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Accessibility of Computers for Students with Mild Mental Retardation

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Running Head: ACCESSIBILITY OF COMPUTERS

Abstract

As computers move into America's public schools, their accessibility and use have come under scrutiny. Often individuals with mild mental retardation are considered last in decisions regarding the allocation of technological resources such as computers. The purpose of this research was to determine if children with mild mental retardation have access to computers, and if so, how computers are used by these children. Results indicate that in Virginia's county public school systems students with mild mental retardation have access to computers and use those computers primarily for academic purposes.

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Accessibility of Computers for Children with Mild Mental Retardation

In recent years computers have virtually become synonymous with education. Not only are today's children growing up with computers but almost every teacher has had some experience with computers. Most who have worked with computers on an educational level have found the experience both exhilarating and frustrating. The reason for this is a combination of lack of access to this technology and, when the technology is obtained, lack of skills necessary to make full use of the technology (Dyril & Kinnaman, 1994).

The role that technology will play is also in question. The debate continues over whether technology should be the main, but not the only, teaching tool or if it should be used merely to illustrate an occasional point. This debate has led to the outcry for national standards regarding the role that technology will play in education (Special Report, 1993). This outcry has led to another debate on whether or not they need national standards. National standards would set a curriculum that would be followed in all public school systems throughout the United States. This is the method used by most of thier foreign competitors in their education

systems. The idea is that if the same guidelines for the application of technology are in place in all schools then no one will be excluded.

The call for national standards, however, raises the question of the accessibility of computers for students in special education programs. Special education is one of the last areas that is beginning to benefit from classroom computer technology. Several administrative and financial barriers prohibit the use of technology in special education.

Often special education classes have the highest student to computer ratio in the schools. In Southern California, for example, 48.5% of the Special Education Departments do not own computers (Goldman, Semmel, Cosden, Gerber, & Semmel, 1987). This means that nearly 50% of the special education children have no access to computers. Of the 52.5% of those Special Education Departments that reported owning computers, many of the personnel working in the schools said that special education children do not have access to the computers the department owns. Furthermore, none of the computers reported were the IBM compatibles that are seen in many of today's workplaces, although 52% were Apple computers, another common brand. When asked to rate their training, the majority of those for whom training was available (37%) reported that they were not proficient with computers but that they were willing to learn and were interested in doing

so. The majority of special education personnel in districts where training was not available (59%) rated themselves in this category (Goldman, et. al 1987).

Another barrier concerning the acquisition of computer equipment is the failure of school systems to appoint special education personnel to acquisition committees. Eighty nine percent of Southern Californian school districts reported that a team was responsible for the acquisition of new equipment. Seventy-four percent of committees responsible for hardware acquisition, such as computers and monitors, reported that they included the special education coordinator. Fifty percent of these committees also included on site special educators. This indicates an interactive administrative style, as does the acquisition of software, where 64% of the districts reported that the special education coordinator was involved. The interaction between special and regular education officials is needed if software and hardware are to be acquired to assist the most challenged students (Goldman, et al., 1987).

Administrators often have trouble scheduling special education classes for computer lab times. Because of this the computer lab is one of the primary places where mainstreaming occurs. Administrators can to place special needs children in regular education computer classes and solve many

schedualing conflicts(Goldman, et. al, 1987). Although the concept of mainstreaming meets the approval of most special educators, this often leaves no time for specialized programs designed to improve the skills of children with mild disabilities, especially children with mild mental retardation. For example, in 56% of the school districts in Southern California a committee that included the Special Education Coordinator was charged with allocating computer equipment. Of the remaining districts, 50% allowed the Special Education Coordinator sole responsibility for computer allocation in special education. In the other 50%, however, the onsite coordinator was given this responsibility (Goldman, et. al, 1987).

