members responded to that item on the survey. The two most familiar items in the alternate output section for CST members were braille embossers and translators, and speech synthesizers. However, most alternate output items were unfamiliar to the CST members. Closed circuit TV (CCTV) was the most familiar item in the assistive communication products section; the reading machine was the least familiar item in this section for the child study team. The CST members were most familiar with the last two items on the survey, taped text and large-print materials.

### Librarian Responses

Librarians who responded to the survey averaged 17.5 years in education with a range from 5 to 30 years. The number of years in their current position ranged from 2 to 30 years with the average of 19 years. Librarians held the following degrees: one Bachelor’s, five

**Table 4-03**

Percentage of Familiarity Responses of Librarians to Assistive Technology (n=11)

	Very Familiar	Familiar	Unfamiliar	Have in School
<b>Alternate Input</b>				
Programmable keyboard	0	27	73	0
Chording keyboard	0	27	73	0
On-Screen keyboard	0	27	73	0
Joysticks/Trackballs	18	45	36	1
Electronic pointing devices	0	45	45	0
Pointing & typing aids	0	27	64	0
Touch screens	18	55	27	1
Voice recognition	9	36	55	0
Optical Character Recognition & scanners (OCR)	0	73	27	0
<b>Alternate Output</b>				
Talking & large-print word processors	18	18	64	0
Braille embossers & translators	0	36	64	0
Speech synthesizers	0	18	82	0
Screen readers	0	18	82	0
Screen enlargement programs	9	36	55	1
Monitor additions (filters, magnifiers, mounts)	0	18	82	1
<b>Assistive Communication Products</b>				
Closed circuit TV	27	55	18	0
Notetakers	0	27	73	0
Reading machine	0	27	73	0
<b>Other</b>				
Taped text	27	36	36	1
Large-print materials	36	45	18	1

Master's, and five Master's plus. Nine of the 11 librarians had multiple certifications. Some other certifications held were Elementary Education, Learning Disabilities Teacher Consultant, Secondary Social Studies and English, and Special Education.

Three stated that students in their district needed assistive technology, six answered no students needed assistive technology, and one did not know. Three were familiar with sources for the technology, but seven were not familiar with technology sources and one did not answer. Assistive technology needs of students were: four computer access and one cognitive assist. Nine said they were comfortable using technology and two were somewhat comfortable using technology.

The three most familiar items of alternate input for librarians were joysticks/trackballs, touch screens, and OCR's. Three items, programmable keyboard, chording keyboard, and on-screen keyboard, received the same percentage of unfamiliar responses, 73%. In the area of alternate input, three items had 36% familiar or combined familiar and very familiar responses from librarians; they were talking and large-print word processors, braille embossers and translators, and screen enlargement programs. Closed circuit TV (CCTV) was the most familiar item in the assistive communication products for librarians. Librarians had equal responses, 73% in unfamiliarity about notetakers and reading machines. Taped text and large-print materials received more familiar responses from librarians than unfamiliar responses.



## Summary

Alternate Input. Special education teachers and child study team members were more familiar with programmable keyboards than the librarians, but overall the three groups had more unfamiliar responses with programmable keyboards than familiar responses. Chording keyboards had the least familiarity with all three groups. Only 27% of librarians and 10% of special education teachers were familiar with them. On-screen keyboards were also an unfamiliar item among the three groups, but more teachers and CST members were familiar with them than librarians. Joysticks and trackballs were the most familiar item for all three groups. Only a small percentage in the three groups were unfamiliar with joysticks and trackballs. These items seem to be available in more schools than the other items. Pointing and typing aids were the second most unfamiliar item in alternate input. One-half of the special education teachers were unfamiliar with them, approximately two-thirds of CST members and librarians were unfamiliar with pointing and typing aids. The librarians and special education teachers had close results in responses to touch screens; only about one-half of the child study team members were familiar with touch screens. A major difference was noted in the familiarity with OCR's. Approximately three-fourths of the librarians were familiar with this technology, while three-fourths of the teachers and CST members were unfamiliar with OCR's.

Alternate Output. Librarians were most familiar with each category of alternate output. All three groups were unfamiliar with talking and large-print word processors to the same degree. About three-fourths of the teachers and CST members were unfamiliar with

braille embossers and translators. Librarians were slightly more familiar with braille embossers and translators. Librarians were very unfamiliar with speech synthesizers (82%); the teachers and CST members responded about the same, with an average of 71% being unfamiliar. Screen readers were the most unfamiliar item in alternate output in all three groups, only 23% of the CST members and 18% of librarians were familiar with these. No teachers were familiar with screen readers. Librarians were closely divided in familiarity with screen enlargement programs. Child study team members were least familiar and approximately two-thirds of the teachers were unfamiliar with enlargement programs.

Assistive Communication Products. Closed circuit TV was the most familiar item in the category. All three groups were familiar with it. Notetakers were the second most familiar item. More teachers and CST members were familiar with notetakers than librarians. Although the reading machine was the least familiar item, librarians were slightly more familiar with it than teachers and CST members.

Other. All three groups were familiar with taped text and large-print materials. This is probably due to the fact that these items have been in use longer than the computer adaptations.

Table 4-04 summarizes the results of the most and least familiar items in each category for all groups.

**Table 4-04**Summary of Most and Least Familiar Survey Items

Category	Most Familiar	Least Familiar
Alternate Input	Joystick/trackball Voice recognition  OCR (librarians)	Chording keyboard Program & on-screen keyboards OCR (CST & teachers)
Alternate Output	Talking & large-print word processors Braille embossers & translators Screen enlargement	Screen reader Monitor additions Speech synthesizers
Assistive Communication	Closed circuit TV	Reading machine
Other	Large print	Taped text

## Chapter 5

### Summary, Conclusions, and Recommendations

#### Summary

All three groups surveyed seemed to have a higher percentage of unfamiliar responses about the technology in the survey. While familiarity with each type of technology varied, the percentage of familiarity overall for alternate input was close to 30%. The familiarity about alternate output overall was approximately 25%. Assistive communication products had an overall familiarity response of 25%. Librarians had the highest familiarity response in the area of assistive communication products. Taped text and large-print materials had the highest familiarity response in all three groups, with an average of 39% familiarity.

Librarians had the highest familiarity response with an average of 31%. Special education teachers and child study team members were very close in familiarity responses, with 25% for child study team members and 27% for special education teachers.

#### Conclusions

Many of the adaptive technologies in the survey are needed by persons with physical disabilities in order to make computer use easier or possible. Students who are classified as educable, trainable, orthopedically impaired, multihandicapped, and autistic are most often placed out of district (see Appendix E).

A few schools do have programs for these students in the district, however, it cannot

be determined by the Application for State Aid figures if these students are in the high school or in other schools in that particular school district.

A possible explanation for the high number of unfamiliar responses to the adaptive technologies in the survey could be that the school districts do not provide programs for these students; therefore, school staff do not have a need to learn about these technologies.

