

DOCUMENT RESUME

ED 366 144

EC 302 738

AUTHOR Orlando, Charlene A.  
 TITLE Using Music To Reinforce Basic Money Skills Taught in the TMH Classroom.  
 PUB DATE Jun 93  
 NOTE 91p.; M.Sc. Practicum Report, Nova University.  
 PUB TYPE Dissertations/Theses - Practicum Papers (043) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.  
 DESCRIPTORS Arithmetic; Classroom Techniques; \*Daily Living Skills; Instructional Effectiveness; \*Moderate Mental Retardation; \*Money Management; \*Music Activities; Positive Reinforcement; Program Effectiveness; Secondary Education; Secondary School Students; Teaching Methods; Time on Task; Visual Aids  
 IDENTIFIERS \*Money Skills

ABSTRACT

This practicum investigated the effectiveness of using music activities to reinforce basic money skills with 10 students, ages 12 to 21, with mental retardation in the trainable range. The program used a combination of music and visual aids as strategies for reinforcing basic money skills and improving student on-task behaviors in the classroom. Pretests and posttests as well as systematic observation were used to evaluate the intervention. Results indicated increased achievement levels of basic coin money skills for the target group. Students also demonstrated increased on-task behaviors. Appendices include student data of previous mastery of basic money skills, the coin money skills pretest/posttest, summary of pretest data, the observation form (used both before and after program implementation), summary of observation data, lyrics to coin money skills song activities, coin face manipulative reproduceables and coin identification chart, explanation of a schoolwide money skills student video project, and an attachment of recommended music resources to reinforce basic skills. (Contains 35 references.) (DB)

\*\*\*\*\*  
 \* Reproductions supplied by EDRS are the best that can be made \*  
 \* from the original document. \*  
 \*\*\*\*\*

This document has been reproduced as received from the person or organization originating it.  
 Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 366 144

## Using Music to Reinforce Basic Money Skills

Taught in the TMH Classroom

by

Charlene A. Orlando

A Practicum Report

submitted to the Faculty of the Center for Advancement  
of Education of Nova University in partial fulfillment  
of the requirements for the degree of  
Master of Science.

The abstract of this report may be placed in a  
National Database System for Reference.

June, 1993

"PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

Charlene A.  
Orlando

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)."

**BEST COPY AVAILABLE**

## Using Music to Reinforce Basic Money Skills Taught in the TMH Classroom.

Orlando, Charlene A., 1993: Practicum Report, Nova University, The Center for the Advancement of Education.

Descriptors: Mental Retardation/ Music/ Music Education/ Music Therapy/ Mathematics Skills/ Daily Living Skills/ Basic Skills

The high percentage of secondary Trainable Mentally Handicapped (TMH) students not achieving mastery of basic coin money skills was addressed by the implementation of music activities used to reinforce the basic money skills taught in the TMH classroom. A target population of secondary students with a chronological age of 12 to 21 years was chosen for the program. The developmental ages of these students ranged from three years nine months to ten years six months, based on intelligence quotients from 25 to 50. The program used a combination of music and visual aids as strategies for reinforcing basic money skills, and improving student on-task behaviors in the classroom. A Basic Coin Money Skills Pretest/Posttest (Orlando, 1993) and Pre-Implementation/Implementation Observation Form (Orlando, 1993) were employed to measure success of the program.

The results indicated increased achievement levels of basic coin money skills for the target group. Students within the target group demonstrated increased on-task behaviors as well. It was concluded that music activities can provide a vehicle to facilitate and increase learning and mastery of basic coin money skills taught in the TMH classroom. Appendices include student data of previous mastery of basic money skills, the coin money skills pretest/posttest, summary of pretest data, the pre-implementation/implementation observation form of on-task behaviors, summary of observation data, lyrics to coin money skills song activities, coin face manipulative reproduceables and coin identification chart, explanation of a schoolwide money skills student video project, and an attachment of recommended music resources to reinforce basic skills.

### Authorship Statement

I Hereby testify that this paper and the work it reports are entirely my own. When it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other professionals in the field and in the hope that my own work, presented here, will earn similar respect.

Charlene A. Orlando

Charlene A. Orlando

### Document Release

Permission is hereby given to Nova University to distribute copies of this applied research project on request from interested parties. It is my understanding that Nova University will not charge for this dissemination other than to cover the costs of duplicating, handling, and mailing of the materials.

Charlene A. Orlando

Charlene A. Orlando

June 11, 1993  
Date

Practicum Observer Verification Form

NOVA UNIVERSITY  
CENTER FOR THE ADVANCEMENT OF EDUCATION  
3301 College Avenue  
Fort Lauderdale, FL 33314

Verification of Practicum Activity

Dear Observer:

Practicum students in Nova's M.S. and Ed.S. programs are asked to provide external verification that the project activities reported in their final practicum documents took place as described. You have been designated an observer to fulfill this confirmation function by the student named below. On this sheet, then, please write a note attesting to your knowledge of the project activity described in the final practicum report to which this will be attached. (Note that you are not asked to evaluate or make judgements about the quality of the project.)

Practicum Title Using Music to Reinforce Basic Money Skills

Taught in the TMH Classroom

Student's Name Charlene A. Orlando

Program Site Tampa / Dover ESC Date 6/8/93

Observer's Name Kandie Hill Kandie Hill / TMH Teacher  
(please print-----sign)

Observer's position Teacher Phone # 757-9462

Observer's comment on impact of the project (handwritten):

Ms. Orlando's class has improved in their money skills. It goes beyond the recognition of the coins & their values. This class shows self confidence that I did not see before. Students that responded very little in a class setting have become more verbal. The students showed improvement in the academic area which enabled the children to work in higher areas of money skills.

## Table of Contents

Title Page.....	i
Abstract.....	ii
Authorship Statement.....	iii
Observer's Verification.....	iv
Table of Contents.....	v
Chapters	
I. Purpose.....	1
II. Research and Solution Strategy .....	14
III. Method.....	27
IV. Results.....	41
V. Recommendations.....	47
Reference List.....	49
Appendices	
Appendix A: Table 1 Student Mastery of Basic Money Skills.....	51
Appendix B: Basic Coin Money Skills Pretest/Posttest.....	53
Appendix C: Table 2 Summary of Basic Coin Money Skills Pretest.....	55
Appendix D: Pre-Implementation/Implementation Observation Form.....	57
Appendix E: Table 3 Summary of Pre-Implementation Observation.....	59
Appendix F: Basic Money Skills Coin Songs.....	61

Appendix G: Coin Face Manipulatives.....	66
Appendix H: Coin Money Identification Chart.....	70
Appendix I: Table 5 Coin Money Skills Pretest/Posttest Comparison.....	72
Appendix J: Table 6 Pre-Implementation/Post-Implementation Observation Comparison.....	74
Attachment.....	76

## CHAPTER I

### Purpose

#### Background

The author of this practicum project is a music teacher for 93 intermediate and secondary age, and 50 primary age trainable mentally handicapped (TMH) students at an exceptional center in a heavily populated Florida county. The exceptional center is under the jurisdiction of an adjoining elementary school. The center is placed next to the elementary school site due to its central location. Except for lunch the handicapped students spend the entire day at the exceptional student center. Lunch is only served in the elementary school cafeteria. Students are mainstreamed during activities with the elementary school and during community field trips. Parents and other community members are also invited to visit the school and share talents with the student population.

The school serves prekindergarten, kindergarten, elementary, junior high, and senior high age trainable mentally handicapped children. There are three levels of primary at the author's school. The first level combines prekindergarten and kindergarten age children



whose chronological ages are three through five. These children have a developmental age from nine months to two years six months. The second level contains grades one, two, and three. Chronological ages for this level of primary are ages six through nine. Developmental ages are from one year two months to four years five months. The last level of primary contains grade levels four and five. The chronological ages of these children can be anywhere from ten to fourteen. Their developmental ages are between two years two months and seven years six months. The secondary level consists of the traditional junior high and high school chronological ages of 12 to 21 years. The developmental ages of these children range from three years nine months to ten years six months. All developmental ages mentioned above are based on intelligence quotients ranging from 25 to 50.

The adolescent students spend the day changing classes as normal adolescent students would in comparable secondary schools. Each teacher remains stationary and specializes in one or more areas of the curriculum. Most teachers are additionally responsible for the training of selected recreational skills. Other skill areas taught at the exceptional center encompass life, job, academic, communication, industrial arts and agricultural skills plus music, art, and physical education. Occupational, physical, and speech therapy are additionally provided on sight.

The secondary students are divided into seven groupings that remain intact as they rotate classes. The foregoing groupings are hierarchically ordered according to ability level. Group one is the highest functioning level with an approximate IQ range of 50-60, whereas group seven is the lowest functioning level with an approximate IQ range of 35-40.