Another important factor concerning interactive computer acquisition and allocation for special education is that of inclusion. Inclusion refers to the placement of individuals with disabilities in the regular classroom with regular education peers for the majority, if not all, of the school day. When children have motor skill difficulties that impair handwriting , they are often very challenging to a regular education teacher with thirty students. However, a computer keyboard can often allow these students to write legibly and more efficiently. Spell check, thesaurus, and grammar functions can quell the frustration many special students experience with writing. Dictionaries and notes necessary for class can be kept on a computer in the

classroom, while printed copies are taken home for study. Having a copy of these things in the classroom may eliminate the problem of lost notes or materials (Wall & Siegel, 1994).

With today's multimedia computers, a tool used by one special education child can benefit regular education children as well. With a computer equipped with CD ROM (Compact Disk-Read Only Memory) , for example, numerous interactive encyclopedias featuring moving pictures, films, and sound can be utilized by the whole class when notes are not being taken or when the special education child does not need the computer. Also, by adding a specialized overhead projector the teacher can put the computer screen on a film screen large enough for full classroom presentations. This type of innovative teaching could allow special education children and their equipment to be included in all classroom activities, which in turn, will make maximum use of expensive equipment as well as instill a sense of pride in the child who is the primary user of that equipment (Buckleitner, 1994).

Most special education programs, unfortunately, are not set up for full inclusion. Therefore, there is a struggle between regular and special educators in self-contained and resource classes over technology. One problem is that more often than not administrators have no set criteria for the use of CAI (Computer Assisted Instruction) or other software in relation to

special education. Many times special educators are only given a list of the software available and instructions on how to operate the software. Teachers are often discouraged, by multiple forms or other bureaucracy, from requesting the development of new instructional programs (Okolo, Rieth, & Bahr, 1989). This frustration can lead to a lack of interest in technology for teachers in special education which, in turn, hurts the school system. A school-wide policy of technology in every classroom is the only way to create a successful technology-using school system (Dyrli & Kinnaman, 1994). This means that until administrators, coordinators, principals, teachers of regular and special education, parents and students embrace fully the use of computers in the schools, the school system will never be able to use computers to their full extent to help every student achieve their maximum potential.

Computer Use in Special Education

Special educators have known for several years that computers are one of the best ways to work with children with disabilities. Originally they offered a fresh way of presenting drill and practice sessions. Now special educators are moving beyond drill and practice to new and more innovative ways of using computers such as CAI (Mokross & Russell, 1986).

Of a group of special educators responding to questionnaires about how computers are used in the classroom almost half stated that they had not used a computer in the last year for any instruction (Okolo, Reith, & Bahr, 1989). Of the other half who used their computers, 75% said that they had used the computers for math, language arts, and drivers education. Most special educators felt that the computer was best used as a supplement to instruction. These teachers stated that the computer could reinforce a lesson by representing aspects of the lesson in a more interesting context, often in the form of games.

When special education students were surveyed in regard to computer use, however, they reported a different viewpoint (Okolo, Reith, & Bahr, 1989). For example, they reported using the computer an average of about 3 days a week for about 25 minutes a day. Ninety-six percent of these students reported that they played games on the computer, and 88% of them had used the computer for mathematics. Only 50% of these students had used the computer for language arts, and as few as 17% used the computer for other classroom activities. Classroom observations revealed that the student's estimates of the amount of time spent on the computer were inflated.

Although these estimates were inaccurate and 8% of the students only used the computer for games, the fact remains that 96% of the special education children surveyed had at least minimal computing skills (Okolo, Rieth, & Bahr, 1989).

Special education was developed to help persons with disabilities adapt to an industrialized world where things changed more slowly than they do today(Cain, 1984). Technology has changed that industrialized society into today's fast paced technological world. Computers have become a standard in society; therefore, a wealth of studies have been performed regarding the usefulness of computers when working with students with mild disabilities, especially children with learning disabilities. Originally computers were used mainly for drill and practice sessions. Educational software has moved on to include an impressive array of programs that have adapted to today's technology (Schiffman, Tobin, & Buchanan, 1982).