Many schools have just recently begun using computers on a regular basis for students and teachers. It takes time to learn how to use the technology and programs that are available for the general school population. It takes more time and training to learn about specialized technology for a small population in the school district that may need some form of adaptation to the current technology available. Unfortunately, there may not be enough time or money available in a tight school budget to provide the time, training, or equipment.

Technology is changing at a rapid pace today. What is new today is soon outdated in a few years. Many school districts cannot afford to invest in highly specialized technology that may be outdated in a few years, for a few students.

### Recommendations

In order to improve knowledge about new technology for students there should be better and more communication among teachers, librarians, and child study team members. This could be accomplished by setting up regular meeting times in their schedules so that each group could work together to investigate new technologies and discuss students' needs.

If the school has a technology committee, that committee could research new types of technology based on input from the child study team about students' needs. It could make

recommendations about what adaptive technologies could best serve these needs. A long-range plan could be developed to acquire this new equipment.

Most schools have a library media specialist who is trained to search and evaluate information. Librarians were the group most comfortable using technology, possibly because education technology is often concentrated in the school's library (Zehr, 1997). Because of their comfort in using and familiarity with technology, it might be best for librarians to provide some in-service training for CST members and teachers about new assistive technologies and software programs that are available.

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## Appendix A

### Consent Letter and Survey

Dear Librarian:

I am a graduate student in the Library Education program at Rowan University of New Jersey. I will be conducting a research project as part of my Master's thesis. The purpose of this research is to determine the amount of knowledge Librarians, Special Education teachers, and Child Study Team members have regarding adaptive technology.

I will ask you to complete a survey about adaptive technology.

Your responses will be anonymous and all the data gathered will be confidential. There are no physical or psychological risks involved in this study. You are free to withdraw your participation at any time without penalty.

If you have any questions or problems concerning your participation in this study you may contact me at Woodbury High School (609) 853-0123 ext. 307 or e-mail me at [dclement@woodburysch.com](mailto:dclement@woodburysch.com). You may also contact my advisor, Dr. Holly Willett, at 256-4759.

Thank you for your time and participation in this study.

Sincerely,

Dianne Clement

Please sign and return this consent form along with the completed survey.

I voluntarily agree to participate in the survey about adaptive technology.

---

Signature of Participant

---

Date

Dear Child Study Team member:

I am a graduate student in the Library Education program at Rowan University of New Jersey. I will be conducting a research project as part of my Master's thesis. The purpose of this research is to determine the amount of knowledge Librarians, Special Education teachers, and Child Study Team members have regarding adaptive technology.

I will ask you to complete a survey about adaptive technology.

Your responses will be anonymous and all the data gathered will be confidential. There are no physical or psychological risks involved in this study. You are free to withdraw your participation at any time without penalty.

If you have any questions or problems concerning your participation in this study you may contact me at Woodbury High School (609) 853-0123 ext. 307 or e-mail me at [dclement@woodburysch.com](mailto:dclement@woodburysch.com). You may also contact my advisor, Dr. Holly Willett, at 256-4759.

Thank you for your time and participation in this study.

Sincerely,

Dianne Clement

Please sign and return this consent form along with the completed survey.

I voluntarily agree to participate in the survey about adaptive technology.

---

Signature of Participant

---

Date

Dear Special Education Teacher:

I am a graduate student in the Library Education program at Rowan University of New Jersey. I will be conducting a research project as part of my Master's thesis. The purpose of this research is to determine the amount of knowledge Librarians, Special Education teachers, and Child Study Team members have regarding adaptive technology.

I will ask you to complete a survey about adaptive technology.

Your responses will be anonymous and all the data gathered will be confidential. There are no physical or psychological risks involved in this study. You are free to withdraw your participation at any time without penalty.

If you have any questions or problems concerning your participation in this study you may contact me at Woodbury High School (609) 853-0123 ext. 307 or e-mail me at [dclement@woodburysch.com](mailto:dclement@woodburysch.com). You may also contact my advisor, Dr. Holly Willett, at 256-4759.

Thank you for your time and participation in this study.

Sincerely,

Dianne Clement

Please sign and return this consent form along with the completed survey.

I voluntarily agree to participate in the survey about adaptive technology.

---

Signature of Participant

---

Date

# ADAPTIVE TECHNOLOGY SURVEY BY DIANNE CLEMENT

ALTERNATE INPUT	Very Familiar	Familiar	Unfamiliar	Have in School
Programmable keyboard				
Chording keyboard				
On-screen keyboard				
Joysticks/Trackballs				
Electronic pointing devices				
Pointing & typing aids				
Touch screens				
Voice recognition				
Optical Character Recognition & Scanners (OCR)				
ALTERNATE OUTPUT				
Talking & large-print word processors				
Braille Embossers & Translators				
Speech synthesizers				
Screen readers				
Screen enlargement programs				
Monitor additions (filters, magnifiers, mounts)				
ASSISTIVE COMMUNICATION PRODUCTS				
Closed circuit TV				
Notetakers				
Reading machine				
OTHER				
Taped text				
Large print materials				

**Please complete and return the survey by March 4, 1998.**

Do you have students in your school that require any of the above technology?  
Yes/No

If yes, how many? \_\_\_\_\_

Are you familiar with sources for the technology in the survey?  
Yes/No

Which types of assistive technology needs have your students presented in the past 3 years?

\_\_\_\_\_ Augmentative Communication

\_\_\_\_\_ Computer Access

\_\_\_\_\_ Cognitive Assists

The best description of your current position is:

\_\_\_\_\_ Special Education Teacher

\_\_\_\_\_ Librarian

\_\_\_\_\_ Child Study Team Member

Number of years in education? \_\_\_\_\_

Number of years in current position? \_\_\_\_\_

Degree:

BA  
MA  
MA +  
Ph.D.

Certification(s)

Are you comfortable using technology?

Please feel free to add any comments below or on the back of the survey.

## **Appendix B**

### **Description of Survey Technology**

#### Alternate Input

##### Alternate Keyboards

1. Programmable keyboards can be programmed so letters, numbers, or phrases can be entered by pressing custom keys.
2. Chording keyboards have a limited number of keys. Text is entered by pressing combinations of keys.
3. On-screen keyboards are software images of a standard or modified keyboard placed on the computer screen. The keys are selected by a mouse, touch screen, trackball, or joystick.
4. Joysticks can be plugged into a computer's mouse port and control the cursor on the screen. There are three types: digital control, glide, and direct control which allow movements in all directions. Trackballs look like an upside-down mouse with a moveable ball on top of a stationary base.
5. Electronic pointing devices allow the user to operate the cursor on the screen using ultrasound or an infrared beam.
6. Pointing and typing aid is typically a stick or wand used to strike keys on the keyboard. It is commonly worn on the head, held in the mouth, or in the hand.
7. Touch screen is a device placed on the computer monitor that allows direct selection of the computer by a touch of the screen.

