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ABSTRACT

This report discusses the outcomes of an action research project designed to assess the effectiveness of the involvement of parents of students with mental retardation in an intervention to help students retain academic, social, and daily living skills. The targeted population consisted of six elementary students of a large, Midwestern, mainly middle-class community. The problems of skill retention were noted through teacher/parent conferences, surveys, and testing. The results of the intervention found increasing repetition of learned skills at school without parent involvement did not improve students' retention; however, increasing repetition of learned skills at school along with parental involvement did improve students' retention. To expand parent involvement, phone calls were found to be more effective than sending notes because notes became lost, directions misunderstood, and parents had no immediate way to ask questions. Keeping in contact with the families on a regular basis also appeared to improve schoolwork along with behavior. Appendices include assessment materials. (Contains 14 references.) (CR)

IMPROVING RETENTION WITH THE MENTALLY DISABLED

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An Action Research Project Submitted to the Graduate Faculty of the School of Education in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Teaching and Leadership

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ABSTRACT

This report includes the intervention of parental involvement with mentally disabled students to improve retention of learned skills. The targeted population consists of elementary age students of a large Midwestern, mainly middle-class community. The problems of skill retention were noted through teacher/parent conferences, surveys and testing.

Probable causes of poor retention of skills are neurological damage and a lack of repetition when teaching. Reviews of literature show that a common characteristic of the mentally disabled is having problems with memory.

When reviewing solutions from literature and while speaking with other professionals, one major intervention surfaced: parental involvement. Parental involvement includes family member reviewing, as well as practicing, learned skills at home to increase retention. Repetition is considered a major factor for improving retention with the mentally disabled according to the literature.

The results of the data that was gathered were not surprising. Increasing repetition of learned skills alone at school did not improve students' retention. Increasing repetition of learned skills along with parental involvement did improve students' retention.

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CHAPTER ONE

Problem Statement and Context

General Statement of Problem

The elementary students in a district's special education setting have exhibited difficulty in retaining academic, social and daily living skills. Evidence of this problem includes teacher observations, report cards, teacher/parent conferences and anecdotal notes.

The students in this district's special education setting are educable mentally handicapped (EMH). EMH means the students' intellectual functioning is significantly below average existing along with deficits in social/adaptive (life skills) behavior (Hutt & Gibby, 1976).

Immediate Problem Context

The targeted students in this study are drawn from schools throughout the district. The elementary school district has a total enrollment of 15,828 students in kindergarten through sixth grade. The student population has a variety of racial/ethnic groups. The enrollment reports of September 30, 1996, state 74.4 % of students were White, 6.5 % were Black, 6.4 % were Mexican-American, 12.6 % were Asian/Pacific Islander and 0.1 % were Native American. The percent of students enrolled in EMH special education programs district wide, with active IEPs, is .13 %. Students enrolled in gifted programs accounts for .12 % of the population. The district's bilingual program serves students from 26 languages. Also, 4.1 % of the population is classified as limited English

proficient. Student mobility is at 10.2 %; enrollment of students in the district's free lunch program is approximately .09 %. Student attendance is at 96.1 % and the number of chronic truants district- wide is eight according to the enrollment report of September 1996-97.

Within the district, a school's staff may consist of eleven classroom teachers, two to four self-contained classroom special education teachers, two resource teachers, seven teaching assistants, one social worker, one nurse, a speech therapist, a psychologist and two administrators. The teacher to pupil ratio is 19.8 to 1, while the pupil to administrator ration is 268.7 to 1. The average class size is 24.3 students. The September 30 enrollment report of 1996 states the racial/ethnic backgrounds of the district's teachers are 97.3 % White, 0.7 % Black, 0.8 % Mexican-American, 1.0 % Asian/Pacific Islander and 0.1 % Native American. The total number of teachers is 975. Males make up 14 % of the teachers while 86 % are females. Teachers with a Bachelor's degree account for 42.4 % of the staff and the remaining 57.6 % of teachers hold a Master's degree or above. Classroom teachers have an average of 17.6 years of experience. The average teaching salary is $52,320 and the average administrator's salary is $ 78,179, as identified in September 30 enrollment report of 1996.

The schools are located in middle class suburbs, just northwest of a large midwestern city. A typical building has 11 classrooms, two special purpose rooms, one art room, a music room and a tiled gym. Also, there are office areas throughout the

building along with one-media/resource center and computer labs. Some sections of the schools are spilt levels and may contain elevators. The grounds have two black top areas along with two sanded areas for playground equipment.

There are a variety of programs offered to the students. The academic programs are language arts, reading, math, science/health, social studies, Drug Awareness Resistance Education (D.A.R.E.), Title 1 Reading, bilingual programs, music, physical education art and computers. Programs for the gifted are completely self-contained, while other special education classrooms mainstream into regular education. The special education classroom settings are broken into these categories: Learning Disabilities (LD), Behavioral Disorders (BD), LD/BD Resources, Mild/Moderate Mentally Impaired (MMI/EMH), Severe/Profound mentally Impaired (SMI/Trainable students) and Multi-Needs (MN/Autistic). When student populations are low, cross-categorical classrooms are common. They could be LD/BD and MMI/SMI mixtures.