Advantages of Microcomputers

The advantages of microcomputers are fairly well documented. Microcomputers can use the student's name to reinforce him/her but are impartial and do not rebuke a student for incorrectly answering a question. For many students this removes much of the stress of answering questions. Also the lesson is often one to one, which means that the student's mistakes

do not embarrass him in front of peers, a problem with group drill and practice. The computer does not pay attention to other students in the room. The computer does not care how quickly or how slowly a child works. Grading and reinforcement are instantaneous. The student can see the evaluation of his/her performance without having to wait for the teacher to grade papers. Most computer programs are set up with the discovery method of learning in mind, which has proven very effective with children with disabilities. Problem solving is one of the computer's strong points because learning to use a program is a study in problem solving. Finally, a computer's graphics and its ability to allow users to manipulate the learning environment makes it ideal for making boring lessons more interesting (Schiffman, Tobin, & Buchanan, 1982).

The oldest method of computer assisted instruction is simple drill and practice. The student performs a problem presented on the screen and receives a simple reward. Using this method Chiang (1986) conducted a study on multiplication skills. During this study he timed the child on the completion of multiplication tasks. Chaing (1986) found that, while timings of computer activities did not show an improvement in the students' multiplication skills, the students' worksheet timings improved. Phase 2 was between the initial worksheet timings and the improved worksheet timings.

Phase 2 consisted of computer assisted instruction. During this phase all of the students' performance levels dropped; however, all but one of the students scores gradually increased. Since no worksheet testing was done during this phase, the improvement in phase 3 can only be attributed to CAI (Chaing, 1986).

The microcomputer has also been successfully utilized in the special education classroom as a tool to encourage reading and written expression. Programs are on the market to do both of these simultaneously. An example of such a program is one which says the letters and words as the child types them. Programs of this type also may go back when a child has finished writing and read what the child has written (Rosegrant, 1985). Rosegrant (1985) listed four factors related to literacy learning and how CAI can be used to work toward these factors.

Rosegrant's first factor relates to how the microcomputer might be used to provide support for students with learning disabilities who experience difficulty with motor coordination or who require visual and audio stimuli. The most direct way that children with motor skill difficulties are affected is that they can use a keyboard to write. While these children work to improve handwriting at other times during the day, the keyboard allows the child considerable freedom to work during language and writing

activities. The second way that children are affected is through an attractive printout of their work they are proud to present to the teacher. The keyboard and screen provide a wealth of visual attack activities with no sense of repetition or practice. A speech synthesizer adds auditory stimuli that many of these children find necessary (Rosegrant, 1985).

The second factor that supported literacy learning is the low risk of errors and the ease in correcting errors on the microcomputer. Editing functions on the computer easily cover up mistakes and offer two major advantages. First the editing function can encourage special education children to try harder tasks because they can "fix" any problems easily and, secondly, students with disabilities are encouraged to write more. The children can proceed without worrying about completing the assignment correctly on the first try (Rosegrant, 1985).

Rosegrant's (1985) third factor is that computers allow a high degree of control over reading and writing assignments. Children with disabilities can look at alternate ways to complete an assignment. They can pick from a list of reading or writing activities with those activities edited to challenge a particular child. Children can have trouble words read to them as many times as necessary. The final aspect of this control is the printer. Children who were previously embarrassed by handwriting can not only present

typewritten work but can also choose from a variety of fonts to make their work more personalized and unique (Rosegrant, 1985).

The final factor Rosegrant (1985) presented supporting microcomputer use is the context in which it teaches writing and reading. Children write and then try to read what they have written. Children learn to read via meaningful intent (Rosegrant, 1985).

Mokros and Russell (1986) pointed out some of the pros and cons of using computers with special education students. Their study centered around learning-centered software, including word processing, which abandons drill and practice to use other computer functions such as data manipulation, system dynamics, and translation or transformation. This software offers choice of the goal of an activity along with the strategies to obtain that goal. The software encourages estimation and provides informational feedback (Mokros & Russell, 1986).