8. Voice recognition system allows the user to input data or control computer functions by voice.
9. Optical Character Recognition (OCR) and scanners – OCR software works with a scanner to convert images from a printed page into a standard computer file. A scanner is a device that converts an image from a printed page to a computer file.

#### Alternate Output

1. Talking word processor is a software program that uses a speech synthesizer to provide auditory feedback of what has been typed. Large-print word processors allow the user to view everything in large text without added screen enlargement.
2. A braille printer transfers computer-generated text into embossed braille output. Translation programs create a braille version of the original file.
3. A speech synthesizer can receive information going to the screen in the form of letters, numbers, and punctuation, then “speak” it out loud. Appropriate software is needed.
4. Screen reader is a software program that works in conjunction with a speech synthesizer to provide verbalization of everything on the screen.
5. Screen enlargement program focuses on a single portion of the screen at a time and enlarges it.
6. Monitor additions are any devices that enhance or alter the use of a standard

computer monitor. These include exterior screen magnifiers, anti-glare filters, and monitor mounts.

#### Assistive Communication Products

1. Closed circuit TV (CCTV) scans the printed page with a special television camera and displays the image enlarged on a monitor.
2. Notetakers are very small portable units that employ either a braille or standard keyboard to allow the user to enter information. Text is stored in files that can be read and edited or transferred to a computer.
3. Reading machine transforms printed material into an electronic data format that is read aloud by a speech synthesizer.

#### Other

1. Taped text is text that has been recorded onto a cassette tape for the user.
2. Large-print materials are printed materials that are printed larger than standard print for easier reading.



## **Appendix C**

### **DEFINITIONS OF LEARNING DISABILITIES (from New Jersey Administrative Code 6:28)**

1. “Auditorily handicapped” means an inability to hear within normal limits due to physical impairment or dysfunction of auditory mechanisms characterized by (d)1 i and ii below. Evaluations by a specialist qualified in the field of audiology and a speech and language evaluation by a certified speech correctionist or speech–language specialist are required.

i. The pupil is impaired in processing linguistic information through hearing, with or without amplification; and

ii. The loss of hearing may be permanent or fluctuating and adversely affects the pupil’s education.

2. “Autistic” means a pervasive developmental impairment characterized by (d)2 i, ii, and iii below. An evaluation by a certified speech correctionist or speech-language specialist and an evaluation by a physician trained in neurodevelopmental assessment is required.

i. Social-emotional and communication development impaired in ways that are not merely predictable from cognitive and/or sensory impairment(s);

ii. Extreme aberrant responses to one or more aspects of the environment, such as insistence on sameness, resistance to change, stereotypic behaviors, lack of responsiveness to others or repetitive movements; and

iii. Onset in infancy or childhood.

3. “Chronically ill” means a health condition such as tuberculosis, cardiac condition, leukemia, asthma, seizure disorder or other medical disability which makes it impractical to receive adequate instruction through a regular school program. Evaluation by the school physician or his or her review and written acceptance of the medical report of another physician is required. The school nurse shall assist in the accumulation of the data necessary to determine eligibility.

4. “Communication handicapped” means impaired native speech or language which is outside the range of acceptable variation, adversely affects a pupil’s educational performance and is not due primarily to hearing impairment as defined under “auditorily handicapped.” It is characterized by (d) 4 i or ii below. An evaluation by a certified speech correctionist or speech-language specialist is required.

i. “Communication handicapped” means a severe speech or language disorder which interferes with the ability to use oral language to communicate.

ii. “Eligible for speech-language services” means a mild to moderate disorder in language, articulation, voice or fluency which requires instruction by a speech correctionist or speech-language specialist. The evaluation shall be conducted according to N.J.A.C. 6:28-3.4(h).

5. “Emotionally disturbed” means the exhibiting of seriously disordered behavior over an extended period of time which adversely affects educational performance and shall be characterized by (d) 5 i or ii below. An evaluation by a psychiatrist experienced in working with children is required.

i. An inability to build or maintain satisfactory interpersonal relationships;

ii. Behaviors inappropriate to the circumstances, a general or pervasive mood of depression or the development of physical symptoms or irrational fears.

6. “Mentally retarded” means cognitive, social and academic functioning which is seriously below age expectations. Such functioning is comprehensive in nature being demonstrated in home, school and community settings, and characterized by one of the following:

i. “Educable” means a level of cognitive development and adaptive behavior in home, school and community settings that are moderately below age expectations with respect to all of the following:

(1) The quality and rate of learning;

(2) The use of symbols for the interpretation of information and

the solution of problems;

(3) Performance on an individually administered test of intelligence that falls within a range of two to three standard deviations below the mean.

ii. “Trainable” means a level of cognitive development and adaptive behavior that is severely below age expectations with respect to all of the following:

(1) The ability to use symbols in the solution of problems of low complexity;

(2) The ability to function socially without direct and close supervision in home, school and community settings;

(3) Performance on an individually administered test of intelligence that falls three standard deviations or more below the mean.

iii. “Eligible for day training” means a level of functioning profoundly below age expectations whereby on a consistent basis the pupil is incapable of giving evidence of understanding and responding in a positive manner to simple directions expressed in the child’s primary mode of communication and cannot in some manner express basic wants and needs.

7. “Multiply handicapped” means the presence of two or more educationally disabling conditions which interact in such a manner that programs designed for the separate disabling conditions will not meet the pupil’s educational needs. All evident educational disabilities shall be documented. Eligibility for speech-language services as defined in this section shall not be one of the disabling conditions which forms the basis for the classification of a pupil as “multiply handicapped.” Evaluations by all specialists required in this subsection for the separate disabling conditions being considered for the determination of “multiply handicapped” are required.

8. “Neurologically or perceptually impaired” means impairment in the ability to process information due to physiological, organizational or integrational dysfunction which is not the result of any other educationally disabling condition or environmental, cultural or economic disadvantage and is characterized by (d) 8 i or ii below.

i. “Neurologically impaired” means a specific impairment or dysfunction of the nervous system or traumatic brain injury which adversely affects the education of a pupil. An evaluation by a physician trained in neurodevelopmental assessment is required.

ii. “Perceptually impaired” means a specific learning disability manifested by a severe discrepancy between the pupil’s current achievement and intellectual ability in one or more of the following areas:

- (1) Basic reading skills;
- (2) Reading comprehension;
- (3) Oral expression;
- (4) Listening comprehension;
- (5) Mathematic computation;
- (6) Mathematic reasoning; and
- (7) Written expression.

9. “Preschool handicapped” means those children age three through five who have an identified disabling condition and/or a measurable developmental impairment who require and would benefit from special education and related services.

10. “Orthopedically handicapped” means a condition which, because of malformation, malfunction or loss of bones, muscle or body tissue, necessitates special education and/or related services. An evaluation by a physician qualified to conduct an orthopedic evaluation is required.