The extra curricular activities are quite limited. They include chess clubs, C.A.R.E., band and yearbook clubs. Special trips are offered for the fifth graders every fall and trips for the six graders are held in the spring. The district also offers many services to students for speech/language therapy, social work, occupational therapy, physical therapy, psychological testing and evaluations and special education classrooms.

At the district level there are six administrators: a superintendent and five assistant superintendents. There are seven elected positions on the Board of Education.

According to the enrollment report of September 30, 1996-97, the operating expenditure per pupil, per year, is $7,151. The total expenditures for the district is broken down into six sections: 65.1 % for education, 7.1 % operations/maintenance, 6.5% for transportation, 7.0 % for bond/interest, 1.9 % for municipal retirement/social security and 12.5 % for fire prevention and safety.

The Surrounding Community

The school district is mainly located in a northwest suburb of a large midwestern city. According to the town's Village Profile of 1997-98,the suburb's area is 19.13 square miles and has a population of 73,745. Portions of seven neighboring towns feed into the school district. Communities A, C, D, F, G have a majority White population, while communities B and E have a high ratio of Mexican-American to White population.

According to the town's Village Profile of 1997-98, 38.03 % of the land is used for single family residences, 17.28 % is multi-family residential, low-income family housing account for 4.1 % of the population. Twelve point four percent of the land is Industrial, 9.42 % is public/quasi public, 7.85 % is commercial, 6.28 % is office and 5.24% of the land is agricultural/vacant.

Regional and National Context of Problem

The retention time of learned skills for students with mental disabilities, subaverage intelligence, is quite short. A common characteristic among the mentally disabled is a poor memory, mainly short- term memory (Hutt & Gibby, 1976). The

students achieve the most when repetition and an extended school year are offered (Mann, 1988). In three months, a mentally disabled student will have regressed on numerous skills already mastered or even recently learned skills (Mann, 1988). These students need more than six hours of school nine months out of the year.

Newly learned or mastered skills do not solely refer to math, reading and writing. Other mastered skills could include social and daily living skills. Since EMH students' needs are so much greater, numerous other services are provided throughout the year (Mann, 1988). All the students have social skills training and community-based services to enhance their daily living skills. Some students attend speech/language therapy, occupational and physical therapy through their school districts or hospitals.

Regression of any skill becomes a problem for this student population (Burgess & Streissguth, 1992). The regression problem caused by students attending school nine months out of a year have basically been solved. Bridging May to September with summer school programs has helped reduce the problem (Mann, 1988). Now, what about during the school year? Is there anything that can be done at home to help insure the retention of mastered and newly learned skills? Is six hours at school enough time? Should family time remain strictly family time? Some of the questions are answered in the literature.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

The elementary students in a district's special education setting have exhibited difficulty in retaining academic, social and daily living skills. Evidence of this problem includes teacher observations, report cards, teacher/parent conferences and anecdotal notes.

The students in this district's special education setting are educable mentally handicapped (EMH). EMH means the student's intellectual functioning is significantly below average existing along with deficits in social/adaptive (life skills) behavior (Hutt & Gibby, 1976).

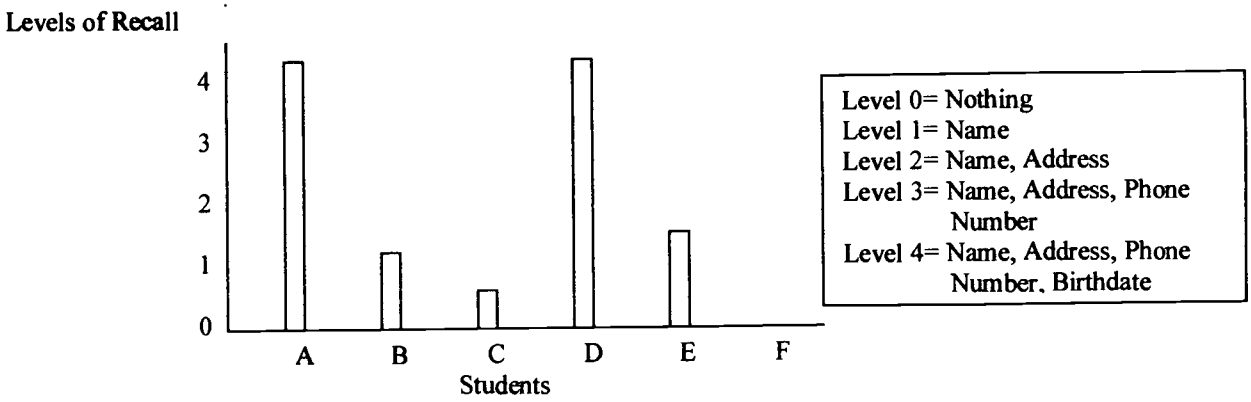
In order to obtain base-line data, the teacher decided to review a skill that all the students have been taught in the primary grades and over summer school and to take some base line data on their abilities of retention. The skill was for each student to write/recite/communicate his name, address (including town, state and zip code), telephone number and birthday.