The school day for secondary students is divided into six teaching periods, a lunch period, and two homeroom periods. A homeroom period starts the day. Four teaching periods follow the homeroom period which is followed by the lunch period. Two teaching periods comprise the afternoon which culminates in a brief homeroom period prior to loading the home bound school busses. Teaching periods are forty-five minutes in length. Lunch and recreation is an hour and 15 minutes long, and the homeroom periods are 15 minutes in duration. Shop, music, art, and physical education do not have lunch, recreation, or homeroom responsibilities with the students.

Class size ranges from eight to fifteen students. In most cases instruction is directed by one teacher and one aide. For the purpose of this practicum project teacher aides were considered as part of the instructional staff. The number of primary (grades five and under) homeroom instructional staff is 15 who serve 47 primary students. Thus the ratio is 3.13 students per primary homeroom instructional staff

member. In intermediate and secondary (grades 6-12) there are 91 students being served by 18 homeroom instructional staff members. The ratio is 5.06 intermediate/secondary students per intermediate/secondary homeroom instructional staff member. In the deaf/blind unit, which includes both primary and secondary age children, there are five students being served by three homeroom instructional staff members. The ratio is 1.67 deaf/blind students per homeroom instructional staff member. This makes a ratio for the entire school of 143 students 3.76 students for every homeroom instructional staff member.

In addition to homeroom instruction, all primary age students receive music and physical education from specialists for two 30 minute periods per week. All primary age students receive art instruction from a specialist for one 30 minute period per week. All intermediate age students receive music and physical education from specialists for two 45 minute periods per week. All intermediate age students receive art instruction from a specialist for one 45 minute period per week. All secondary age students receive physical education classes each day, from a specialist, for a total of five 45 minute periods per week. All secondary students receive art instruction from a specialist for one 45 minute period per week. All secondary students receive industrial arts and music instruction from a specialist for two 45 minute periods per week.

At the author's school, students from a wide range of socioeconomic backgrounds are served. Families include welfare, migrant workers, farmers, blue collar, and white collar workers according to school background information from the assistant principal (1992).

One of the socioeconomic characteristics that is measured at the author's school is average annual income of the families. Determinations are made based on average family earnings that place students in one of three lunch statuses. The students are categorized as either getting a free lunch, reduced lunch, or full paying lunch.

This practicum project involved ten students from group four. If the free lunch status is used to indicate low socioeconomic background, then the representation of group four contained seven students in low socioeconomic standing, and three students in a higher socioeconomic standing. There are 78 students on free lunch. Seven of them are in group four. Eleven students are on reduced lunch. None of them are in group four. There are 54 students on full paying lunch. Three of them are in group four. Group four was chosen as the target group because the students fall in the middle range of TMH ability level, and because the students represented both low and high socioeconomic backgrounds.

The author of this practicum project holds a bachelor's degree in music for kindergarten through twelfth grade, and began instructing music at the exceptional center with no previous teaching experience in

exceptional education. The responsibilities of this music specialist position include teaching general music classes to all primary students for two 30 minute periods per week and teaching general music classes to all intermediate and secondary students for two 45 minute periods per week. Time is also allotted in the music schedule to offer select secondary students the opportunity to participate in group ensembles that include chorus, student conductors club, choirchime ensemble, or a puppet theatre class. Each ensemble meets for one 45 minute period per week. Mainstreaming activities are promoted by the author through music activities with the elementary school students, parent and community involvement with music projects such as puppetry, and community field trips for music ensemble groups.

The author has taught at the special education center for five years, and has worked to change the focus of the role of music in the education of exceptional students at the center. Historically, music has been perceived as a tool for leisure and recreation activities for the exceptional student. Music can, in this author's opinion, offer much more to the special education curriculum.

### Problem Statement

The philosophy of the author's school, as spelled out by the TMH handbook (1987), is designed to assure that each student acquires the maximum degree of independence at school, in the home, on a job site, and interacting within the community. The school program strives to allow each student to make a contribution to the common welfare and to the individual's own happiness. The curriculum offered by the center is approached with a focus on maximum student independence within the community upon graduation. Westling (1989:19) stated that "Foremost among special educators' goals today is for individuals who are mentally handicapped to become a part of society to the greatest extent possible." Westling (1989:19) cited further evidence to support this philosophy when he stated that

... persons with mental handicaps should reside in ordinary residences and participate in the many facets of societal life (Buddle and Bachelder 1986); engage in competitive employment (Falvey 1986, Wehman et al. 1986, Brown et al. 1984); and enjoy a variety of recreational and leisure activities with handicapped and nonhandicapped peers (Aveno 1987, Ford et al. 1984).

Nirje (1969), as quoted by Westling (1989:19) defined this principal of normalization "... to include persons at all levels of retardation and to state that persons with mental handicaps should share in all the normal routines of the entire life cycle." Such student independence,

with emphasis on vocational employment, is the main concern for the special education centers at this time, according to an interview with the TMH assistant principal (1992).

Basic academic skills that are necessary for daily living and community interaction are an essential ingredient for the future success of TMH students. Eiduson et al. (1984:1) stated that "Part of the responsibility of the school is to prepare students for success in their next life environment; that is, to become successfully integrated adults who feel good about themselves and their contributions to others and the world of work." Eiduson et al. (1984) describe the living situations that demand functional academics to include independent living skills, work skills and work habits, and personal-social skills. Peng et al. (1984:132) stated that "It is universally recognized that mentally retarded persons must develop functional skills that will help in their postschool adjustment." Brolin (1976) and Peterson (1973), as quoted by Peng et al. (1984:132) stated that "Money concepts and skills are commonly considered to be a part of such a functional curriculum." Further support for this view can be found in a study by Frank et al. (1986:468) that again cited the work of Brolin (1976) and Peterson (1973), stating that "Handling money is an important functional skill for mentally retarded persons to possess." Eiduson et al. (1984:9) stated that

The handling and management of money are the most difficult concepts to master for the developmentally disabled person. The skills involved are frequently beyond the individual's capability, in that they require abstraction, multi-step processes, judgment, and quantitative thinking. Most of the moderately retarded adults will not be able to make change, budget, or do comparative shopping. The end goals in the assessment of money skills are coin equivalences, counting money to \$20.00 and the ability to indicate whether or not one has enough money to purchase an item.

The author believes that such basic money skills are important because these skills are not isolated, but integrated with many parts of the special education curriculum. Money skills are essential for future success in employment ( receiving paychecks and banking skills), transportation (paying for public transportation), entertainment ( paying for a movie, etc.), and in daily living skills ( making a budget, shopping for food, clothes. etc.). Mastery of basic money concepts will aid the student during the transition into a productive and happy adult life.

The study by Peng et al. (1984) concluded by stating that "... there were three distinct components in the curriculum: Coin Value, Coin Summation, and Efficiency in Coin Selection" (p.140); and that "Coin Value relationship was recognized to be the easiest skill, and hence needs to be taught first in the curriculum" (p.141). This supports the sequence of skills taught at the TMH center, as outlined in the Minimum Student Performance Standards for Florida Schools, (1984).



The author focused on coin identification and coin value for this project.

These basic fundamental skills were identified as follows:

1. Identify a penny.
2. Identify a nickel.
3. Identify a dime.
4. Identify a quarter.
5. Identify the cent value of a penny.
6. Identify the cent value of a nickel.
7. Identify the cent value of a dime.
8. Identify the cent value of a quarter.

Personal communication with the time-money classroom teacher at the TMH center revealed to the author a growing frustration by those who taught such necessary basic academic skills. The teacher observed that students were not achieving the highest comprehension level possible for basic money skills. Review of the classroom teachers' skills checklist revealed that only 10 percent of the trainable mentally handicapped (TMH) students assigned to group four had mastered the basic money skills cited in the research as essential basic fundamental skills. Table 1, Basic Coin Money Skills Checklist (Appendix A:51) lists those skills mastered by each student. Consequently, the classroom teacher observed that the majority of the students had not mastered these basic money skills during attendance at the TMH center.

With the cooperation of the classroom teacher, the author created a Basic Coin Money Skills Pretest /Posttest (Appendix B:53). The pretest was given to all target group students in group four. Appendix B lists the questions and Table 2 (Appendix C:55) is a summary of the student scores. The pretest scores supported the classroom teachers' records of achievement for the target group. No students in the target group had maintained a mastery level of all basic money skills during attendance at the TMH center.

Research suggested that the use of visual prompts would be an effective reinforcement for these basic coin skills. The study of Frank et al. (1986:469) stated that "...the visual prompts were effective in improving the coin skills of all participants"; and that "When the visual prompts were not available to guide performance, the students' accuracy decreased substantially." This study focused on teaching coin summation skills to retarded individuals, but the success of the visual prompts used in this study proved to be a reinforcer for coin identification and cent value skills as well.