While Morkos and Russell (1986) noted that over half of the teachers in their study had used learning-centered software with their students, they also noted some problems with the use of this software. First, administrators often do not have detailed information about how learning-centered software is used in special education. Also they noted that learning-centered software was not always used to its full potential. Many teachers using learning-

centered software used it for reward or for drill and practice (Morkos & Russell, 1986).

Most teachers who have used learning-centered software are enthusiastic in doing so. Special education teachers report that they are glad to find new applications for computers in the classroom. Training for computer education, unfortunately, is a long term endeavor. Special education teachers must have more than a workshop to use learning-centered computers appropriately (Morkos & Russell).

Computer Use with Students with Mild Mental Retardation

The students least noted in the literature, but who may very well stand the most to gain from classroom computers, are those students classified as mildly mentally retarded. Certain programs are extremely effective with students with mild mental retardation. For example Icon and Miller (1989) studied the concept of teaching children with mental retardation communication skills on the computer. They concluded that the computer would continue to play a major role in the instruction of children with mental retardation. That prediction came from the success and failures they reported in their work with communication skills on these machines. They were quick to point out, however, that the computer must be used in conjunction with tested and well developed teaching techniques.

That statement is part of a debate that has raged since computers first entered the classroom. Baumgart and Walleghem (1987) found that with individuals with mental retardation the success of instruction depended on the student. Of the three moderately mentally retarded individuals who took part in their study, two excelled with CAI while one responded almost exclusively to the Teacher Taught Instruction (TTM). They noted that success could probably be improved through better motivational graphics like those on today's CD ROM.

Shriberg, Kwiatkowski, and Snyder (1989) found similar results with speech management for students with mental retardation. This study also stated that the students' success was based on individual learning style and the use of the technique that most closely fit that individual learning style. This study also stated that some children with mental retardation responded better to clinician eye contact while others responded better to the computer. While this study contributed some valid data, the authors were almost desperate to extol clinical methods. It must be noted that both of these studies were comparing computers that could be incorporated into the regular classroom to clinical techniques where the student to teacher ratio is far better than that found in the regular classroom (Shrilberg, Kwiatowski, & Snyder, 1989).

Stromer and Mackay (1992) conducted a study on spelling with computers for students with mild mental retardation and discovered that computers helped the students learn but could not be used as an effective tool for measuring ability level. For this type of consistent measurement, traditional paper tests are more effective. The advantage is that students who have different learning styles can work with the computers while other students in the class can work on something else or at a different pace.

This type of research firmly establishes the computer as an effective teaching tool for students with disabilities. The idea is that the computer used in conjunction with current teaching techniques can make teaching more effective and more engaging for students. Vacc (1987) bolsters support for this conclusion by stating that computers are effective teaching tools for students with mild mental retardation. She also notes that the computer is an excellent tool for improving students' ability to express themselves through the written word.

Special educators will not find many problems with incorporating computers into the classroom. Though teachers, as adults, are often intimidated by new technology, children embrace it readily. The reason for

this is quite simple. Adults are rarely put into situations where they must approach a completely new learning experience without any prior knowlege. Where as children are much more used to working in these situations (Dyrli & Kinniman, 1994).

Summary

The research revealed that students with disabilities, especially those with mild mental retadation, can benefit greatly from using computers in special education. The computer has the ability to work around disabilities to give these students an opportunity to experience aspects of education that were once out of their reach.

The purpose of this study was to examine the accessibility of computers for students with mild mental retardation. With the research backing the use of computers with children with mild mental retardation it is imperative that these students receive computer instruction that is at least equal to that of their regular education peers. This study examined the amount of time that students with mild mental retardation spend on computers individually as well as in group and classroom instruction. Also, this study examined the primary context in which computers are used.