The teacher started by giving each of the six children a copy of the information he needed to recall and had each child write twice and recite it to a teacher until the student could say the information without peeking at his/her card. Then two hours later the students were asked to write/recite their names, full addresses, phone numbers and birthdates. (See Figure 1) The results were as follows: students A and D (grades 6th and 4th) were able to retain the information with minor spelling errors of their towns. Student B could only recall his/her name. Student C could only recall part of his/her name and

student E was able to recite his/her name and street. Student F was unable to write and speak so an attempt was made to see if he/she could identify the correct information, but the student was unable to do the task.

Figure 1

Base-line Data of Retention



In conclusion, this task demonstrated the majority of students needed much more time to practice before this skill would ever be mastered. Only two of the students with higher cognitive functioning skills were able to recall the information after having the task taught prior to the intermediate grades and during summer school.

Next a survey went to the six families and to five teachers of the mentally disabled asking basically three questions: 1. Does your child/student have trouble remembering learned skills? 2. Do you think the more a child/student practices a skill the longer he will retain it? 3. Do you believe your child/student would retain more information/skills if the learned skills were practiced at home? The possible responses for the survey were never, occasionally, maybe and frequently.

The teachers' responses varied from the parents. All the teachers believed that students frequently have trouble retaining skills, especially if the learning environments change (transferring problems). The teachers also felt the more repetition a student receives, the better the skill is retained. All of the five teachers believed that home involvement, parents practicing with their child, would improve all levels of the students' functioning. According to the one survey the parents filled out, all the parents responded that their child occasionally had problems retaining information. Parents also agreed that increased repetition would enable the children to retain more skills. Three out of six families held the belief home involvement would improve retention of skills. The other three families felt practicing at home besides school would not help or hurt. In every case though, the parents did note if they knew the skills being taught at school they would be more likely to practice the skills with their child.

In summary, for question one, "Does your child/student forget easily?" one hundred percent of the teachers agreed the students forget easily, while 100% of the parents felt their child forgot on occasion. For question two, "Do you think the more a child/student practices a skill the longer he will retain it?" one hundred percent of teachers and parents agreed the higher the frequency of practice, the more the student/child retains. Lastly for question three, "Do you believe your child/student would retain more information/skills if the learned skills were practiced at home?" three out of the six families agreed with all five of the teachers and stated "frequently" to home practice/involvement, while the remaining three families (50%) stated maybe home involvement would improve retention (See Figure 2).

Figure 2

Survey Results

	Frequently	Maybe	Occasionally	Never	
1. T =	100%	0	0	0	T = Teacher
P =	0	0	100%	0	P = Parents
2. T =	100%	0	0	0	
P =	100%	0	0	0	
3. T =	100%	0	0	0	
P =	50%	50%	0	0	

Questions
1. Does your child/student have trouble remembering skills?
2. Do you think the more a child/student practices a skill the longer he will retain it?
3. Do you believe your child/student would retain more information/skills if the learned skills were practiced at home?

Causes (Local)

This special education classroom contains six students, one teacher and two teaching assistants. The grades of the students are fourth, fifth and sixth. The classroom is labeled MI standing for the mentally impaired. Within the intermediate grade level classroom of pupils only two of the six have been diagnosed with an actual genetic syndrome. The other students have been labeled developmentally disabled which leads the teacher to believe their causes of neurological damage may be chemogenetic, environmental or undiagnosed at the present time. Student A exhibits a syndrome called DiGeorge Syndrome and some characteristics are sensitivity to sunlight, sparse amount of hair, small mouth, heart problems, and attention disorders and speech problems. This student functions quite high in some of the academic areas. Student B exhibits a syndrome called Angelmen Syndrome. These children are referred to as angels because

speech, have a balance disorder (stiffness, jerkiness and unsteady gait), suffer from seizures and may have a small head with a flattened back part of the skull. The children can drool excessively, may have hypopigmented skin (light colored hair and eyes) and they also suffer from severe gross/fine motor skills functioning and fall into the severe/profound cognitive functioning level.

As for the other students, two of the four children have a "normal" appearance. Feature size and shape are appropriate along with good gross/fine motor skills. Another student's appearance leads one to suspect mental impairment, but no cause has been given yet. Even the finest doctors can be stumped on causes when they are unusual. The student's gross/fine motor skills are impaired along with other unusual characteristics such as shaking and eye crossing. The sixth student has some fetal alcohol syndrome characteristics, so it is possible that the category of fetal alcohol effect (FAE) applies here. The student's eyes are widespread and exhibits some fine motor skill problems, limited attention difficulties, and speech problems (appears to have a large tongue). These students function around the ages of three to six. Overall, the cognitive levels of the classroom range from 17 months to eight years.