Research also suggested that mastery and maintenance of such skills would require more practice for mentally handicapped students. The study by Podell et al. (1992:200) stated that students with such handicaps "...require a greater degree of practice than their nonhandicapped counterparts in becoming automatic in their

performance of basic mathematics skills." Westling (1989:20) stated that "...students with mental handicaps may have poor memory abilities, requiring them to have more than an average number of opportunities for practicing functional skills." The amount of practice needed by the TMH student to learn basic math skills would have an impact on student motivation.

Student motivation in the classroom can be evidenced by student eye-contact with the teacher, proper use of student manipulative materials, consistent student response to teacher questions, and student body movement that displays enthusiasm and shows interest; such as smiling and pointing gestures. A Pre-Implementation Observation Form (Appendix D:57) was created by the author to measure the above on-task behaviors. A pre-implementation observation of a basic money skills class session by the author offered a base-line of observed on-task behaviors of the target group students, and is summarized in Table 3 (Appendix E:59). This author believed that providing additional unique activities for basic money skills practice would increase student on-task behaviors during the practice sessions.

Westling (1989:20) concluded by stating that "...we must make the most of every moment of instructional opportunity." It was evident that there was a need to design and implement additional unique classroom activities that would provide such effective skills practice, and therefore

reinforce and increase mastery of the basic money skills taught to TMH students in the classroom.

### Outcome Objectives

Objectives for developing such unique activities that would assist in teaching basic money skills are stated as follows:

Within the implementation period of twelve weeks, the target group would increase mastery of basic money skills by 50 percent as measured by the Basic Money Skills Posttest.

Within the implementation period of twelve weeks, the target group would demonstrate a 25 percent increase in students' on-task behaviors as measured by teacher observation following the implementation period.

## CHAPTER II

### Research and Solution Strategy

The solution to the author's problem began with choosing an appropriate activity to reinforce basic money skills taught in the TMH classroom. The author feels that the primary goal of education is to offer a curriculum that aids in the development of the mind, body, and spirit of each child. A curriculum that concentrates on the basic components of education, which include language, mathematics, the natural sciences, and the social sciences, is essential to develop a child's mind. The author also believes that a fifth component of education, fine arts, is needed to develop the body and spirit of each student. When children are exposed to all five parts of education, they will grow to be better adapted adults, and better able to cope with life and enjoy its pleasures. The study of music, visual arts, theatre, and dance is therefore an essential part of any educational curriculum.

This author believes that the primary goal of the learner is to combine the skills and values taught to them with their unique personalities to create their individual and independent view of our world. A student should develop an intellectual, emotional, and aesthetic

response to their environment. As adults, they must make decisions and choices, control and express feelings, and respond to the beauty of the world around them. A carefully planned educational curriculum will help develop the highest human potential of each child, and give them the tools they need to make these important judgments and decisions. Thus, each student can be inspired to develop a unique and individual outlook on life, and be better equipped to meet all of life's challenges. Music, in this author's opinion, is an essential ingredient for such student development.

Music study can enhance the spiritual and emotional growth of every student. In order to learn, children need the freedom of creativity and imagination. It is through imagination that music finds its strength. Music has no assigned meaning, and can be interpreted and expressed differently by all people. Like art, music allows us to create a reflection of ourselves, our feelings and emotions, and then to let them go free once again through performance. Music intensifies human feelings, releases them, and allows us to feel emotionally fresh once again. As a music teacher, the author offers students a variety of choices for expression of human creativity and emotions in our changing society.

Music study enhances the physical growth of all students. Aerobic movement and dance teaches physical coordination, strength and endurance. It aids in the development of gross and fine motor skills,

visual perception and auditory perception skills. It reinforces many of the skills taught in physical education classes. It is the responsibility of all music teachers to help students develop a positive self-image through expression in music, movement and dance.

Music study teaches children the social, personal and self-help skills they need to acquire. Music can help the special learner to practice communication and language skills. It is a group activity that reinforces group interaction skills. It aids in the development of peer and community relationships, as well as helping students to develop the ability to make appropriate value judgments. These are essential skills that every child needs to learn.

It is, therefore, the author's belief that music can reinforce many aspects of the special education curriculum, including the basic academic skills taught in the TMH classroom. The primary goal of the author as a music teacher is to create a music curriculum that supports the first four components of education, as well as offering a creative outlet for students. The author believes that all children are responsive to music. It makes learning any skill more appealing and enjoyable. No quicker way to captivate children's attention, then with a song, has been found by the author. A growing need to develop new ways to combine music with other forms of study in order to create a unique learning experience for the author's special education students had become

apparent. This practicum project focused on creating music activities that would be used to reinforce basic money skills taught in the TMH classroom. This author believes that music study can add more to the special education curriculum than simply an outlet for leisure and recreation activities, and this belief was the inspiration for the author's practicum project.

An important element in the curriculum of TMH students is structured leisure activities. If the activity is enjoyed by the students, they will be eager to repeat them. An activity that is popular with the TMH population seems to enhance the learning process. Research on leisure activities for special education students was therefore an appropriate beginning for the research process.

The research of Aveno (1987) surveys leisure activities engaged in by adults who are severely retarded living in different residence and community types. The list of leisure activities generated by this study can serve as a general reference for educators who wish to target leisure activities that special populations will enjoy now and in the future.

A total of 687 randomly sampled group and foster homes were included in the investigation based on the following criteria: a) serve a minimum of 50 percent of residents with severe to profound retardation; b) serve a minimum of 50 percent adult residents; c) serve 15 or fewer residents; d) represent all geographic sectors of the United States.



These homes represented rural, urban, and large city communities.

A four-point Likert scale survey was used to rate 20 leisure activities. The questionnaire was mailed; a reminder letter was sent two weeks later; and a second survey form was sent four weeks later with the option to complete the survey by phone interview. No statistically significant rating differences were found between the two data collection methods. Only 65 percent of the sample completed the survey, but this survey can be a basic indicator of which leisure skills are enjoyed by handicapped residents.

The results showed congruence between foster home and group home activity rankings. The leisure activities ranked can be considered by educators regardless of student home type. Leisure opportunities that contained music activities were ranked first, sixth, and tenth out of the twenty activities that were rated. This indicates that music activities are enjoyed by handicapped persons, and can be expected to continue to be enjoyed in the future.

Leisure activities are an integral part of a special education curriculum. Evidence shows that mentally handicapped students rated leisure opportunities that included music activities favorably. The author concluded from this research that musical type activities would be an effective method to teach and reinforce basic skills, as well as social/living skills to TMH students.

In a study by Brown (1986:15) the author stated that

Personal experience has taught the author that there can be remarkable changes in both behavior and academic performance in students who have experienced success through musical and or theatrical performances in the presence of their peers and significant others.

Moderately retarded students in this project studied comprehension of Aesop's fables, using rote techniques or by experiencing the story in song and drama. The author concluded from this study that the groups participating in activities that included presentation of a story in song and drama "...performed better than the rote learning group on daily scores and on a final comprehensive examination" (p.13). The author also reported that the "...students noted for their problem behaviors cooperated with enthusiasm" (p.21) during these activities.

A study by Erskine (1986) showed support for the use of background music in teaching multiplication tables to learning disabled students. The author concluded that the use of baroque music as a relaxation activity before studying math facts proved to be "...aids to accelerated learning and teaching" (p.229).

An article by Addison (1991:286-7) cited a report by the National Curriculum Music Working Group with the statement:

Participation in musical activities and the study of music contribute to the whole school curriculum by developing in pupils: delight in a sense of individual and collective achievement; aesthetic appreciation and discrimination; listening skills and sensitivity to sounds; imagination and

inventiveness; intellectual and artistic skills; the ability to analyze and solve problems; study skills, including attention to detail, accuracy, memorizing and the interpretation of sounds and symbols; non-verbal and verbal communication skills perseverance, tolerance and self-confidence; self motivation, self discipline, self analysis and self evaluating; and awareness of a wide range of cultural traditions.

Addison supported this view with evidence of music activities that improved such skills; with emphasis on language skills, visual tracking, and motor skills for the special learner. Addison (1991:297) reported that observation by music teachers show evidence "...of success in improving the life skills prospects of our pupils." This view therefore supported the importance of the music educator and the use of music activities as a reinforcement for life skills.