11. “Socially maladjusted” means a consistent inability to conform to the standards for behavior established by the school. Such behavior is seriously disruptive to the education of the pupil or other pupils and is not due to emotional disturbance as defined in (d) 5 above. If determined necessary by the child study team, an evaluation by a psychiatrist experienced in working with children is to be obtained.

12. “Visually handicapped” means an inability to see within the normal limits as characterized by (d) 12 i or ii below. An evaluation by a specialist qualified to determine visual disability is required. Visually handicapped pupils eligible for special education and/or

related services shall be reported to the Commission for the Blind and Visually Impaired.

i. “Blind” means a loss of acuity or field restriction so great that a pupil cannot rely on sight to learn.

ii. “Partially sighted” means a field restriction or loss of visual acuity which adversely affects a pupil’s education, but which does not warrant classification of a pupil as “blind.” A partially sighted pupil is able to use sight to learn.

## DEFINITION AND DUTIES OF CHILD STUDY TEAM

(from New Jersey Administrative code)

### 6:28-3.1 Child study teams

(a) A child study team is an interdisciplinary group of appropriately certified persons who:

1. Shall evaluate, after parental consent for initial evaluation has been received, and participate in the determination of eligibility of pupils for special education and/or related services;
  2. Shall coordinate the development, monitor and evaluate the effectiveness of the individualized education programs;
  3. May deliver appropriate related services to pupils with educational disabilities;
  4. May provide preventive and support services to nondisabled pupils;
- and
5. May provide services to the general education staff regarding techniques, materials and programs for pupils experiencing difficulties in learning. Services include, but are not limited to, the following:
    - i. Consultation with school staff and parents; and
    - ii. The design, implementation and evaluation of techniques to prevent and/or remediate educational difficulties.

(b) A child study team shall consist of a school psychologist, a learning disabilities teacher-consultant and a school social worker. For pupils ages three to five, the child study team shall include a speech correctionist or speech-language specialist.

## **Appendix D**

### *Overview:*

*The District Factor Grouping  
Socioeconomic Status in New Jersey School Districts  
1990 Revision Process*

Division of Financial Services  
New Jersey Department of Education  
July 7, 1993

## **Introduction**

The New Jersey Department of Education introduced the District Factor Grouping system (DFG) in 1975. This system provides a means of ranking school districts in New Jersey by their socioeconomic status (SES). The first DFG was based on data from the 1970 decennial Census (made available in 1974). A revision was made in 1984 to take into account new data from the 1980 Census and slightly change the theoretical model of socioeconomic status. This document describes work undertaken in the construction of the third DFG, reflecting data from the 1990 Census.

## **Socioeconomic Status and Educational Performance**

The DFG was motivated by research conducted in the late 1960's and early 1970's which showed a strong relationship between socioeconomic status and educational outcomes. The creators of the DFG were concerned that educational policymakers, after reviewing the educational outcomes obtained in different circumstances, would make unjustified inferences about the importance of various, school-based inputs to the educational process. Because the research showed that students (*i.e.*, what they bring to school, including socialization that takes place before they step inside the school building) are far and away the most important determinant of educational outcomes, the effectiveness of school systems cannot be sensibly judged without reference to the socioeconomic background of their students.

## **The Development of District Factor Groups for Analysis of Test Results**

The DFG was developed by the Department for its own use in the reporting of test scores. The use of this measure is mandated neither by statute nor by regulation. In its publicly released testing reports, the Department shows district-by-district results, arranged by DFG. Comparisons are made between districts of like SES, rather than on a geographic basis. The intent of this procedure is to reduce the variation in reported scores which is due to factors beyond the control of local educators.

## **The Application of the DFG in School Finance**

At the same time as the DFG was being developed for use in the reporting of test scores, New Jersey's debate over how schools could be equitably financed had already become a state supreme court case (Robinson v. Cahill). In fact, the same research findings that motivated the development of the DFG were central to the logic the state used to argue that "money doesn't matter" in achieving improved school outcomes. Arguments made before the courts and administrative law judge in Robinson and Abbott took explicit account of the DFG and socioeconomic status in calculating spending differences.

The importance of socioeconomic status for funding equity was recognized in the beginning and the Abbott v. Burke decision has given it a continuing central role. While many understand the Abbott decision as one requiring state funding to take account of *economic need* (*i.e.*, all citizens should have school taxes levied on their property at similar rates), it is in fact based on the principle of addressing *educational need*, as defined by the Department's measure of socioeconomic status (all districts of low socioeconomic status



must be assured per pupil spending equal to that in districts of the highest status, with special accommodations made for need which is unique to that low status).

Because the Supreme Court explicitly used the DFG as a means of identifying the districts for which special funding provisions would apply, as well as those whose spending levels are to be the target, the DFG has taken on a new significance.

### Summary of DFG Models over Time

<u>1970</u>	<u>1980</u>	<u>1980</u>
Education Index	Education Index	% No HS Diploma
Occupation Index	Occupation Index	% some College
Urbanization	Urbanization	Occupation
Income	Income *	Population Density
Unemployment	Unemployment *	Income
Poverty	Poverty *	Unemployment **
Household Density	Household Density	Poverty
Mobility		
* - Measured differently than in 1970 model		
** - Measured differently than in 1980 model		

The DFG is an index of socioeconomic status that is created using data for “indicators” available in the decennial Census of Population. Socioeconomic status cannot be measured directly. Rather, the literature holds that it is a function of other, measurable quantities (traditionally, the basic three are income, occupation, and education). Therefore, the DFG is a composite statistical index created using statistical procedures, a “model” of socioeconomic status, and input data for various socioeconomic traits.

### Past DFG Models and Grouping Methods

The first DFG, based on 1970 Census data, included indexes for educational attainment and occupation. These indexes were derived from a ranking of educational levels (“finished 12 years,” “finished 14 years,” etc.) and occupations (“labor,” “service,” “professional,” etc.) into categories. The index consisted of the average rank for district residents. Other variables included the percentage of residents living in urban areas, income, unemployment, poverty, average household size, and mobility. In the version based on 1980 data, mobility was dropped, and income, unemployment, and poverty were measured differently.

In both versions, districts were ranked on the statistical score produced using principal components analysis with the models described above. The rankings were then split into 10 equally-sized groups of districts (with size measured by number of districts, not enrollment).

### **Changes in the New DFG**

After conducting a detailed study, the Department has produced new DFG based on 1990 Census data. The changes can be summarized as follows:

1. The existing index of educational attainment has been replaced with two variables: one measuring the percentage of adult residents who have not completed high school, the other measuring the percentage who attended college.
2. The existing percent urban measure has been replaced with one of population density.
3. The variable measuring household density has been dropped.
4. The break points between adjacent factor groups were determined on the basis of the DFG (principal components) *scores*. The old method used a *ranking* according to those scores to place an equal number of districts in each group.
5. Eight District Factor Groups were created, instead of the existing 10. The groups will be labeled as follows: A, B, CD, DE, FG, GH, I, J. Appendix A shows how many districts are classified in each category, as well as a summary of how districts were classified under the 1980 DFG.
6. DFG designation was assigned to 18 of the nonoperating districts (2 nonoperating districts already have designations, thus 16 more districts will be classified than under the existing system). Seven more nonoperating districts are either too small to be classified or have unrepresentative Census data.