Causes (Literature)

Possible causes for poor retention of the mentally disabled include neurological damage as well as lack of repetition of newly learned skills. Mentally disabled students have neurological damage that requires new skills to be taught in an adapted manner. Adaptations could include the level at which the student is taught, the length and duration a skill is taught and the number of review lessons needed to insure sufficient learning and long-term retention in order to meet the individuals' needs. Mentally disabled students

have poor attention spans, which would factor into the adaptations needed for each student (Matson & Mulick, 1983).

Neurology is the study of the nervous system of which the brain is part, so neurological damage would pertain to damage of the brain. Neurological damage interferes with retention of knowledge because the brain is unable to function at a normal level. At the normal functioning level, the brain is able to stay focused to retain the skills being taught as well as recalling the skills at a later date (Hutt & Gibby, 1976). The mentally disabled individuals' brain is unable to stay focused for long periods of time, therefore interfering with the individuals' ability to retain and recall skills (Hutt & Gibby, 1976).

The first example of neurological damage is genetic disorders. Genetic disorders are inherited from the genes of male or female sperm/egg. Doctors believe that 50% of all mentally disabled cases are genetically based (Matson & Mulick, 1983). One type discovered was the single-gene disorder, which is passed on either by dominance, recessiveness, or X-chromosome linked (Matson & Mulick, 1983). Another type is multifactorial, which means a combination of several genes interacting with environmental factors (Matson & Mulick, 1983).

A common example of a genetic disorder is Down's Syndrome. Down's Syndrome children have one extra chromosome from the egg/sperm numbering 47 genes, instead of 46. Many times facial and bodily deformations occur with such syndromes. In the case of the Down's child he/she will have slanted eyes, a large flat tongue, wide nose, short stubby fingers, poor muscle tone, tendency for weight gain, shortness in height along with numerous speech problems due to the size of the tongue.

The next example of neurological damage is called chemogentic involvement. This means chemicals are interfering with the genes and causing damage (Hutt & Gibby, 1976). We hear many cases of these on the news about drug and/or alcohol abusive parents. Drugs used may be legal or illegal; the amount of alcohol involved has not been determined yet, but either can be damaging to an unborn fetus (Hutt & Gibby, 1976). Also, a lack of oxygen to the fetus and x-rays (radiation) is known to be very dangerous too (Hutt & Gibby, 1976).

Researchers have known for many years the effects of drugs and alcohol have on the developing fetus, but now they have added on the list fetal alcohol effects (FAE) which basically means the mother drank during the pregnancy, but not enough to fall under the category of fetal alcohol syndrome (FAS) (Burgess & Streissguth, 1992). In case of the FAS children the characteristics are shortness of height, low body weight, widespread eyes, low lying ears, smallness in head size and behavioral problems such as hyperactivity, attention deficits and motor skills problems.

The final example of neurological damage is based on the environment. When there is an inadequate amount of nutrition and medical attention, before or after the child's birth, neurological damage can be done (Hutt & Gibby, 1976). A child with little to no verbal and motor stimulation is another situation, which is a form of cultural deprivation (Hutt & Gibby, 1976). This category could be eliminated with proper parental education.

Some cultures do not believe an expectant mother should receive medical care while pregnant or during the birth. They rely solely on other females for guidance. It is possible for numerous things to go wrong during the nine months, but there is more

potential for brain damage during the birth. At any point a lack of oxygen for any reason (cord wrapped around baby's neck, length of stay in the birth canal, etc...) could have devastating life-long effects.

Many people find it hard to believe that a perfectly healthy infant at birth can develop neurological damage when there is a lack of verbal and motor stimulation. Just think back to all the news reports about the orphanages in Romania. In this culture, row after row of cribs was crowded together. The only human contact the infants had was during feedings and diaper changes. In this environment mental disabilities were being bred. If any of these infants enter childhood without a change in their upbringing, the damage is done. The brain can not produce neurons without stimulation and experiences. But if the infants and toddlers who have been adopted and receive loving care from a person who talks to them, encourages movement, experiences and provides comfort, the damage can be reversed and mental growth can be nurtured back to a healthier state. Mentally disabled students have a limited attention span, therefore, increased repetition of even basic skills is needed in order to retain and recall them (Mann, 1988). Many times the mastered skills can be lost if repetitions of them are not consistent over a period of time (Mann, 1988). For example, if a student learns to tie his shoes on Sunday, but does not practice, by Tuesday he will need instructions all over again.

Math skills are a perfect example of the importance of retention. Each year the teacher reteaches the skills from the year before and then teaches more difficult skills later. This cycle repeats itself through every grade level, which demonstrates that more repetition helps students retain knowledge (Hutt & Gibby, 1976).