The music educator, therefore, is playing an increasingly more important role in the education of handicapped students. Hock et al. (1990:45) stated that "...music educators were typically among the few non-special educators who have had regular contact with special education students..." ; and that "...these contacts have been positive and productive, despite the fact that music educators, for the most part, have not been trained specifically to work with students who are handicapped." Pratt (1991) stated that "Music educators have always taught students with handicaps"(p.32); and that "...music may very well be one of the most important influences on the mind/body relationship"

(p.33). Pratt also notes that music therapists have indicated that music can attract children when nothing else seems to engage their attention.

In an article by Lathom and Eagle (1982) the importance of using music as a tool to modify non-musical behavior was studied. A survey was sent to music therapists that were employed by public and private schools or institutions that include a special education component. A total of 164 respondents listed the following goals as ones they most frequently established for children in their programs: a) To improve gross-and fine-motor skills. b) To encourage cooperation with peers and adults. c) To increase ability to follow directions. d) To encourage active participation.

Music therapists supported the use of music activities to reinforce these important skills. Movement, playing instruments, and musical exercise can improve gross-and fine-motor skills. Music activities encourage cooperation with peers and adults. Students will follow directions and cooperate during music activities. Finally, music therapists reported that music activities were usually of high interest to students and encouraged active participation.

The project by Alexandra (1985) also supported the use of music therapy for special students. The author stated that "The use of music in therapy and throughout society in modern life is highly effective" (p.14). The author reported that "Music therapy has been used successfully with

all age groups from babies through senior citizens and with most problem areas including mental retardation..." (p.64). A physical, emotional, social, or mental behavior elicited during a music activity "...can be observed and practiced while at the same time, the music can be enjoyable, positively reinforcing, motivating, and relaxing" (p.56). This practicum project described a successful program to train elementary teachers to use music therapy activities for social skill promotion. This success could transfer to other parts of the special education curriculum, and showed support for using music activities to teach basic skills to the special student.

Review of these articles, combined with the apparent lack of research studies available on this subject, suggested that the role of the music educator in the education of handicapped students was in need of further research and study. Lathom and Eagle (1982) and Alexandra (1985) offered some evidence to support music as a reinforcer of a handicapped curriculum, but more sources for activities were needed by music educators who wished to develop such a music program.

The Music Curriculum Guide used by the author includes the Curriculum Extension for the Exceptional Student. The preface to this section of the curriculum guide states that musical experiences "...will also enable the exceptional student to learn many extramusical skills and behaviors which may be peripheral to the total music learning

experience" (1987:1). The guide further states that the music teacher should create strategies that "...reflect the extramusical concepts, skills, and behaviors.." that include "demonstrations of mathematical concepts through songs and activities" (1987:3). The idea for music as a reinforcement of basic money skills therefore existed, but sources for such music activities were difficult to find.

A limited number of commercial examples of basic curriculum reinforcement through music and the related arts is available through mail-order catalogs. While intended for the average elementary student, they can be adapted for the special student as well. Michael Brent Publications offers music activities for the study of health/substance abuse and learning language and literature. Plank Publishing Company offers a musical that helps to teach Geography and recognition of the 50 states. The Educational Record Center offers several recordings that reinforce phonics and math skills such as addition and subtraction. The search conducted by this author, however, could not find commercial musical activities that were specific to teaching basic money skills to the special learner.

Additional research by the author found only a limited number of examples of special music projects developed for the TMH student. Beall (1985) described how 58 TMH students combined with other handicapped and non-handicapped students to create a special

production of the musical Oliver. Beall (1985:32) stated that "It was a good example of how handicapped students can successfully and beneficially be mainstreamed into the larger community." Beall concluded by stating that the project "...provided models for school/community cooperation and for the arts as total integrators of the curriculum" (p.32). Monagan, as cited by Westling (1989) described how a class of students with multiple handicaps, including Down's syndrome, composed 14 songs. The album, called "Special Music By Special Kids" was recorded and published commercially, making the experience an exciting example of music in special education.

The apparent lack of resources available to music teachers in special education led the author to research the use of computers in music. Computer applications would offer assistance in composing and recording original songs that could be used to reinforce basic money skills.

In an article by Taylor (1988), the use of computers in performance, production, instruction, and composition was discussed. The author was most interested in the history of computer assisted composition. Computers were used to generate compositions as early as the 1950's. A computer program by Lejaren Hiller composed a piece entitled, "Illiac Suite for String Quartet" in 1957. Composing with computers has been associated with both academia and commercial

composers. Packaged systems ranging from \$2,500.00 for a Macintosh computer with special composition software to \$50,000.00 for elaborate systems, such as Fairlight and Synclavier are available. Creation of new software will expand this fascinating technology, and it is easy to understand why composers can become so deeply involved with creation of digital instrument sounds and musical scores.

In an article by Davidson (1990), the relationships of computers, music, and creativity in education was discussed. Although learning music notation traditionally requires many years of practice, a computer makes music notation immediately available for composition. The computer allows for immediate arranging and orchestration. Execution of only a few keystrokes allows the user to hear what has been written, and creative orchestration of unique instrument sounds is possible. The computer not only saves time, but also offers the creative instrumentation that would not be available on standard school equipment. Thus, the computer becomes a tool for creative exploration, verification, and confirmation for the educator who wishes to incorporate original music and songs in a unit of study.

The software entitled "The Music Studio", by Activision Creativity Software (1986), has offered the author the opportunity to experience computer assisted music composition. This program allows the user to choose instrumentation and rhythms, place notes, rests, key signatures,



accidentals and time signatures, and add lyrics to an original song by manipulating the mouse on the Apple IIGS Computer. The notation and lyrics can then be printed for immediate use. The author had no previous computer experience, but with assistance from the computer teacher, composed an original "Fight Song" for the school site. The unique instrument sounds became an instant success with students. This popularity of sound, along with the ease of using the program, made it the perfect resource to create original songs for skill reinforcement.

The action research project conducted by the author used visual prompts and music activity practice and to help fill the gap of knowledge that existed between the music educator and the special learner. The author would develop realistic music activities that would not only teach music skills, but would reinforce non-music skills, and thus become an integral part of the special education curriculum.

## CHAPTER III

### Method

The author of this project worked cooperatively with the time/money classroom teacher during the twelve week implementation period. The classroom teacher, assisted by the classroom aide, used normal class instruction time and materials to teach the eight basic money skills described in the problem statement to the target group of ten students. The students worked with this teacher for two 45 minute periods per school week.

The time/money classroom teacher used various activities to teach identification of coins and values of coins. Activities to teach coin identification included use of overhead coins on the overhead projector, identification of real coin money, use of coin ink stamps to create study cards, oversized coin manipulatives for bulletin board identification, and game die with coin faces (students must identify the coin face that is rolled on the die). Activities to teach coin values included counting with real coins, teacher made coin bingo games, money exchanging (five pennies for a nickel, etc.), overhead spinner with coins (students count value of coin faces that are chosen by a spinner game piece designed for the overhead projector), clothespin matching (clothespins with coin value

must be matched and clipped to coin cards), the "be a teacher" game (students play the roll of the teacher and count values of oversized coin manipulatives for classroom peers), and basic computer games that reinforce counting money.

During this twelve week period, the author, with assistance from the music class aid, reinforced the eight basic money skills during regular music classes. The students worked with the author for two 45 minute periods per week. The students participated in a music activities that combined music, visual aids, and computer technology.

A daily log of student behavior was recorded by the author for each music class during the implementation period. The author noted observations of student attitude and degree of participation during each song example, as well as reporting teacher observation of student improvement in coin identification and cent value skills. The daily log provided evidence for the midcourse corrections that became necessary, by describing the negative reactions that occurred during the music activities included in the implementation. The difficulties encountered during each activity were recorded, as well as the resolutions to these problems. Activity modifications were then made during the implementation phase of the project.

Four original songs (Appendix F:61), one representing each coin, were composed in collaboration with the computer teacher, using "The

Music Studio" program. This program, described in the research chapter, allowed the author to create a musical accompaniment that was ready for immediate use in the classroom. The musical accompaniment remained the same for each of the four songs, which meant that the students only had to learn one melody for the twelve week project. The author had learned from experience that repetition of a musical melody helps the TMH student to learn a song example with greater accuracy. Using the same melody for this project allowed the student to learn the melody faster, and the students were able to concentrate on the lyrics of each song. Lyrics of each song are unique. These lyrics describe and reinforce the cent value of a specific coin. The students learned to sing each song, thereby reinforcing identification and cent value of each coin aurally.

The students learned one song each week during the first four weeks of implementation. During week one, the author introduced the Penny March Song to the target group of students. The students learned the melody at this time, as well as the lyrics containing information about the penny. The lyrics taught the students that a penny is worth one cent, including the decimal equivalent. The consumer skill of saving money for future purchases was also introduced in the lyrics of this song. A large coin stick puppet of the penny was used by the author to reinforce visual identification of this coin, as the song was learned.