### **Special Needs Status Implications**

Updating the DFG does not change any district's designation as Special Needs or not Special Needs. That designation was made by the State Legislature and can only be changed by the Legislature.

Because the DFG was one of several criteria the Legislature used to designate Special Needs districts, there has been interest in what impact the DFG revision would have if the Legislature were to update its designation. The Legislature would be free to use the DFG and/or other criteria in the manner it chose most appropriate. Appendix B presents a list of status changes that would result if Special Needs status were updated using the new DFG and the other criteria without changes.

**Appendix A – DFG Group Sizes**

1980 DFG	Districts
A	56
B	55
C	56
D	56
E	58
F	56
G	57
H	55
I	57
J	51

1990 DFG	Districts
A	35
B	78
CD	75
DE	100
FG	87
GH	78
I	105
J	15

DISTRICT FACTOR GROUP  
(based on 1990 Census) Gloucester County

DFG – A

Paulsboro

DFG – B

Clayton

Elk

Glassboro

National Park

Swedesboro-Woolwich

Westville

Woodbury

DFG – CD

Deptford

Franklin

Gateway

Monroe

Newfield

So. Gloucester County Regional

DFG – DE

Greenwich

Kingsway

Mantua

Pitman

South Harrison

West Deptford

DFG – FG

Clearview

East Greenwich

Harrison

Logan

Woodbury Heights

DFG – GH

Washington Twp.

DFG – I

Wenonah

DFG – V

Vocational

SSSD (none)

## Appendix E

### Application for State School Aid

Clayton Boro							
New Jersey Department of Education/Office of Finance							
1997-1998 Application for State School Aid - Data Listing							
Enrollment Categories	On Roll		Sent	Received	Private	Resident	Resource
	Full	Shared	Full	Full	Schools	Students	Room
Half Day Kindergarten	90.0					90.0	
One	109.0					109.0	1.0
Two	100.0					100.0	
Three	79.0					79.0	
Four	96.0					96.0	1.0
Five	104.0					104.0	12.0
Six	77.0					77.0	4.0
Seven	81.0					81.0	7.0
Eight	89.0					89.0	3.0
Nine	91.0	3.0				92.5	8.0
Ten	67.0	3.0				68.5	7.0
Eleven	49.0	12.0	1.0			56.0	3.0
Twelve	57.0	8.0	2.0			63.0	6.0
Subtotal	1089.0	26.0	3.0			1105.0	52.0
Educable		2.0				1.0	
Trainable					3.0	3.0	
Day Training Eligible			2.0			2.0	
Ortho. Hand.					1.0	1.0	
Neuro. Imp.					1.0	1.0	
Percep. Imp.	44.0	1.0				44.5	
Comm. Hand.		1.0				0.5	
Emot. Disturbed	6.0		1.0	1.0	3.0	9.0	
Mult. Hand.					5.0	5.0	
Autistic			1.0			1.0	
Preschool Hand. PT	14.0				1.0	15.0	
Preschool Hand. FT			1.0			1.0	
Subtotal	64.0	4.0	5.0	1.0	14.0	84.0	
Total	1153.0	30.0	8.0	1.0	14.0	1189.0	52.0
Half Day Kind, Pre H.D.	32.0		Bilingual Students				4.0
Full Day Kind, Pre H.D.	163.0		10-15-96 Speech Ins				62.0
Grades 6-8	67.0		1995-1996 # Hrs Home Ins				502.0
Grades 9-12	63.5		10-15-96 Reg Day Sh St				1.0
			10-15-96 Resident Enr				1190.0

Clearview Regional								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment Categories	On Roll		Sent	Received		Private	Resident	Resource
	Full	Shared	Full	Full	Shared	Schools	Students	Room
Seven	258.0						258.0	26
Eight	246.0						246.0	19.0
Nine	248.0	1.0					248.5	33.0
Ten	251.0	13.0	4.0				261.5	36.0
Eleven	195.0	44.0		1.0			216.0	26.0
Twelve	220.0	37.0					238.5	30.0
Subtotal	1418.0	95.0	4.0	1.0			1468.5	170.0
Educable						1.0	1.0	
Trainable						1.0	1.0	
Neuro. Imp.	12.0	6.0		4.0	1.0	2.0	12.5	
Percep. Imp.	22.0			1.0			21.0	
Comm. Hand.						1.0	1.0	
Emot. Disturbed	4.0		1.0			5.0	10.0	
Mult. Hand.						2.0	2.0	
Subtotal	38.0	6.0	1.0	5.0	1.0	12.0	48.5	
Total	1456.0	101.0	5.0	6.0	1.0	12.0	1517.0	170.0
Grades 6-8	38.0		Bilingual Students				3.0	
Grades 9-12	31.5		10-15-96 Speech Ins				10.0	
			1995-1996 # Hrs Home Ins				1556.0	
			10-15-96 Home Inst Std				12.0	
			10-15-96 Resident Enr				1529.0	
			Train. Sch/Secure Care Fac.				2.0	
			Juvenile Detention Center				1.0	
		Total Resident Enrollment					1532.0	

Deptford Twp							
New Jersey Department of Education/Office of Finance							
1997-1998 Application for State School Aid - Data Listing							
Enrollment Categories	On Roll		Sent	Received	Private	Resident	Resource
	Full	Shared	Full	Full	Schools	Students	Room
Half Day Kindergarten	265.0					265.0	
One	282.0					282.0	3.0
Two	267.0					267.0	5.0
Three	270.0					270.0	10.0
Four	275.0					275.0	6.0
Five	279.0					279.0	12.0
Six	258.0					258.0	12.0
Seven	247.0					247.0	22.0
Eight	243.0					243.0	17.0
Nine	299.0	1.0				299.5	47.0
Ten	259.0	3.0				260.5	34.0
Eleven	204.0	32.0				220.0	31.0
Twelve	181.0	34.0				198.0	19.0
Subtotal	3329.0	70.0				3364.0	218.0
Educable	14.0	5.0		4.0		12.5	
Trainable	22.0	1.0		18.0	5.0	9.0	
Day Training Eligible					1.0	1.0	
Neuro. Imp.		2.0			1.0	2.0	
Percep. Imp.	127.0		1.0			128.0	
Aud. Hand			2.0			2.0	
Comm. Hand.	17.0				1.0	18.0	
Emot. Disturbed	39.0	1.0	5.0		3.0	47.5	
Mult. Hand.	38.0	7.0	1.0	7.0	25.0	60.5	
Preschool Hand. PT	13.0				2.0	15.0	
Preschool Hand. FT			1.0		1.0	2.0	
Subtotal	270.0	16.0	10.0	29.0	39.0	297.5	
Total	3599.0	86.0	10.0	29.0	39.0	3661.5	218.0
Half Day Kind, Pre H.D.	56.0		10-15-96 Speech Ins			135.0	
Full Day Kind, Pre H.D.	346.0		1995-1996 # Hrs Home Ins			2188.0	
Grades 6-8	183.0		10-15-96 Home Inst Std			7.0	
Grades 9-12	152.0		10-15-96 Resident Enr			3668.5	
Low Income Other	9.0		DHS Regional Day School			1.0	
			Juvenile Community Program			1.0	
			Juvenile Detention Center			4.0	
		Total Resident Enrollment			3674.5		