In conclusion of causes for poor retention of the mentally disabled are primarily due to neurological damage and the lack of repetition when learning new skills. With this knowledge, schools and even parents can be better prepared to meet the retention needs of their students to increase their quality of life. This shatters the misgivings of many parents who believed the schools handle the academic part of learning, while life skills are taught in the home (Mann, 1988).

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

There are few sources available to professionals and parents relating to improvement of retention for the mentally impaired. From the sources found five strategies were given to use within the school system and two to use in the students' home.

Starting at school, dealing with poor retention skills of the mentally disabled, repetition of learned skills is one avenue to use. This means repeating the same lesson over and over throughout the week, month and/or year. Another method of increasing retention is to use the active rehearsal strategy (Hutt & Gibby, 1976). The active rehearsal basically means to practice a taught skill over and over too. The student must have an active role in his/her rehearsal, not just saying it, but actually doing the skill (Hutt & Gibby, 1976). Increasing the variety of senses the teaching method will stimulate, the greater the probability the student has of retaining the skill (Magnesen, 1983). For example, when teaching money skills the student should be handling money, not just filling out a worksheet.

Along with the active rehearsal strategy, there is a third method used to improve retention. It is called the principle of redundancy (Hutt & Gibby, 1976). This implies that teaching a skill in a redundant manner will facilitate retention and learning (Hutt & Gibby, 1976). In other words, if a teacher spends ten days teaching/reviewing the steps involved with shoe tying, the mentally impaired student has a better chance of retaining

and recalling the information than the other student who was exposed to only five days of the same skill. The principle of redundancy is most often used in math for regular education students. The longer a skill is practice (redundancy), the greater chances of achieving mastery (House, 1970).

Besides repeating different skills for retention it is important to remember the fourth strategy, imitation and modeling. Imitation and modeling means being able to watch the appropriate behavior/skill demonstrated and then practice for themselves. Children have learned numerous skills through this strategy (Hutt & Gibby, 1976). Even before repetition begins, when the teacher models the behavior/skill being taught, this increases the probability that the mentally disabled student will imitate the skill (Hutt & Gibby, 1976). Paired with the active rehearsal strategy or with the principle of redundancy the students have a better chance of retaining the learned skill.

Currently the imitation/modeling and active rehearsal strategies are being used with this population to improve their community skills. It is called Community Based Trips. First, the teacher plans a trip to an establishment like Burger King or Wal-Mart. The instructor spends a week or two preparing the students for the trip. This includes lessons on money identification and value, proper vocabulary to be used at the establishment and basic social skills too – this is the active rehearsal part. The teachers take the students to the establishment (Burger King) and actually order what they would like to eat, locate and count the appropriate amount of money needed and use the social skills taught in order to fit within the community (waiting for your turn, walking at an appropriate pace, eating with manners, etc...) – this is the imitation and modeling part. It

takes much planning for these trips, but the transfer and retention of skills makes it worthwhile.

Lastly, teachers may use verbal cues in order to prompt students to recall the correct responses (Evans, Weed, Brown & Weld, 1988). Think back to your own school experiences when asked a question, which you did not know the answer, the teacher normally gave you a clue or cue that prompted you to remember the correct response. Regular education classrooms use external cues as reminders to recall information on a daily basis (Meacham & Colombo, 1980). Another kind of cue given to regular education students is pictorial. This means pictures being used as cues can help improve memory by using imagery (Goldstom & Richman, 1985). Well, the same principles are applied with the mentally impaired. If a student appears not to know how to respond to a teacher's direction, then a verbal, physical, or pictorial cue is used to help the student recall the information (Evans et al., 1988). When verbal and pictorial cues are used together, with regular education students, more long-term retention resulted (Kee & Beuhring, 1978). Using pictorial along with verbal cues would also benefit the mentally impaired because so many children have language difficulties. Thus, pairing of the two cues would assist in cueing all students at the same time instead of the visual students first and missing the other half of students.

All of the five methods work together. A teacher models a skill being taught, the student imitates and practices with numerous repetitions, more situations are created for imitation and modeling to occur and along with the use of cues for prompting, the student is able to retain the skills over a longer period of time. A point often missed by educators of special and regular education students is giving misleading information can lead to

retention of undesired information (Newcombe & Siegal, 1997). Educators must choose their discussions carefully in order to avoid these results. In a study with regular education students the amount of misinformation given was directly related to the rate of forgetting desired information (Howe, 1991).

Two strategies to be used at home are given to improve retention with mentally disabled students. One is improving communication between home and school and the second one is increasing, or beginning, home participation, which means practicing the skills taught from school at home.

The benefits of home and school communication are vast. The benefits all lead to student successes whether it is improving student behaviors, life skills or academic skills. A way to improve parent/school communication is by writing a classroom newsletter. In a classroom newsletter the teacher can include information about past and/or future lessons being taught, fieldtrips and upcoming events within the school district pertaining to the families' situations. Granted this is a time consuming project, but other staff members could assist with the newsletter. Appropriate staff members for the newsletter would be speech therapists, social workers and physical/occupational therapists. The majority of parents would welcome more information sent home about classroom instruction and activities (Hilton & Henderson, 1993).