During the first week of implementation, the author noted in the daily log that although the students in the target group seemed to enjoy the music, they showed evidence of a short attention span while learning to sing the song. The author concluded that the students needed more immediate hands-on manipulatives to increase student attention. A change in the implementation schedule was made to introduce the coin face manipulatives sooner. Instead of waiting until week five, the manipulatives would be introduced during week two. Coin face manipulatives (Appendix G:66) were used while singing by each student to reinforce visual identification of the coin in association with the song. The coin face examples included in the appendix were made into a set of small stick puppets for each student. These puppets were manipulated by the student while singing each song about the penny, nickel, dime, and quarter during the implementation period.

During week two, the author introduced the Nickel March Song to the target group of students. The students reviewed the melody, as they learned the lyrics for this new song. The lyrics taught the students that a nickel is worth five cents, including the decimal equivalent. The consumer skill of comparison shopping to make wise purchases was also introduced in the lyrics of this song. A large coin stick puppet of the nickel was used by the author to reinforce visual identification of this coin, as the song was learned. The coin face manipulatives described in the

above paragraph were added at this time. Students had to choose the nickel from the coin face examples given to them, as they learned this new song.

The daily log for week two showed an improvement in student attention span when using the coin face manipulatives. The author observed high interest level in the song, good body movement to the music, and good response to teacher questions about the nickel.

During week three, the author introduced the Dime March Song to the target group of students. The students reviewed the melody, as they learned the lyrics for this new song. The lyrics taught the students that a dime is worth ten cents, including the decimal equivalent. The consumer skill that money should not be lent or given away to others was also introduced in the lyrics of this song. A large coin stick puppet of the dime was used by the author to reinforce visual identification of this coin, as the song was learned. Students had to choose the dime from the coin face examples given to them for visual reinforcement.

The daily log for week three continued to show high student interest during the activities. The author observed that the students reacted positively when using the coin face manipulative puppets. The students continued to show good body movement to the music as they sang about the dime. Correct responses to questions about the dime were also noted in the log.

During week four, the author introduced the Quarter March Song to the target group of students. The students reviewed the melody, as they learned the lyrics for this new song. The lyrics taught the students that a quarter is worth twenty-five cents, including the decimal equivalent. The consumer skill that commercial advertisements should not be taken seriously was also introduced in the lyrics of this song. A large coin stick puppet of the quarter was used by the author to reinforce visual identification of this coin, as the song was learned. Students had to choose the quarter from the coin face examples given to them for visual reinforcement.

Observations recorded in the daily log for week four noted that the students were confusing the quarter with the nickel, when asked questions about the cent value of the quarter. To help resolve this problem, the author added an activity to reinforce the cent value of the quarter during week five of the implementation period. Positive student reactions to the music through body movement and singing continued to be observed by the author. It is important to note that students did not show signs of boredom with the activities, despite four weeks of practicing. Observation by the author showed that music was a positive tool when repeated practice of a concept was needed by the target group.

The students then sang each of the four songs once each period for the remaining eight weeks of implementation. During week five, the students continued practice of all four songs with the large stick puppets and coin face manipulative puppets for visual identification. The problem noted in week four of the daily log was addressed at this time. To assist students in distinguishing between the nickel, worth five cents, and the quarter, worth twenty-five cents, the author introduced "The Money Cheer". This cheer read:

Twenty-five, fifty, seventy-five, a dollar,  
all for the dragons stand up and holler !!!

The author used this rhythmic activity to stress that the quarter was worth twenty-five cents. Small signs denoting the cent values in this activity were created for the students to hold up as they performed the cheer. This offered the target group aural and visual reinforcement for the cent value of the quarter.

During week six, practice of the four songs continued. Students continued to use the large coin puppets for visual identification. The small student manipulative puppets were also used by each student to reinforce visual identification of each coin. The "Money Cheer" continued to be practiced as well. The author added a Coin Money Identification Chart (Appendix H:70) to reinforce visual identification of each coin (front and back views) for the target group of students. The students would point to each coin example in the chart, after singing the song for that



coin, and name the cent value. Observations recorded in the daily log continued to note positive responses and enthusiastic body movement to the musical activities.

During week seven, practice of all four songs continued. The students continued to use the large stick puppets and small student manipulative puppets. Visual identification of each coin continued to be reinforced through use of these manipulatives, as well as the Coin Identification Chart. The "Money Cheer" continued to reinforce the cent value of the quarter, assisting the students in distinguishing between the quarter and the nickel. The daily log continued to show active participation in all activities.

During week eight, practice of all four songs continued with the puppet manipulatives. Large signs, created by the author, depicting the cent values of each coin were introduced to the target group at this time. These signs were used while singing to reinforce visual identification of the cent value of each coin. A visual comparison of the coin and the cent value of that coin could therefore be made by the students while experiencing each musical example. The daily log of teacher observations showed an increase of correct student responses to questions about each coin and the cent values.

During week nine, practice of all four songs continued. Students continued to use the manipulative materials while singing each song

example. A visual comparison of each coin and the cent value of each coin would continue to be reinforced with the music activities. Teacher observation continued to show positive participation by the target group in all music activities, as recorded in the daily log.

During week ten, practice of all four songs continued. Students continued to use the manipulative materials while singing each song example. A visual comparison of each coin and the cent value of each coin continued to be reinforced with the music activities. The author noted in the daily log that a new activity would assist in maintaining the present high interest level of the target group of students. A song entitled, "The Piggy Bank Song" was introduced to the students at this time, as an added activity to the implementation schedule. This recording is available on Youngheart Records, and is included in the Music Resource Guide (Attachment:80). This song offered a new activity to reinforce the cent value of each coin. Teacher observation, recorded in the daily log, showed an enthusiastic response to the new song.

A discussion of the consumer skills included in the songs also took place at this time in the implementation schedule. These skills were a supplemental part of the music activities, but could be a basis for group discussion about how students in the target group would use money in daily life situations. The author guided the target group through a brief brain-storming session on why correct use of money is important to each

student. This activity assisted the author in reinforcing several aspects of critical thinking, by encouraging the students to "...relate subject matter to experiences in other subjects or to their personal lives" (NOVA: 105). The students also spent "...time working collaboratively to solve subject matter questions" (NOVA: 105) about consumer skills, and were "...actively listening to each other" (NOVA: 105). Critical thinking activities must be carefully structured for the TMH population, but the target group did work together to discuss consumer skills during the implementation phase of this project.

During week eleven, students continued to practice all four coin songs. Manipulatives were used to reinforce coin identification and cent value of the coins. Consumer skills were also reviewed as each song was performed. Students in the target group continued to maintain a high level of student interest and enthusiasm in all music activities, and in discussing the coins and coin values, as recorded in the daily log.

During week twelve, a conclusion activity took place. The target group performed the four coin songs for other secondary students in the time/money teacher's classroom. The target group shared newly learned money skills with the use of the manipulative materials. The performance acted as a review of all skills taught during the implementation period. The target group would also experience the positive motivation that can occur while sharing creative and artistic talents with peers. The author

noted in the daily log that several target group students went into the audience to assist those students in choosing correct coin value manipulatives during the performances. The target group actually initiated peer tutoring during this final week of the implementation activities.

A final review of the four songs took place on the last day of implementation. The assistant principal observed the music class session using the Pre-Implementation/Implementation Observation Form and recorded student behaviors. These results would be compared with the pre-implementation observation scores in the Results Chapter. Upon completion of the twelve week implementation period, the author administered the posttest to the target group and recorded the test results. These results would be used by the author for comparison with the pretest scores in the Results Chapter.

The implementation schedule is summarized as follows:

Table 4

## Implementation Schedule

Week	Activity
One	Introduced Penny March Song Learned new melody Learned new lyrics Cent value/Decimal equivalent Consumer Skill - Saving money Used large penny puppet
Two	Introduced Nickel March Song Reviewed melody Learned new lyrics Cent value/Decimal equivalent Consumer Skill-Comparison shopping Used large nickel puppet Introduced coin face manipulatives
Three	Introduced Dime March Song Reviewed melody Learned new lyrics Cent value/Decimal equivalent Consumer Skill-Lending money Used large dime puppet Used coin face manipulatives
Four	Introduced Quarter March Song Reviewed melody Learned new lyrics Cent value/Decimal equivalent Consumer Skill-Beware of commercials Used large quarter puppet Used coin face manipulatives

Table 4 (continued)

Week	Activity
Five	Practiced all four songs each period Used large puppets Used coin face manipulatives Introduced "Money Cheer"
Six	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Introduced Coin Identification Chart
Seven	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Used Coin Identification Chart
Eight	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Used Coin Identification Chart Introduced coin value signs
Nine	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Used Coin Identification Chart Used coin value signs

Table 4 (continued)

Week	Activity
Ten	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Used Coin Identification Chart Used coin value signs Introduced "The Piggy Bank Song" Discussed consumer skills
Eleven	Continued to practice all four songs Used large puppets Used coin face manipulatives Used "Money Cheer" Used Coin Identification Chart Used coin value signs Used "The Piggy Bank Song" Reviewed consumer skills
Twelve	Conclusion Activity - Performance Final Review Observation by Assistant Principal
Post-implementation	Basic Money Skills Posttest

## CHAPTER IV

### Results

The author measured the success of improved basic money skills mastery using the pretest/posttest method of evaluation. The author created the Basic Coin Money Skills Pretest/Posttest (Appendix B:53) that was used to measure skill improvement, as outlined in the success criteria of the outcome objectives. The eight question test was administered aurally to each student, as described in the teacher directions on the test. Results of the posttest were measured against the success criteria during final evaluation of the project. It was expected that the target group would increase mastery of basic money skills by 50 percent as measured by the Basic Money Skills Posttest. Table 5 (Appendix I:72) shows a comparison of the pretest and posttest scores for the target group.