Gateway Regional							
New Jersey Department of Education/Office of Finance							
1997-1998 Application for State School Aid - Data Listing							
Enrollment Categories	On Roll		Sent	Received	Private	Resident	Resource
	Full	Shared	Full	Full	Schools	Students	Room
Seven	193.0					193.0	23.0
Eight	137.0			1.0		136.0	4.0
Nine	211.0			1.0		210.0	18.0
Ten	180.0	3.0		3.0		178.5	24.0
Eleven	136.0	15.0		2.0		141.5	9.0
Twelve	136.0	32.0				152.0	20.0
Subtotal	993.0	50.0		7.0		1011.0	98.0
Trainable					1.0	1.0	
Day Training Eligible					1.0	1.0	
Neuro. Imp.		4.0	3.0		1.0	6.0	
Percep. Imp.	27.0	19.0				36.5	
Aud. Hand			1.0			1.0	
Emot. Disturbed	11.0	2.0	4.0		4.0	20.0	
Mult. Hand.		4.0	2.0		2.0	6.0	
Subtotal	38.0	29.0	10.0		9.0	71.5	
Total	1031.0	79.0	10.0	7.0	9.0	1082.5	98.0
Grades 6-8	38.0		Bilingual Students			6.0	
Grades 9-12	60.0		10-15-96 Speech Ins			15.0	
Low Income Other	4.0		1995-1996 # Hrs Home Ins			926.0	
			10-15-96 Home Inst Std			2.0	
			10-15-96 Resident Enr			1084.5	
			DHS Regional Day School			1.0	
		Total Resident Enrollment			1085.5		



Glassboro								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment Categories	On Roll		Sent	Received		Private	Resident	Resource
	Full	Shared	Full	Full	Shared	Schools	Students	Room
Half Day Preschool	46.0						201.0	
Half Day Kindergarten	201.0						215.0	
One	215.0						170.0	
Two	170.0						172.0	
Three	172.0						165.0	
Four	165.0						152.0	
Five	152.0						166.0	
Six	166.0						145.0	13.0
Seven	146.0			1.0			158.0	16.0
Eight	159.0			1.0			201.0	8.0
Nine	198.0	6.0					122.5	30.0
Ten	121.0	6.0		1.0	1.0		116.0	11.0
Eleven	106.0	21.0			1.0		116.5	18.0
Twelve	109.0	15.0						12.0
Adult H.S. (15+ Cr.)	10.0							
Subtotal	2136.0	48.0		3.0	2.0		2100.0	108.0
Educable		1.0					0.5	
Trainable			1.0			1.0	2.0	
Day Training Eligible			3.0				3.0	
Neuro. Imp.		1.0					0.5	
Percep. Imp.	135.0			2.0			133.0	
Aud. Hand			4.0				4.0	
Emot. Disturbed	52.0	1.0	2.0	1.0		11.0	64.5	
Mult. Hand.	31.0		1.0			10.0	42.0	
Autistic			3.0				3.0	
Preschool Hand. PT	21.0					1.0	22.0	
Subtotal	239.0	3.0	14.0	3.0		23.0	274.5	
Total	2375.0	51.0	14.0	6.0	2.0	23.0	2374.5	108.0
Half Day Kind, Pre H.D.	68.0		1995-1996 # Hrs Home Ins				2227.0	
Full Day Kind, Pre H.D.	360.0		10-15-96 Home Inst Std				7.0	
Grades 6-8	193.0		10-15-96 Resident Enr				2381.5	
Grades 9-12	121.0		DHS Regional Day School				1.0	
Low Income Other	33.0		Train. Sch/Secure Care Fac.				2.0	
Bilingual Students	31.0		Juvenile Community Program				2.0	
10-15-96 Speech Ins	151.0		Juvenile Detention Center				4.0	
		Total Resident Enrollment					2390.5	

Kingsway Regional									
New Jersey Department of Education/Office of Finance									
1997-1998 Application for State School Aid - Data Listing									
Enrollment	On Roll		Sent		Received		Private	Resident	Resource
Categories	Full	Shared	Full	Shared	Full	Shared	Schools	Students	Room
Seven	166.0							166.0	15.0
Eight	169.0	1.0						169.5	16.0
Nine	207.0	5.0			66.0			143.5	16.0
Ten	206.0	8.0			56.0	1.0		153.5	15.0
Eleven	180.0	22.0			60.0	2.0		130.0	9.0
Twelve	183.0	24.0			50.0	6.0		142.0	8.0
Subtotal	1111.0	60.0			232.0	9.0		904.5	79.0
Trainable			1.0				2.0	3.0	
Ortho. Hand.							2.0	2.0	
Aud. Hand			1.0					1.0	
Emot. Disturbed			7.0	1.0			1.0	8.5	
Soc. Maladj.							1.0	1.0	
Mult. Hand.							6.0	6.0	
Subtotal			9.0	1.0			12.0	21.5	
Total	1111.0	60.0	9.0	1.0	232.0	9.0	12.0	926.0	79.0
Grades 6-8			32.0		10-15-96 Speech Ins.				5.0
Grades 9-12			39.0		1995-1996 # Hrs Home Ins				374.6
Low Income Other			4.0		10-15-96 Home Inst Std				2.0
					10-15-96 Resident Enr				928.0
		Total Resident Enrollment							928.0