Home and school communication then ties in perfectly with parent involvement, otherwise known as home participation. Parent involvement has been consistently mentioned in best practices (Hilton & Henderson, 1993). Parent involvement can boost student achievement by 10 to 20% (Thorkildsen & Scott-Stein, 1998). A simple way to involve parents would be to have them practice skills with their children, taught at school,

at home. Parents would not have to take time off work in order to come to school to learn how to teach their children because they already teach their children everyday. Instead parents would just need some time to read teachers' notes/newsletter and/or take phone calls in order to know what to reteach. Parents could then use time spent watching television with their children to practice the skills that were just taught at school. This is basically reinforcing the skills. Mentally impaired students' ability to retain skills doubled when the skills were practiced at home besides at school (Hilton & Henderson, 1993). The more repetition of a skill the student receives, the more information the student will retain (Hutt & Gibby, 1976). It has been shown that a supportive home environment, provided by parents, along with high expectations to succeed directly relate to the child's success (Thorkildsen & Scott-Stein, 1998). This is why in the home of a mentally impaired child; a supportive environment is vital for achievement.

Project Objectives and Processes

As a result of increased instruction of adaptive and academic skills, during the period of September 1998 to January 1999, the intermediate age students from the targeted class will increase their ability to retain information and skills taught in class, as measured by teacher – constructed tests and by successful accomplishment of classroom work.

In order to accomplish the project objectives, the following processes are necessary:

1. Materials will be selected for instructing appropriate academic/adaptive skills.
2. A series of learning activities will be taught and practiced weekly.
3. Teacher – made tests will be designed to check for retention.

Project Action Plan

Out of all the strategies suggested by the literature the teacher choose to use home practice along with active rehearsal at school for the targeted group of intermediate age students with mental impairments.

Action Plan Outline

I. September

A. Collect base line data (retention without home involvement)

B. Graph it

C. Send out parent and teacher surveys

D. Graph responses of surveys

II. October

A. Send parent letters requesting home practice

B. Begin instructing skill #1 (5 – 10 days)

C. Test skill #1 for retention

D. Teach skill #2 without home practice (5 – 10 days)

E. Test skill #2 for retention

F. Graph results from October

III. November

A. Send parent letters requesting home practice

B. Teach skill #3 (5 – 10 days)

C. Test skill #3 for retention

D. Teach skill #4 without home practice (5 – 10 days)

E. Test skill #4 for retention

F. Graph results from November

G. Have a verbal parent contact at end of month

IV. December

A. Send parent letters requesting home practice

B. Teach skill #5 (5 – 7 days)

C. Test skill #5 for retention

D. Teach skill #6 without home practice (5 – 7 days)

E. Test skill #6 for retention

F. Graph results from December

V. January

A. Graph results from Oct., Nov., & Dec.

B. Send out parent surveys

Methods of Assessment

In order to assess the effects of the intervention, teacher – made tests (Appendices C - G) will be developed for data collection once the grade levels and individualized educational programs of each student has been thoroughly reviewed. The pre-kindergarten to first grade level students will be tested primarily on social and adaptive skills while the second grade level students will have some academic testing along with the social/adaptive skills. Results of each test taken will be graphed, monthly, for easy reviewing. Finally, an opinion survey (Appendix A) will be sent to the parents to see if attitudes toward home participation with their mentally impaired child have changed.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to improve the retention of skills taught, with the mentally impaired, at school through different strategies and home practice. The targeted special education classroom was comprised of six EMH/TMH students at the intermediate grade level.

First a parent attitude survey was sent home in September to determine the opinions of the parents about their child's retention ability and the possibilities of home practice (Appendix A). Also, a teacher survey was sent out to other EMH/TMH teachers to see what their professional opinions were about retention and the mentally impaired (Appendix B).

Two skills were targeted every month, for three months. One skill was practiced only at school for approximately five to ten days and then the students were tested for retention. The second skill taught at school would also include practicing the skill at home for approximately five to ten days and the skill would be tested for retention. Afterwards the teacher would compare the two scores to see if there was a difference every month. The skills taught varied from student A to E. The skills were based on academics and life skills.

The original plans called for parent letters to go home every month stating the skill to be worked on and how to reinforce the skill at home. The teacher found that phone calls explaining how to reinforce the skill at home was more favorable to parents.

Letters could be lost or accidentally thrown away, but with phone calls parents could ask questions immediately as they arise. Later, in January, the same parent survey was sent home to see if attitudes about home practice had changed.

Presentation of Analysis and Results

In the month of September, the teacher needed to collect base line data about how well mentally impaired students retained information taught only at school. For five days, twice a day, students A through E practiced saying and writing their name, address, phone number and birthdate (Appendix C). This skill was chosen because it had been taught in summer school. Student F was not included due to the student's severe handicapping condition (See Figure 1). Students A and D were able to complete all four levels of the task earning 100%. Student B completed level 1, writing his/her name, with 25% of the task successful. Student C was able to complete half of level 1, earning 12.5%, done correctly. Lastly, student E correctly completed level 1 and a half, writing his/her name and part of his/her address, earning 37.5% of the skill. Basically, the base line data seem to show that practicing at school might not be enough for mentally impaired students.