Methods

Subjects

The subjects were teachers currently teaching students with mild mental retardation in 23 Virginia county public school systems. The teachers were randomly selected from all classrooms for students with mild mental retardation grades K-12 in the state of Virginia. The sample represented 25% of all Virginia county school systems.

Survey

The surveys contained questions about computer use in the classrooms. Each survey contained 13 questions and confidentiality of subjects was insured. One hundred and ninety surveys were sent to Virginia school systems randomly selected to examine the use of computers with students with mild mental retardation .

Procedures

The survey was sent to the district office in charge of research. After permission was obtained by that office the survey was sent to teachers in order to receive their perceptions on the accessibility of computers for their students.

All responses to surveys were on a voluntary basis and confidentiality was insured. The survey contained a cover letter that explained the purpose of the survey and outlined the measures taken to ensure confidentiality. After the teachers received their surveys, those who volunteered to do so completed the survey. After the surveys were completed, they were mailed directly back to the researcher using a self addressed stamped envelope included with the survey.

Data Analysis

Once the responding surveys were collected, the number of responses for each answer to each question was tallied. The standard deviation, mean, mode, and median was calculated for each response where appropriate. Finally the total number of responses to each question was converted into percentages of the sample population for comparison.

Results

Of the 190 surveys sent out to 23 county public school systems, 93 were returned. This represented 49% of the total surveys mailed. The 93 surveys were analyzed using responses for each of the 13 questions. When asked to describe their present teaching position, 47 (51%) responded that they taught at the Elementary level, 18 (19%) at the Middle School level, and 30 (32%) taught in High School (see Table 1). The 93 respondents represented a mean of 9 years in their current position with a range of .17-27 years. The mean total years teaching experience was 12.6 with a range of .17-29 years (see Table 2).

Of the 93 teachers responding all (100%) worked with children with mild mental retardation. Forty (43%) also worked with children with learning disabilities, 23 (25%) worked with children with severe emotional disturbances, and 37 (40%) reported that they worked with children with other disabilities (see Table 3).

Sixty-four (69%) of the respondents said that they worked in a self-contained classroom while 38 (41%) reported that they worked in a resource room. Only 5 (5%) reported working in another type of classroom setting (see Table 4).

When asked if their students used computers during the school week, 77 (83%) of the respondents said "yes", 16 (17%) said "no". Of the 77 who replied

yes, 52 (68%) had computers in their classrooms, 33 (43%) had access to a computer lab, 8 (10%) said that they had a computer in the library, 12 (16%) utilized a computer in another classroom and 1 (1%) shared a computer with another class.

Of the 77 respondents using computers, 2 (3%) said that the number of days on which computers were used varied. Twenty-nine (38%) utilized the computer 5 days a week, 1 (1%) did so 4 days a week, 17 (22%) 3 days a week, 11 (14%) twice a week, and 15 (19%) utilized their computers once a week. Four (1%) teachers did not respond to this question. According to the respondents, students spent a mean of 56 minutes a day at their computers. The standard deviation was 46 and the range was 15-240 minutes.

When asked about how their students used the computer, 61 (79%) of the respondents said that their students worked independently, and 27 (35%) said that their students worked in groups. Thirty-one (40%) used the computer for class activities, 23 (30%) used Computer Assisted Instruction (CIA), 60 (78%) used the computer for drill and practice, 56 (73%) used it as a reinforcer, and 10 (16%) utilized computers as word processors or for games.

Four (5%) of the respondents said their students used Commodore computers. Thirty-nine used Apple I Ie or I Ic computers and 15 (19%) reported having access to the Macintosh. Twenty-eight (36%) said that they used IBM compatibles and 17 (22%) used the Tandy line of computers. Only 2 (3%)

reported having used the Texas Instruments line and 10 (16%) reported using other types of computers.

When asked if they used the computer in presenting classroom material only 10 (11%) of the respondents said "yes". Eighty-three (89%) said "no". Also only 29 (38%) of the teachers said that they permitted their students to use the computer during classroom instruction, leaving 64 (83%) who did not utilize such methods.