Percentage of increase was calculated by subtracting each pretest score from the posttest score, and then dividing by the pretest score. The data show that all target group students had correct pretest scores for skill one, and maintained this skill during the implementation period. No correct pretest scores for skill two were recorded, but six correct scores



were recorded on the posttest. This would equal a 600 percent increase for skill two. Five students had correct pretest scores for skill three. One student failed to maintain this skill, but four additional target group students answered correctly on the posttest. This represents a 60 percent increase for skill three. Four students had correct responses for skill four. Although two of these students failed to maintain this skill, five additional target group students answered correctly on the posttest. This represents a 75 percent increase for skill four. Only two correct responses were recorded on the pretest for skill five, and one student failed to maintain this skill. There were, however, seven additional correct responses on the posttest, representing a 300 percent increase for skill five. Only two correct responses were recorded on the pretest for skill six, and again, one student failed to maintain this skill. There were, however, six additional correct responses on the posttest, representing a 250 percent increase for skill six. There were two correct responses on the pretest for skill seven, and both students maintained this skill. Four additional correct responses were recorded on the posttest, representing a 200 percent increase for skill seven. Only one correct answer was recorded on the pretest for skill eight, and it was maintained during implementation. Three additional correct responses were recorded on the posttest, representing a 300 percent increase for this skill. Posttest scores showed maintenance for skill one, and an overall increase in

achievement for the target group in the other seven basic money skills.

The author noted that several students failed to maintain some skills during the implementation period. A reason for this finding may be poor memory/ retention ability for some target group students. This is a common problem in the TMH population. The overall findings suggest, however, that the music activities facilitated the learning and maintenance of basic money skills for the target group.

The author measured the success of improved student on-task behaviors using a pre-implementation/implementation observation method of evaluation. The author created the Pre-Implementation/ Implementation Observation Form (Appendix D:57) that was used to measure an increase in students' on-task behaviors, as outlined in the success criteria of the outcome objectives. The observation was conducted at the conclusion of the implementation period. It was expected that the target group would demonstrate a 25 percent increase in on-task behaviors, as measured by teacher observation following the implementation period. Table 6 (Appendix J:74) shows a comparison of the pretest and posttest observation scores.

Percentage of increase was calculated by subtracting each pretest score from the posttest score, and then dividing by the pretest score. Total responses for use of manipulative materials increased by 73 percent. Responses to teacher questions increased by 79 percent. Total

responses of enthusiasm and gestures that showed interest increased by 150 percent during the implementation observation. The average of students engaged in the lesson increased by 25 percent.

The comparison of data from the pre-assessment and the post-assessment instruments showed an overall increase of achievement in mastery of basic money skills and on-task behaviors for the target group. Both objectives of the practicum project had been realized. The author concluded that music activities could provide a vehicle to facilitate learning and maintenance of basic skills taught to students in the TMH classroom.

## CHAPTER V

### Recommendations

The author believes that the success of using music to reinforce basic coin money skills, as demonstrated in this project, could be expanded to reinforce other basic skills taught to the TMH student. These skill areas include body part identification, colors, foods and nutrition, letter and word recognition, manners and feelings, numbers, safety, shapes, and time and seasons. The author has created a guide of Music Resources to Reinforce Basic Fundamental Skills taught in the TMH classroom. It is hoped that this guide may act as a beginning resource tool for those educators interested in implementing music activities to reinforce basic skills taught to TMH students. The guide is included as an additional component of this final report.

The author will recommend this new resource guide to the area music supervisor for possible inclusion in the county music curriculum guide. Music educators entering special education for the first time may find such a resource guide helpful in beginning to plan a music curriculum for the special needs student. It is hoped that this information may help music specialists create valuable learning experiences for special education students.

## Reference list

- Addison, Richard. "Music with Special Needs Children: a Powerful Aid", Child Language Teaching and Therapy, Volume 7, No. 3, 1991, pp. 286-297.
- Alexandra, Celene A. "Training Elementary Teachers to Use Music therapy Activities for Social Skill Promotion." Practicum, NOVA University, 1985.
- Audio Light, Inc. The Music Studio for Apple IIGS Computers, Los Gatos, California: Activision, Inc., 1986.
- Aveno, Arlene. "A Survey of Leisure Activities Engaged in by Adults Who are Severely Retarded Living in different Residence and Community Types," Education and Training in Mental Retardation, June, 1987, pp. 121-27.
- Beall, Lee. "The Making of a Special Oliver!", Music Educators Journal, February, 1985, pp. 30-32.
- Brolin, D.E. Vocational Preparation of Retarded Citizens. Columbus, Ohio: Merrill, 1976.
- Brown, L., B. Shiraga, J. Yorker, K. Kessler, B. Strohm, P. Rogan, M. Sweet, K. Zanella, P. Van Deventer, and R. Loomis. "Integrated Work Opportunities for Adults with Severe Handicaps", Journal of the Association for Persons with Severe Handicaps, Volume 9, 1984, pp. 262-269.
- Brown, Randall. "Suggestive-Accelerative Learning and Teaching in Special Education", Journal of the Society for Accelerative Learning and Teaching, Volume 11, No. 1, 1986, pp. 13-21.
- Buddle, J., and J. Bachelder. "Independent Living: The concept, Model and Methodology", Journal of the Association for Persons with Severe Handicaps, Volume 11, 1986, pp. 240-245.

- Davidson, Lyle. "Tools and Environments for Musical Creativity", Music Educators Journal, May, 1990, pp. 47-51.
- Educational Record Center Catalog. Wilmington, North Carolina, 1992.
- Eiduson, Sandra and Barbara Mitacek. "Assessing the Progress of Moderately Retarded Students in Applied Academics". Conference Paper. Annual Convention of the Council for Exceptional Children, 1984.
- Erskine Ron. "A Suggestopedic Math Project Using Nine Learning Disabled Students", Journal of the society for Accelerative Learning and Teaching, Volume 11, No. 4, 1986, pp. 225-229.
- Falvey, M.A. Community-Based Curriculum: Instructional Strategies for Student with Severe handicaps. Baltimore: Brookes Publishing Company, 1986.
- Ford, A., L. Brown, I. Pumpian, D. Baumgart, J. Nisbet, J. Schroeder, and R. Loomis. "Strategies for Developing Individual Recreation Leisure Plans for Adolescent and Young adult Severely Handicapped Students", In Public School Integration of Severely Handicapped Students: Rational Issues and Progressive Alternatives, edited by N. Certo, N. Haring, and R. York. Baltimore: Paul H. Brookes, 1984.
- Frank, Allan R. and David P. Wacker. "Analysis of a Visual Prompting Procedure on the Acquisition and Generalization of Coin Skills by Mentally Retarded Children", American Journal of Mental Deficiency, Volume 90, No. 4, 1986, pp. 468-472.
- Hillsborough County Schools, Tampa, FL, Income Guidelines for Free and Reduced Price Meals, 1992.
- Hillsborough County Schools, Tampa, FL, Music Curriculum Guide. Extension for The Exceptional Student, 1987.
- Hillsborough County Schools, Tampa, FL, Trainable Mentally Handicapped Teacher Handbook, 1987.

Hock, Michael, Susan Brody Hasazi, and Angela Patten. "Collaboration for Learning: Strategies for Program Success", Music Educators Journal, April, 1990, pp. 44-48.

Lathom, Wanda, and Charles T. Eagle. "Music for the Severely Handicapped," Music Educators Journal, April, 1982, pp. 30-31.

Michael Brent Publications Catalog. Port Chester, New York, 1992.