As the students were practicing their lessons the teacher had begun collecting data on the Teacher/Parent Surveys (See Figure 2). Overall, the teachers agreed the mentally impaired students have a difficult time retaining skills while all the parents believed that retention of skills was an occasional problem for their children.

For the month of October, all parents received a phone call requesting home practice for skill #1 being taught. Since each student has different educational goals many of the students were not tested on the same skills. Student A and D were tested on

their spelling words, after receiving home practice for the week. Student A spelled 100% of the words correctly and student D spelled 90% of the words correctly. Parents were very excited about the test scores. Student B's skill was shoe tying and after ten days of practicing at school and at home, the student could complete 70% of the task (Appendix D). As for student C, the skill taught and practiced at home was writing his/her name. After five days student C was able to write his/her name with verbal prompts, performing 75% of the task (Appendix E). Student E was able to write 95% of the numbers 1 – 40 correctly after receiving home and school practice for five days.

For skill #2, only school hours were used to practice the lessons. Students A, B and E had a spelling test without home practicing at home student A spelled 75% of the words correctly, student B spelled 100% right and student E spelled only 63% of the words correctly (See Figure 3).

Figure 3

October Results

Students	Home Practice	Without
A	100%	75%
B	70%	100%
C	75%	68%
D	90%	84%
E	95%	63%
F	----	----

--- Student F not included due to illness.

In the month of October, all the students, except for student B, improved their retention of the skills taught with home practice and increased classroom practice of skills. The teacher believes student B performed better at a paper and pencil task rather than a sensory (hands on) skill because of the student's disability – Autism. Autism affects the senses making them sensitive, so skill #1 was not the most appropriate for student B to complete. The discovery of student B's true disability was not made until November of 1998.

Parent phone calls were made in the beginning of November to request home practice for skill #3. Student A was to write the math facts of 3's (3,6,9,12....). When tested five days later, the student was able to recall all the 3's from zero to ten, earning 100%. Student B and E had spelling words to study at school and at home for five days. Student B and E spelled 100% of the words correctly. Student C was practicing writing/saying his/her name and address. Student C could only write his/her name completing 14% of the skill taught. Student D was given a math skill to practice at home, adding single digits. After practicing for seven days the student answered 80% of the math questions correctly (Appendix F).

As for skill #4, only school hours were used to practice the different lessons for five days. Student A's test was to write the math facts of 4's (0 – 10). The student earned only 27% it. Students B and E were practicing writing their name and address for the week. Student B scored 100% correct and student E wrote 71% of the information correctly. For skill #4, student C was to count, orally, from one to thirty. The student was able to only perform 40% of this task correctly. Lastly, student D studied spelling words for the week and only spelled 25% of the words correctly (See Figure 4).

Figure 4

November Results

Students	Home Practice	Without
A	100%	27%
B	100%	100%
C	14%	40%
D	80%	25%
E	100%	71%
F	----	----

Student C did not test better with the home practice skill #3 because the task was more difficult then skill #4. This was the fault of the teacher. As for student B, this student showed that practicing a skill for two and a half months could lead to mastery also. Student F was not tested due to inconsistencies in classroom performance and no written or verbal skills.

In December, instruction of skill #5 had begun along with requesting home practice for five days. Students A, B, D and E had spelling words for the week and all of the students scored 100% on the spelling test. Student C was learning to write the numbers one to ten. When tested, student C scored 60%.

For skill #6, all five students were learning how to use the emergency telephone number in their area without home practice. The teacher practiced the skill twice a day for five days and tested on the sixth day. The students were being tested on their ability

to dial 911, give the operator their correct name and address, tell the reason for calling (emergency) and answer any questions that might arise from the operator (Appendix G). Sample questions were, How old are you? Where's your mom and dad? Are you alone? Students A and D scored 70%. They were able to dial correctly, give name/address and begin to give a reason for calling. In other words, the students began to realize certain situations were emergencies. Student E scored 60%. The student was able to dial 911 and give his/her name and address to the emergency operator. Lastly, students B and C scored 40%. The students were only able to dial correctly and state their name (See Figure 5).

Figure 5

December Results

Students	Home Practice	Without
A	100%	70%
B	100%	40%
C	60%	40%
D	100%	70%
E	100%	60%
F	----	----

Student F was not included due to his/her disabilities. This month the teacher matched up the difficulty of each task taught with home practice and without home practice so there would be better balance.

Lastly, in January, the parent survey (Appendix A) was sent home again to see if any of the parents' attitudes had changed toward reinforcing skills at home with their children. Only five out of the six families returned the survey, but four out of the five families said that practicing skills at home does improve retention of learned skills and planned to continue assisting their children at home. This is an improvement because in September only three out of the six families' thought that practicing a skill at home would improve retention.