Forty-seven (51%) of the respondents taught at the elementary school level. The mean of years in their current position was 8 years with a range of .17-21 years. These respondents had been in the teaching profession for a mean of 11 years with a range of .17-27. Forty-seven (100%) taught individuals with mild mental retardation, 19 (40%) taught individuals with learning disabilities, 7 (15%) taught students with severe emotional disturbances, 13 (28%) taught students with other disabilities. Thirty-five (74%) teachers said they worked in a self-contained setting while 14 (30%) worked in a resource setting.

When asked if their students used computers during the week, 44 (94%) responded "yes" while 3 (6%) responded "no". Of the 44 responding yes, 27 (61%) reported having a computer in the classroom, 15 (34%) had access to a computer lab, 1 (2%) used a computer in the library, 6 (14%) used computers in other classrooms, and 1 (2%) shared a computer with another class. Nine teachers (21%) said that they used the computer one day a week, 4 (9%) used it

two days a week, 6 (14%) three days a week, 1 (2%) four days a week, and 23 (49%) said they used the computer five days a week. Teachers reported that 37 (86%) of their students worked independently on the computer while 13 (30%) reported doing group work. Twelve teachers (28%) utilized CAI, 38 (88%) said their students used their computers for drill and practice, 33 (77%) used computers as a reinforcer, and 6 (14%) had other uses.

Eighteen (19%) of the respondents taught at the Middle school level. Their present job experience had a range of .22-27 years with a mean of 11.6 years. Total experience had a range of 1-29 years with a mean of 13. Eighteen (100%) of the respondents worked with students with mild mental retardation, 5 (27%) worked with students with learning disabilities, 4 (22%) worked with students with severe emotional disturbances and 3 (17%) worked with students with other disabilities. Fourteen (78%) reported they worked in a self-contained environment while 4 (22%) worked in resource and 1 (6%) worked in another setting.

When asked if their students utilized computer during the school week 14 (78%) said "yes" and 4 (22%) said "no". Of the 14 responding yes 5 (33%) reported having a computer in their classroom, 4 (27%) had access to a computer lab, 5 (33%) used a computer in the library, and 2 (13%) used a computer in another classroom. One (7%) said that the number of days they used the computer varied. Five (33%) used the computer one day a week, 3 (20%) used it two days a week, 3 (20%) used it three days a week and 1 (7%) used a computer

five days a week. Seven respondents (50%) said their students worked independently, 2 (14%) had group activities, 5 (36%) used them for class activities, 4 (29%) for CAI, 9 (64%) for drill and practice and 5 (36%) as a reinforcer.

On the high school level there were 30 respondents who had a mean of 9 years at their current teaching position with a range of 1-25 years. In total experience, the respondents had a mean of 14 years with a standard deviation of 6.21 and a range of 6-29 years. Thirty (100%) reported working with individuals with mild mental retardation, 12 (40%) worked with individuals with learning disabilities, 10 (33%) worked with individuals with severe emotional disturbances, 5 (17%) worked with individuals with moderate mental retardation, and 1 (3%) worked with a multi handicapped individual. Sixteen (53%) respondents worked in a self-contained setting, 15 (50%) in a resource setting and 4 (13%) in other settings.

Eighteen (60%) of the respondents reported having access to computers, and 12 (40%) reported no access. Of the 18 who said "yes", 14 (77%) had computers in the classroom, 9 (50%) had access to a computer lab, and 3 (16%) used computers in another classroom. Two (11%) said they worked on the computer one day a week, 4 (22%) worked on computers two days, 5(28%) used computers three days and 7 (39%) worked on them five days a week. Sixteen (89%) reported that their students worked independently, 11 (61%) in a group,

13 (72%) reported using computers for class activities, 6 (33%) for CAI, 13 (72%) for drill and practice, 13 (72%) as a reinforcer, and 5 (28%) reported other uses.