Minimum Student Performance Standards for Florida Schools. (Exceptional Student Programs for TMH Students) Florida Department of State, 1984, pp. 106-107.

Monagan, Michael. "Special Music by Special Kids", Educational Leadership, March, 1989, p. 20.

Morris, Leslie. Personal interview. September , 1992.

Nirje, B. "The Normalization Principle and Its Human Management Implications", In Changing Patterns in Residential Services for the Mentally Retarded, edited by R.B. Kugel and W. Wolfensberger, pp. 180-195. Washington, D.C.: The President's Committee on Mental Retardation, 1969.

NOVA. Practicum Internship Handbook, NOVA University Educational Text Series, 1991.

Peng, Ph. D., Chao-Ying J., Alan R. Frank, Ph. D. and Thomas P. McFarland, Ph. D. "Use of Clustering Techniques for Validation of Task analysis Models", The Journal of Special Education, Volume 18, No. 2, 1984, pp. 131-142.

Peterson, D. Functional Mathematics for the Mentally Retarded. Columbus, Ohio: Merrill, 1973.

Plank Road Publishing catalog. Wauwatosa, Wisconsin, 1992.

- Podell, David M., Nelly Tournaki-Rein and Agnes Lin. "Automatization of Mathematics Skills via Computer-Assisted Instruction Among Students with Mild Mental Handicaps", Education and Training in Mental Retardation, Volume 27, No. 3, September, 1992, pp. 200 - 206.
- Pratt, Rosalie Rebollo. "Music Education and Medicine: A Renewed Partnership", Music Educators Journal, January, 1991, pp. 31-36.
- Taylor, Jack A. "Computers in Music and Music Instruction: The Joys of Hardware and the Woes of Software," Design for Arts in Education, May/June, 1988, pp. 50-55.
- Wehman, P., M.S. Moon, and P. McCarthy. "Transition from School to Adulthood for Youth with Severe Handicaps", Focus on Exceptional Children, Volume 18, 1986, pp. 1-12.
- Westling, David L. "Leadership for Education of the Mentally Handicapped", Educational Leadership, March, 1989, pp. 19-23.



Appendices

Appendix A

Table 1

Student Mastery of Basic Money Skills

Table 1

## Student Mastery of Basic Money Skills

Student	Skill	1	2	3	4	5	6	7	8
A		M	M	M	M	M	M	M	M
B									
C									
D		M	M	M	M	M			
E		M							
F									
G		M	M	M		M	M		
H			M						
I		M		M					
J									

Basic Money Skills:

M = Mastered

1. Identify a penny.
2. Identify a nickel.
3. Identify a dime.
4. Identify a quarter.
5. Identify the cent value of a penny.
6. Identify the cent value of a nickel.
7. Identify the cent value of a dime.
8. Identify the cent value of a quarter.

Appendix B

Basic Coin Money Skills Pretest/Posttest

## Basic Coin Money Skills Pretest/Posttest

## TEACHER DIRECTIONS:

Read each question to the target group student. Student will point to a real coin example of a penny, nickel, dime, or quarter to answer questions 1-4. Student will state the cent value for each coin to answer questions 5-8.

Record C=Correct or I=Incorrect for each response in the space provided after each question.

1. Which coin is a penny? \_\_\_\_\_
2. Which coin is a nickel? \_\_\_\_\_
3. Which coin is a dime? \_\_\_\_\_
4. Which coin is a quarter? \_\_\_\_\_
5. How many cents are in a penny? \_\_\_\_\_
6. How many cents are in a nickel? \_\_\_\_\_
7. How many cents are in a dime? \_\_\_\_\_
8. How many cents are in a quarter? \_\_\_\_\_

Appendix C

Table 2

Summary of Coin Money Skills Pretest Scores

Table 2

## Summary of Coin Money Skills Pretest Scores

Student	Skill	1	2	3	4	5	6	7	8
A		C		C	C	C	C	C	C
B		C							
C		C							
D		C		C	C			C	
E		C			C				
F		C			C				
G		C		C		C	C		
H		C		C					
I		C		C					
J		C							

C = Correct Response to oral question.

## Pretest Questions:

1. Which coin is a penny?
2. Which coin is a nickel?
3. Which coin is a dime?
4. Which coin is a quarter?
5. How many cents are in a penny?
6. How many cents are in a nickel?
7. How many cents are in a dime?
8. How many cents are in a quarter?

Appendix D

Pre-Implementation/Implementation Observation Form



\_\_\_\_\_ Pre-Implementation \_\_\_\_\_ Implementation  
 Observation Form

OBSERVER DIRECTIONS:

Make a mark each time a student displays on-task behaviors 1, 2, or 3 during the observed lesson. Make a mark in behavior 4 for each student that is not engaged in the lesson, as observed at four 10 minute intervals during the lesson. After the observation, total all responses and compute average of engaged students.

Behaviors:	1 Uses Manipulatives	2 Responds to Questions	3 Uses Body Gestures
Student			
A	Freq _____	_____	_____
B	Freq _____	_____	_____
C	Freq _____	_____	_____
D	Freq _____	_____	_____
E	Freq _____	_____	_____
F	Freq _____	_____	_____
G	Freq _____	_____	_____
H	Freq _____	_____	_____
I	Freq _____	_____	_____
J	Freq _____	_____	_____
TOTALS:	_____	_____	_____

Behavior 4: Loss of eye-contact/students not engaged in the lesson.  
 1st Period    2nd Period    3rd Period    4th Period

Classroom Frequency	_____	_____	_____	_____
Total Not-Engaged	_____	_____	_____	_____
Total Engaged	_____	_____	_____	_____
Average of Engaged Students	_____			

Appendix E

Table 3

Summary of Pre-Implementation Observation

Table 3

## Summary of Pre-Implementation Observation

Behavior	Total responses
1. Uses manipulative materials.	___49___
2. Responds to teacher questions.	___42___
3. Displays enthusiasm with body movement/ gestures that shows interest.	___28___
4. Eye contact/ students engaged in the lesson.	___7___ (Average)

Appendix F

Basic Money Skills Coin Songs

## Basic Money Skills Coin Songs

## PENNY MARCE

Copyright © 1992 by

Eugene Orlando

To my fans I am known as a pen-ny,  
and I am worth a good one cent.

De-ci-mal you must use to write me down.  
Point oh one.  
De-ci-mal.  
Point oh one.

Save your money wise,  
and you will have a big sur-prise.  
Tons more of mon-ey,  
just saved for the fu-ture,  
and that's wise.

To my fans I am known as a pen-ny,  
and I am worth a good one cent.

De-ci-mal you must use to write me down.  
Point oh one.  
De-ci-mal.  
Point oh one.

## NICKEL MARCH

Copyright © 1992 by

Eugene Orlando

To my fans I am known as a nick-le,  
and I am worth a good five cents.

De-ci-mal you must use to write me down.  
Point oh five.  
De-ci-mal.  
Point oh five.

Spend your money wise,  
and you will have a big sur-prise.  
More for your mon-ey,  
and buys that will put you,  
on the rise.

To my fans I am known as a nick-le,  
and I am worth a good five cents.

De-ci-mal you must use to write me down.  
Point oh five.  
De-ci-mal.  
Point oh five.

DIME MARCH  
Copyright © 1992 by  
Eugene Orlando

To my fans I am known as just a dime,  
and I am worth a good ten cents.

De-ci-mal you must use to write me down.  
Point one oh.  
De-ci-mal.  
Point one oh.

Guard your money wise,  
and you will have a big sur-prise.  
Don't loan your mon-ey,  
or give it a-way to  
the bad guys.

To my fans I am known as just a dime,  
and I am worth a good ten cents.

De-ci-mal you must use to write me down.  
Point one oh.  
De-ci-mal.  
Point one oh.

## QUARTER MARCH

Copyright © 1992 by

Eugene Orlando

To my fans I am known as a quar-ter,  
and I am worth twen-ty five cents.

De-ci-mal you must use to write me down.  
Point two five.  
De-ci-mal.  
Point two five.

Watch no ad-ver-tise-  
ment you will have a big sur-prise.  
Make up your own mind,  
and don't try to be-lieve  
all the lies.

To my fans I am known as a quar-ter,  
and I am worth twen-ty five cents.

De-ci-mal you must use to write me down.  
Point two five.  
De-ci-mal.  
Point two five.