Conclusions and Recommendations

Overall, when mentally impaired students were taught skills at school and then the skills were reinforced at home the amount of information retained appeared to increase. Except for the case of student B, who showed no improvement with home practice in October but discrepancy was due to the task and the student's disability. The same type of situations arose with student C in November because the teacher chooses one task that was more difficult than the other does. If the skills being taught are not equally challenging, then the results will not be valid.

Month to month the teacher began to notice more students interested in their lessons because other strategies besides repetition of learned skills was being used. The students appeared to enjoy the active rehearsal strategy more because they were able to role-play and practice their new skills out in the community. Also, when parents became involved with the students' studies it appeared to the teacher that the value of the lesson increased, therefore improving the chances for retention. When students proudly tell their teacher how their mom or dad helped them study for the spelling test on Friday and were bearing a grin from ear to ear, then it would be safe enough to conclude parent

involvement had a positive effect on the students. It was apparently not only on the grades, but also on their values and beliefs.

The recommendations the teacher would make are to make more parent phone calls rather than sending notes because notes become lost, directions misunderstood and parents have no immediate way to ask questions. Also, keeping in contact with the families on a regular basis appeared to improve schoolwork along with behavior. After conducting this research study the teacher felt more confidant about providing more learning strategies and situations in order to increase the retention of the mentally impaired.

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"Appendices"

Appendix A

Parent Survey

- Please circle the best response for each question and feel free to explain any answers. Thank you.

1.) Does your child seem to forget easily?

RARELY OCCASIONALLY FREQUENTLY

2.) How long can your child remember learned skills without reinforcement?

ZERO 1-2 DAYS 3-4 DAYS 5 OR MORE

3.) How long do you practice learned skills at home (social/life skills)?

RARELY OCCASIONALLY FREQUENTLY

4.) Do you practice (reinforce) newly learned academic skills at home? (math, reading, writing...)

RARELY OCCASIONALLY FREQUENTLY

5.) After summer vacation, do you notice your child forgetting skills taught during the school year?

RARELY OCCASIONALLY FREQUENTLY

6.) Would you reinforce (practice) newly taught skills at home if you knew what they were?

Home Life Too Busy OCCASIONALLY FREQUENTLY

7.) Do you think your child would retain (remember) more skills if time was spent at home reinforcing them?

NO YES MAYBE

8.) Would you be willing to help your child practice certain learned skills, at home, and be a part of my master's research project?

NO YES

_____ _____

(Parent Signature) (Date)

I appreciate your time and effort. Please feel free to call me with any questions.

Thank you,
Christine Kissamis

Appendix B

MI Teacher Survey

- Please circle the appropriate response for each question and provide examples whenever possible. Thank you.

1.) In your professional opinion, do mentally disabled students have difficulties remembering learned skills?

NEVER OCCASIONALLY FREQUENTLY

Example: _____

_____

2.) The more repetition of a skill a student receives, the longer the student retains the knowledge.

TRUE FALSE

Example: _____

_____

3.) Do you believe students would retain more skills if parents were able to reinforce the Skills at home?

NO MAYBE YES

Example: _____

_____

4.) Comments: If you have any other information pertaining to retention of skills, please feel free to state them.

Appendix C

ADDRESS

Name : _____

Street : _____

Town : _____

State : _____

Phone Number : ( ) _____

Appendix D

Shoe Tying

Name _____

The student can:
1. Hold right lace in right hand, hold left lace in left hand._____
2. Pull laces tight. _____
3. Cross laces to make an "x". _____
4. With left hand, tuck one lace under the other and pull tight._____
5. Place right thumb in center of laces. _____
6. Make a bow with lace in the left hand. _____
7. Take right lace and wrap around the bow._____
8. Push lace and right thumb through the hole near your left fingers._____
9. Grab lace from thumb with left hand._____
10. Hold both bows and pull tight. _____

Appendix E

Name Writing

Student _____

Write your name once on each line.

_____

_____

_____

1. Can only trace letters = 25%
2. Can say the letters in correct order and trace = 50%
3. Can write name with verbal cues = 75%
4. Can write name independently = 100%

Appendix F

Math Test

Name_____

Add.

1. 9 + 6 = _____

2. 5 + 8 = _____

3. 4 + 7 = _____

4. 3 + 0 = _____

5. 7 + 2 = _____

6. 9 + 9 = _____

7. 8 + 3 = _____

8. 6 + 6 = _____

9. 5 + 4 = _____

10. 0 + 0 = _____

Appendix G

911 Calling

Name _____

Student can:
1. Dial 911 (20%) _____
2. Dial 911 and give name (40%) _____
3. Dial 911, give name and address (60%) _____
4. Dial 911, name, address and states emergency (80%) _____
5. Dials 911, name, address, emergency and answers questions (100%) _____

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