Monroe Twp								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment	On Roll		Sent		Received	Private	Resident	Resource
Categories	Full	Shared	Full	Shared	Full	Schools	Students	Room
Half Day Kind.	367.0				1.0		366.0	
One	344.0						344.0	5.0
Two	356.0				1.0		355.0	8.0
Three	317.0						317.0	17.0
Four	298.0						298.0	19.0
Five	298.0						298.0	19.0
Six	345.0						345.0	26.0
Seven	306.0						306.0	18.0
Eight	349.0						349.0	35.0
Nine	363.0	1.0					363.5	50.0
Ten	327.0	6.0	1.0				331.0	29.0
Eleven	256.0	29.0					270.5	21.0
Twelve	219.0	45.0					241.5	19.0
Subtotal	4145.0	81.0	1.0		2.0		4184.5	266.0
Educable	10.0	3.0	1.0		2.0		10.5	
Trainable						7.0	7.0	
Neuro. Imp.	45.0	1.0		1.0			46.0	
Percep. Imp.	100.0	2.0			1.0		100.0	
Aud. Hand			2.0				2.0	
Comm. Hand.	24.0	3.0				1.0	26.5	
Emot. Disturbed	34.0		1.0			21.0	56.0	
Mult. Hand.				2.0		23.0	24.0	
Preschool Hand.	35.0						35.0	
Preschool Hand. FT			2.0			1.0	3.0	
Subtotal	248.0	9.0	6.0	3.0	3.0	53.0	310.0	
Total	4393.0	90.0	7.0	3.0	5.0	53.0	4494.5	266.0
Half Day Kind, Pre H.D.		72.0			1995-1996 # Hrs Home Ins		1786.5	
Full Day Kind, Pre H.D.		329.0			10-15-96 Home Inst Std		10.0	
Grades 6-8		185.0			10-15-96 Reg Day Sh St		2.0	
Grades 9-12		123.5			10-15-96 Resident Enr		4506.5	
Low Income Other		12.0			Train. Sch/Secure Care Fac.		3.0	
Bilingual Students		25.0			Juvenile Detention Center		3.0	
10-15-96 Speech Ins		331.0						
		Total Resident Enrollment					4512.5	

Paulsboro Boro									
New Jersey Department of Education/Office of Finance									
1997-1998 Application for State School Aid - Data Listing									
Enrollment Categories	On Roll		Sent		Received		Private Schools	Resident Students	Resource Room
	Full	Shared	Full	Shared	Full	Shared			
Full Day Kind	109.0				2.0			107.0	
One	93.0		1.0					94.0	
Two	86.0		1.0					87.0	1.0
Three	91.0		1.0		1.0			91.0	2.0
Four	77.0							77.0	2.0
Five	90.0		4.0					94.0	6.0
Six	87.0							87.0	3.0
Seven	91.0		1.0					92.0	3.0
Eight	80.0							80.0	4.0
Nine	168.0		1.0		64.0			105.0	4.0
Ten	110.0	14.0	1.0		45.0	6.0		70.0	8.0
Eleven	106.0	11.0			52.0	3.0		58.0	2.0
Twelve	104.0	3.0			48.0	1.0		57.0	4.0
Subtotal	1292.0	28.0	10.0		212.0	10.0		1099.0	39.0
Educable	12.0	6.0			2.0	2.0		12.0	
Trainable			5.0				1.0	6.0	
Day Training Eligible			4.0					4.0	
Percep. Imp.	51.0	5.0			3.0			50.5	
Aud. Hand			2.0					2.0	
Emot. Disturbed	31.0	1.0	6.0	1.0	3.0		3.0	38.0	
Mult. Hand.	13.0		4.0				4.0	21.0	
Autistic							1.0	1.0	
Preschool Hand.	11.0							11.0	
Subtotal	118.0	12.0	21.0	1.0	8.0	2.0	9.0	145.5	
Total	1410.0	40.0	31.0	1.0	220.0	12.0	9.0	1244.5	39.0
Half Day Kind, Pre H.D.		8.0			1995-1996 # Hrs Home Ins			899.0	
Full Day Kind, Pre H.D.		342.0			10-15-96 Home Inst Std			3.0	
Grades 6-8		176.0			10-15-96 Reg Day Sh St			2.0	
Grades 9-12		106.0			10-15-96 Resident Enr			1249.5	
Low Income Other		1.0			Train. Sch/Secure Care Fac.			4.0	
10-15-96 Speech Ins		81.0			Juvenile Detention Center			2.0	
		Total Resident Enrollment						1255.5	

Pitman Boro								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment	On Roll		Sent		Received	Private	Resident	Resource
Categories	Full	Shared	Full	Shared	Full	Schools	Students	Room
H D Preschool	30.0							
H D Kind.	129.0						129.0	
One	135.0				1.0		134.0	
Two	126.0						126.0	1.0
Three	119.0						119.0	2.0
Four	123.0				2.0		121.0	10.0
Five	125.0						125.0	11.0
Six	146.0				1.0		145.0	17.0
Seven	143.0				2.0		141.0	26.0
Eight	125.0				2.0		123.0	16.0
Nine	158.0	4.0			5.0		155.0	25.0
Ten	146.0	5.0	1.0		3.0		146.5	10.0
Eleven	127.0	11.0			2.0		130.5	15.0
Twelve	141.0	21.0	1.0		5.0		147.5	8.0
Subtotal	1773.0	41.0	2.0		23.0		1742.5	141.0
Trainable						2.0	2.0	
Neuro. Imp.		1.0	2.0				2.5	
Percep. Imp.	20.0	1.0					20.5	
Comm. Hand.	18.0						18.0	
Emot. Disturbed			3.0	3.0		3.0	7.5	
Mult. Hand.	9.0		2.0	1.0		3.0	14.5	
Autistic			1.0				1.0	
Preschool Hand. PT			5.0			2.0	7.0	
Preschool Hand. FT			2.0				2.0	
Subtotal	47.0	2.0	15.0	4.0		10.0	75.0	
Total	1820.0	43.0	17.0	4.0	23.0	10.0	1817.5	141.0
Half Day Kind, Pre H.D.	11.0		1995-1996 # Hrs Home Ins				532.0	
Full Day Kind, Pre H.D.	83.0		10-15-96 Home Inst Std				5.0	
Grades 6-8	41.0		10-15-96 Reg Day Sh St				3.0	
Grades 9-12	35.0		10-15-96 Resident Enr				1825.5	
Low Income Other	5.0		Train. Sch/Secure Care Fac				1.0	
Bilingual Students	3.0		Juvenile Detention Center				1.0	
10-15-96 Speech Ins	169.0							
		Total Resident Enrollment					1827.5	

So Gloucester Co Regional								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment	On Roll		Sent		Received	Private	Resident	Resource
Categories	Full	Shared	Full	Shared	Full	Schools	Students	Room
Seven	292.0						292.0	25.0
Eight	259.0						259.0	18.0
Nine	316.0	5.0					318.5	47.0
Ten	280.0	12.0					286.0	55.0
Eleven	212.0	40.0	1.0				233.0	44.0
Twelve	196.0	38.0					215.0	33.0
Subtotal	1555.0	95.0	1.0				1603.5	222.0
Educable						1.0	1.0	
Trainable			2.0	1.0		1.0	3.5	
Day Training Eligible			2.0				2.0	
Percep. Imp.	43.0				1.0		42.0	
Emot. Disturbed	14.0	2.0	3.0			16.5	34.5	
Mult. Hand.			1.0				1.0	
Subtotal	57.0	2.0	8.0	1.0	1.0	18.5	84.0	
Total	1612.0	97.0	9.0	1.0	1.0	18.5	1687.5	222.0
Grades 6-8	130.0		1995-1996 # Hrs Home Ins				3247.8	
Grades 9-12	158.5		10-15-96 Home Inst Std				8.0	
Low Income Other	13.0		10-15-96 Reg Day Sh St				7.0	
Bilingual Students	3.0		10-15-96 Resident Enr				1702.5	
10-15-96 Speech Ins	39.0		Train. Sch/Secure Care Fac.				2.0	
			Juvenile Detention Center				1.0	
		Total Resident Enrollment					1705.5	