Appendix G

Coin Face Manipulatives

Coin Face Manipulatives







Appendix H

Coin Money Identification Chart

### Coin Money Identification Chart



Appendix I

Table 5

Coin Money Skills Pretest/Posttest Comparison

Table 5

## Coin Money Skills Pretest/Posttest Comparison

Student	A	B	C	D	E	F	G	H	I	J
Skill 1										
Pre	C	C	C	C	C	C	C	C	C	C
Post	C	C	C	C	C	C	C	C	C	C
Skill 2										
Pre										
Post	C	C		C				C	C	C
Skill 3										
Pre	C			C			C	C	C	
Post	C	C	C	C	C			C	C	C
Skill 4										
Pre	C			C	C	C				
Post	C	C		C			C	C	C	C
Skill 5										
Pre	C						C			
Post	C	C	C	C	C	C		C		C
Skill 6										
Pre	C						C			
Post	C	C	C	C	C			C		C
Skill 7										
Pre	C			C						
Post	C	C	C	C	C					C
Skill 8										
Pre	C									
Post	C	C	C							C

Basic Money Skills:

C = CORRECT RESPONSE

1. Identify a penny.
2. Identify a nickel.
3. Identify a dime.
4. Identify a quarter.
5. Identify the cent value of a penny.
6. Identify the cent value of a nickel.
7. Identify the cent value of a dime.
8. Identify the cent value of a quarter.



Appendix J

Table 6

Pre-Implementation/Post-Implementation  
Observation Comparison

Table 6

Pre-Implementation/Post-Implementation  
Observation Comparison

Behavior	Total responses:	
	Pre	Post
1. Uses manipulative materials.	<u>49</u>	<u>85</u>
2. Responds to teacher questions.	<u>42</u>	<u>75</u>
3. Displays enthusiasm with body movement/ gestures that shows interest.	<u>28</u>	<u>70</u>
4. Eye contact/ students engaged in the lesson. (Average)	<u>7</u>	<u>8.75</u>

Attachment

Music Resources to Reinforce  
Basic Fundamental Skills

Music Resources to Reinforce  
Basic Fundamental Skills

Examples of musical recordings available for basic skill reinforcement are listed below. Individual music examples from these recordings are then listed by skill area. The author hopes that this guide will offer a beginning resource to those educators who wish to use music to reinforce basic skills taught in the special education curriculum.

Musical RecordingPublisher

Basic Skills Through Music  
Aden Lewis

Alfred Publishing, Inc.  
15335 Morrison St.  
Sherman Oaks, CA 91403

Children's Dances Without  
Partners

Think Stallman Productions, Ltd.  
P.O. Box AL  
Roslyn Heights, N.Y. 11577

Circles and Sticks

Educational Activities, Inc.  
Box 392  
Freeport, N.Y. 11520

Early Childhood Rhythms-  
songs-Skills

Kimbo Educational  
P.O. Box 477  
Long Branch, N.J. 07740

Easy Does It !  
Activity songs for Basic Motor  
Development

Educational Activities, Inc.  
Box 392  
Freeport, N.Y. 11520

## Elephant Records

Sharon, Lois, and Bram

"In the School Yard"

"Mainly Mother Goose"

"One Elephant, Deux Elephant"

"One, Two, Three, Four..."

"Smorgasbord"

"Elephant Show Record"

## Les Disques Elephant

P.O. Box 101, Station Z

Toronto, Canada M5N 2Z3

## Join In !

April and Susan

## April and Susan

Box 53 Postal Station A

Willowdale, Ontario, Canada

M2N 5S7

## Miss Jackie Says: Hello Rhythm

## Miss Jackie

10001 El Monte

Overland Park, Kansas 66207

## Monsters and Monsterous Things

## Ubeat Basics

P.O. Box 120516

Acklen Station

Nashville, TN 37212

Reaching the Special Learner  
Through Music

Sona D. Nocera

## Silver Burdett Co.

Morriston, N.J.

1-800-631-8081

## Shapes in Action

Georgiana Liccione Stewart

## Kimbo Educational

P.O. Box 477

Long Branch, N.J. 07740

Singable songs for the Very Young  
The Corner Grocery Store  
Raffi

## Shoreline Records

C/O 6307 Yonge St.

Willowdale, Ontario Canada

M2M 3X7

Tickley, Toddle  
Hap and Martha Palmer

## Educational Activities, Inc.

Box 392

Freeport, N.Y. 11520

Walter Worm  
Hap Palmer

Educational Activities, Inc.  
Box 392  
Freeport, N.Y. 11520

Witches Brew  
Hap and Martha Palmer

Educational Activities, Inc.  
Box 392  
Freeport, N.Y. 11520

Youngheart Records  
Steve and Greg  
"We All Live Together  
Vol. 1-4  
"Kidding Around"  
"On The Move"

Youngheart Records  
Los Angeles, CA 90027

Basic skill : Body PartsMusical Recording

Circles and Sticks

Dances Without Partners

Easy Does It !

Hello Rhythm

In The School Yard

One, Two, Three, Four...

Reaching the Special Learner  
Through Music

Singable Songs...Very Young

Tickley, Toddle

Walter Worm

Song Examples

Connection

The Finger Game

Friend on the Floor  
The Beanbag

I Brush My Teeth

You Can't Make a Turtle Come  
Out

Where is Thumbkin ?

Bones  
Head, Shoulders  
I Roll The Ball  
I will Clap  
Open, Shut Them  
Put Your Finger in the Air  
Put Your Hand on Your Shoe  
Two Little HandsBrush Your Teeth  
Spider on the Floor  
Wonder if Your Growing

Rub-A-Dub

Flick-A-Fly  
Surprise Song  
What a Miracle

We All Live Together Vol. 1	Looby Loo
We All Live Together Vol. 3	If Your Happy and You know It Mulberry Bush Simon Says

Basic skill: Colors

<u>Musical recordings</u>	<u>Song Examples</u>
Dances Without Partners	Name that Color
Easy Does It !	Move Around The Color
Monsters and Monsterous Things	Monster Colors
Reaching the Special Learner Through Music	Miss Mary Mack One of These Things

Basic Skill: Foods/Nutrition

<u>Musical Recordings</u>	<u>Song Examples</u>
Early Childhood Rhythms-Songs-Skills	Teddy Bears Picnic
Join In !	Pizza !
Smorgasbord	Peanut butter



Basic Skill: Letters/Words

<u>Musical Recording</u>	<u>Song Example</u>
Basic Skills Through Music: Letters Words	All Songs
In The School Yard	Silly Names and Crazy Gibberish
Monsters and Monsterous Things	Down in the Sea Monstery ABC's
On The Move	Scat Like That
Reaching the Special Learner Through Music	Letters and Names
We All Live Together Vol. 1	ABC Rock
Witches Brew	They Go Together (Word Pairs)

Basic Skill: Manners/Feelings

<u>Musical Recording</u>	<u>Song Example</u>
Kidding Around	The Hugging Song
Monsters and Monsterous Things	Misbehaving Monsters
On The Move	Friends
Singable Songs...Very Young	The Sharing Song
We All Live Together Vol. 3	Rock Around the Mulberry Bush

Basic Skill: Money

<u>Musical Recordings</u>	<u>Song Example</u>
We All Live Together Vol. 3	The Piggy Bank Song

Basic Skill: Numbers

<u>Musical Recording</u>	<u>Song Example</u>
Basic Skills Through Music: Numbers	All Songs
Circles and Sticks	Goin' Out On The Town
Dances Without Partners	Clap Dance Count Off ! Shout Out ! Stepping Game
Elephant Show Record	Five Brown buns One Elephant Ten in a Bed
Mainly Mother Goose	Five Green Apples
Monsters and Monsterous Things	Monsters in My Room
One Elephant, Deux Elephant	Five Little Monkeys
Reaching the Special Learner Through Music	Angel Band Elephant Song Five Angels Here's the Beehive Roll Over Three Lil' Ducks Two Lil' Blackbirds

Singing n' Swinging	I Am Slowly Going Crazy
Singable Songs...Very Young	Five Lil Frogs (Take-Away)
Smorgasbord	Three Little Monkeys
We All Live Together, Vol. 2	The Number Rock

Basic Skill: Safety

<u>Musical Recording</u>	<u>Song Example</u>
Kidding Around	Safety Break
Reaching the Special Learner Through Music	Stop! Look! Listen! The Man in Blue Upstairs, Downstairs

Basic skill: Shapes

<u>Musical Recording</u>	<u>Song Example</u>
Circles and Sticks	Circles Everywhere Jump and Land Put The Paper Ball Run Around The Circle
Easy Does It !	Birds in Circles Circle Your Way
Monsters and Monsterous Things	Footprints Monster Mask
Shapes in Action !	All songs
We All Live Together Vol. 1	Round in a Circle
We All Live Together Vol. 3	Shapes !

Basic Skill: Time/SeasonsMusical RecordingSong Example

Dances Without Partners

Week March

Join In !

Round and Round (Seasons)

On the Move

How Many Days ?

We All Live Together Vol. 2

Months of the Year (English/  
Spanish)

We All Live Together Vol. 4

Days of the Week