Discussion

Computers are apparently being put to use in today's schools. However, there may not be an even distribution for computer use across all grade levels. While 97% of the elementary teachers responding had access to computers for their students, only 60% of high school teachers had the same opportunity for their students. One would hope the high schools would catch up before current elementary students reach that grade level. Most of the teachers who had computers used them for academic purposes rather than just for games.

Though this survey did not explore integration during computer time, elementary and middle school students in special education programs are more likely to be self-contained than their high school counterparts. This may be one explanation for why fewer high school teachers have computers, they have fewer students in their classroom all day. One problem with this survey, however, is that the number of teachers whose students may use computers in a mainstreamed classroom was not addressed. Also integration of students with varied disabilities into the same class was much more consistent at the high school level.

The number of elementary school teachers responding was higher than that of middle or high school, almost equal to the latter two combined. However, in many county systems there are several elementary schools that feed

into a smaller number of middle and high schools, so this result does not appear to be unusual.

Interestingly, teachers across the different grade levels averaged about the same experience in both current position and total years teaching. This helps eliminate lack of experience or bias towards older methods of instruction. This study, however, did not measure a teacher's participation in workshops or additional coursework taken since graduation, nor did it measure the highest degree obtained, years of education, age, or any number of social or economic factors that may have affected the teachers' views on how to implement computer use. Another valid point that this survey failed to touch upon was whether or not the school system required the teacher to use computers. Until all of these issues are thoroughly examined, a true picture of the extent to which special education teachers use computers cannot be outlined.

As mentioned earlier, these surveys were sent to county public school systems only. The majority of responding counties were rural systems. The problem this presents is that small rural systems often have a limited budget. Therefore, the number and types of computers used in these systems may be very different from that to which a system like Virginia Beach or Fairfax County might have access.

This study, however, does conclude that individuals with mild mental retardation are being allowed access to computers and that the activities they participate in while working on those computers are largely academic. Also with a spectrum of respondents who ranged from 6 weeks to 29 years of teaching experience, the conclusion can be drawn that many special education teachers at many levels are becoming active in computer use for students with mild mental retardation.

Further research in this area is needed. For example, how will individuals with mild mental retardation who have worked on computers throughout school compare to those who did not? These are the questions which will be addressed as special education moves into the 21st century.

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Appendices

Appendix A

Letter to Special Education Supervisor

Dear Sir or Madam,

My name is Christopher Stapleton and I am a graduate student in the Special Education program at Longwood College. I am currently working on my thesis and would like to request your assistance.

My thesis topic is the accessibility of computers for students with mild mental retardation. In order to complete my research I need Special Education teachers in the state of Virginia to complete a survey which contains some basic questions about the amount of time their students with mild mental retardation get to spend working with computers. I have enclosed a copy of the survey for you.

Can you please assist me by allowing your teachers who work with students with mild mental retardation to fill out this survey. There is a self-addressed, stamped envelope enclosed for your response. Thank you for your assistance.

Sincerely

Christopher P. Stapleton

(Check one)

___ Yes I will help with your survey.

___ No, I cannot assist you at this time.

___ Number of surveys needed.

Appendix B

Letter to the Superintendent

Dear Sir or Madam,

My name is Christopher Stapleton and I am a Graduate student in the Special Education program at Longwood College. I am currently working on my Masters thesis and would like to request your assistance.

My thesis topic is the accessibility of computers for students with mild mental retardation. In order to complete my research I need teachers of students with mild mental retardation to complete a simple survey on the amount of time their students spend working with computers. I have enclosed a copy of the survey for your information.

I would very much appreciate your assistance. Could you please allow your Special Education supervisor to disseminate these surveys to teachers who work with students with mild mental retardation. It is very important to have these surveys returned in the self-addressed stamped envelope by Oct. 20, 1994.

Thank you so much for your assistance in allowing me access to this information.