Washington Twp							
New Jersey Department of Education/Office of Finance							
1997-1998 Application for State School Aid - Data Listing							
Enrollment Categories	On Roll		Sent	Received	Private	Resident	Resource
	Full	Shared	Full	Full	Schools	Students	Room
Half Day Kindergarten	596.0					596.0	12.0
One	748.0					748.0	21.0
Two	732.0			1.0		731.0	38.0
Three	771.0			1.0		770.0	50.0
Four	726.0			1.0		725.0	55.0
Five	738.0					738.0	52.0
Six	742.0			2.0		740.0	42.0
Seven	746.0					746.0	60.0
Eight	648.0			1.0		647.0	43.0
Nine	679.0	1.0				679.5	41.5
Ten	658.0	13.0				664.5	48.0
Eleven	602.0	63.0				633.5	38.5
Twelve	522.0	37.0	1.0			541.5	37.0
Subtotal	8908.0	114.0	1.0	6.0		8960.0	538.0
Trainable		1.0	4.0		10.0	14.5	
Day Training Eligible			4.0		2.0	6.0	
Neuro. Imp.	30.0	2.0			0.5	31.5	
Percep. Imp.	133.0			1.0		132.0	
Aud. Hand			4.0			4.0	
Comm. Hand.	29.0					29.0	
Emot. Disturbed	24.0	3.0	1.0	1.0	6.5	32.0	
Mult. Hand.	21.0	1.0	5.0		35.0	61.5	
Autistic			1.0			1.0	
Preschool Hand. PT	46.0					46.0	
Preschool Hand. FT			4.0		1.5	5.5	
Subtotal	283.0	7.0	23.0	2.0	55.5	363.0	
Total	9191.0	121.0	24.0	8.0	55.5	9323.0	538.0
Half Day Kind, Pre H.D.	21.0		1995-1996 # Hrs Home Ins			6408.5	
Full Day Kind, Pre H.D.	321.0		10-15-96 Home Inst Std			14.0	
Grades 6-8	85.0		10-15-96 Reg Day Sh St			4.0	
Grades 9-12	102.0		10-15-96 Resident Enr			9341.0	
Low Income Other	7.0		DHS Regional Day School			2.0	
Bilingual Students	33.0		Juvenile Community Program			1.0	
10-15-96 Speech Ins	959.0		Juvenile Detention Center			1.0	
		Total Resident Enrollment				9345.0	

West Deptford Twp								
New Jersey Department of Education/Office of Finance								
1997-1998 Application for State School Aid - Data Listing								
Enrollment Categories	On Roll		Sent		Received	Private	Resident	Resource
	Full	Shared	Full	Shared	Full	Schools	Students	Room
Half Day Kind.	202.0						202.0	
One	237.0						237.0	9.0
Two	239.0		1.0				240.0	13.0
Three	224.0						224.0	9.0
Four	214.0		1.0				215.0	18.0
Five	195.0						195.0	9.0
Six	231.0		1.0		1.0		231.0	15.0
Seven	226.0						226.0	14.0
Eight	184.0						184.0	15.0
Nine	244.0	1.0					244.5	38.0
Ten	230.0	7.0					233.5	36.0
Eleven	202.0	23.0					213.5	27.0
Twelve	222.0	16.0					230.0	37.0
Subtotal	2850.0	47.0	3.0		1.0		2875.5	240.0
Educable		1.0					0.5	
Trainable						2.0	2.0	
Day Training Eligible			1.0				1.0	
Neuro. Imp.	7.0	1.0			2.0	1.0	6.5	
Percep. Imp.	87.0						87.0	
Comm. Hand.	28.0						28.0	
Emot. Disturbed	13.0		7.0	1.0		4.0	24.5	
Multi. Hand.	8.0		2.0			12.0	22.0	
Autistic			1.0			2.0	3.0	
Preschool Hand.	29.0				4.0	1.0	26.0	
Preschool Hand. FT			1.0				1.0	
Subtotal	172.0	2.0	12.0	1.0	6.0	22.0	201.5	
Total	3022.0	49.0	15.0	1.0	7.0	22.0	3077.0	240.0
Half Day Kind, Pre H.D.			22.0		10-15-96 Home Inst Std			6.0
Full Day Kind, Pre H.D.			173.0		10-15-96 Resident Enr			3083.0
Grades 6-8			74.0		Juvenile Detention Center			2.0
Grades 9-12			63.0					
Low Income Other			2.0					
10-15-96 Speech Ins			307.0					
1995-1996 # Hrs Home Ins			2459.0					
		Total Resident Enrollment					3085.0	



Woodbury City							
New Jersey Department of Education/Office of Finance							
1997-1998 Application for State School Aid - Data Listing							
Enrollment Categories	On Roll		Sent	Received	Private	Resident	Resource
	Full	Shared	Full	Full	Schools	Students	Room
Half Day Kindergarten	149.0					149.0	
One	130.0		1.0			131.0	2.0
Two	105.0		1.0			106.0	2.0
Three	135.0			1.0		134.0	7.0
Four	127.0			1.0		126.0	12.0
Five	111.0			2.0		109.0	10.0
Six	121.0					121.0	11.0
Seven	154.0					154.0	19.0
Eight	97.0					97.0	14.0
Nine	136.0	11.0				141.5	25.0
Ten	92.0	6.0		1.0		94.0	14.0
Eleven	82.0	11.0	1.0			88.5	8.0
Twelve	92.0	16.0		2.0		98.0	9.0
Subtotal	1531.0	44.0	3.0	7.0		1549.0	133.0
Educable		2.0				1.0	
Trainable			2.0		6.0	8.0	
Percep. Imp.	98.0		1.0			99.0	
Emot. Disturbed	14.0				10.0	24.0	
Mult. Hand.			2.0		10.0	12.0	
Autistic					1.0	1.0	
Preschool Hand. PT			12.0			12.0	
Subtotal	112.0	2.0	17.0		27.0	157.0	
Total	1643.0	46.0	20.0	7.0	27.0	1706.0	133.0
Half Day Kind, Pre H.D.		18.0		10-15-96 Home Inst Std			3.0
Full Day Kind, Pre H.D.		270.0		10-15-96 Reg Day Sh St			3.0
Grades 6-8		144.0		10-15-96 Resident Enr			1712.0
Grades 9-12		82.5		Train. Sch/Secure Care Fac.			3.0
10-15-96 Speech Ins		60.0		Juvenile Community Program			1.0
1995-1996 # Hrs Home Ins		1293.0					
		Total Resident Enrollment				1716.0	