Sincerely,

Christopher P. Stapleton

Appendix C

Cover Letter to Teachers

Dear Teacher:

My name is Christopher Stapleton and I am a student in the Special Education Masters program at Longwood College. I am currently conducting my thesis and would like to request your assistance.

The following is a survey to assess the amount of time your students with mild mental retardation spend using computers. Please complete the survey and return it as soon as possible in the self-addressed stamped envelope.

Thank you so much for allowing me access to this information. Please rest assured that the confidentiality of you and your students is guaranteed.

Sincerely,

Christopher P. Stapleton

Appendix D

Survey of the Accessibility of Computers for Students with Mild Mental Retardation

1. What grade level do you teach?

_____

2. How long have you worked for your present system?

_____years.

3. How long have you been teaching?

_____years.

4. What type of disabilities do the children you teach have?
   (Circle all that apply)

A. Mild mental retardation.
B. Learning disabled.
C. Severely emotionally disturbed.
D. Other_____
   (Please specify)

5. Which best describes your current teaching assignment?
   (Circle all that apply)

A. Self contained.
B. Resource.
C. Other_____
   (Please specify)

6. Do your students work on computers during the school week?
   (If no, go to question 12)

A. Yes.
B. No.

7. Where are the computers your students use?

A. In your classroom.
B. In a computer lab.
C. In the library.
D. In another classroom.
E. Other_____
(Please specify)

8. How many days a week do your students use the computer?

_____

9. How much time per day (estimate) do your students use computers?

_____

10. What are the primary uses for the computer in your classroom? (Circle all that apply)

Children will use the computer:

A. Independently.
B. As a group.
C. For class activities.
D. For CAI (Computer Assisted Instruction).
E. For drill and practice.
F. As a reinforcer.
G. Other_____
(Please specify)

11. What type of computers do your children use?
(Circle all that apply)

A. Commodor
B. Apple II e, II c.
C. Macintosh.
D. Texas Instruments.
E. Tandy.
F. IBM Compatible.
G. Other_____

12. Do you use a computer in presenting materials during classroom instruction? (If yes please explain)

A. Yes.
B. No.

_____
_____

13. Do you allow the students to use the computer during classroom instruction? (If yes please explain)

A. Yes.
B. No.

_____
_____

Tables

Table 1

Teacher's Years Experience in Current Assignment

Total	Elementary	Middle	High
N=93	n=47	n=18	n=30
Mean=9yrs	Mean=8yrs	Mean=11.6yrs	Mean=9yrs
S=6.78	S=6.18	S=8.57	S=6.33
Range=.17-27	Range=.17-27	Range=.22-27	Range=1-25

Table 2

Total Years Teaching Experience

Total	Elementary	Middle	High
N=93	n=47	n=18	n=30
Mean=12.6yrs	Mean=11yrs	Mean=11.6yrs	Mean=14yrs
S=7.06	S=6.89	S=8.57	S=6.21
Range=.17-29	Range=.17-27	Range=.22-27	Range=6-29

Table 3

Student Disabilities

N=93

Disability	n	Percent
Mild Mental Retardation	93	100%
Learning Disabilities	40	43%
Severe Emotional Distubance	23	25%
Other	37	40%
Other Health Impaired	9	10%
Moderate Mental Retardation	8	9%
Multiply Handicapped	3	3%
Attention Deficit Disorder	3	3%
Hearing Impaired	2	2%
Visually Impaired	1	1%
Cerebral Palsey	1	1%
Autistic	1	1%

Table 4

Student Placement

N=93

Classroom Format	n	Percent
Self-contained	64	69%
Resource	38	41%
Other	5	5%
Mainstreamed	3	3%
Vocational	1	1%
Collaborative	1	1%

Table 5

Time in Minutes Spent on Computers

Total	Elementary	Middle	High
N=77	n=43	n=12	n=17
Mean=46min	Mean=43min	Mean=59min	Mean=69min
S=46	S=29	S=55.4	S=41
Range=15-180	Range15-150	Range=15-180	Range=30-180