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A GUIDE IN THE USE OF MUSIC IN THE TRAINING AND DEVELOPMENT OF RUBELLA DEAF-BLIND CHILDREN

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A GUIDE IN THE USE OF MUSIC IN THE TRAINING AND DEVELOPMENT OF RUBELLA DEAF-BLIND CHILDREN

Ву

Lucille Jeanne Cormier

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

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ABSTRACT

A GUIDE IN THE USE OF MUSIC IN THE TRAINING AND DEVELOPMENT OF RUBELLA DEAF-BLIND CHILDREN

By

Lucille Jeanne Cormier

The purpose of this study is to provide a guide in the use of music in the training and development of rubella deaf-blind children. Historical background and needs of this population are stated. Various curricula used in educational settings for deaf-blind are reviewed. Published and unpublished literature providing information regarding the use of music with deafblind, though limited, is presented for consideration.

The elements of music are shown to be viable resources in the overall development and training plan for the severely handicapped rubella deaf-blind child. A developmental curriculum providing suggestions for specific musical stimuli, goals, prerequisites, materials and techniques is the core of this work. Recommendations for facilitating the application of these techniques are included. Finally, a summary of results of music therapy sessions already conducted with this population is presented, as well as suggestions for further experimental research.

To Cara

whose needs challenged creativity

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CHAPTER I

INTRODUCTION

The purpose of this study is to provide a guide in the use of music in the training and development of rubella deaf-blind children. Experience in the use of music activities with these children indicates that many of them can benefit from such a program. This opinion is supported by professional staff members of deaf-blind programs in Connecticut and Michigan who have observed some music therapy sessions and/or the results of these as recorded on videotape. However, more than a subjective opinion is necessary to make this theory a sound one with the intention of serving a larger population. This study is presented with the hope that these ideas will be tried, evaluated, used in experimental research and revised as necessary.

Need for the Study

In 1963, there were 68,000 children who were visually <u>and</u> aurally handicapped enrolled in special programs in the continental United States. By 1970-1971

the number had increased to 102,000. The latter figure includes all fifty states.¹

A major reason for the increase in deaf-blind population was the rubella epidemic which occurred between 1963 and 1965. In 1963, thirty-two states reported a total of 60,431 rubella cases. In 1965, thirty-six states reported a total of 100,842 cases.²

As a result of the epidemic in this country, "an estimated 30,000 children were born with one or more handicaps including visual impairment, hearing impairment, mental retardation and a variety of other physical disabilities."³

According to various sources, between 5,000 and 8,000 infants were born with varying degrees of hearing <u>and vision impairment, known as deaf-blind.</u> It is estimated that at least 140 infants diagnosed as rubella deaf-blind are born in each non-epidemic year. Numerical discrepancies are probably due to the fact that many

¹U.S. Bureau of the Census, <u>Statistical</u> <u>Abstracts of the United States</u>, 98th ed., Washington, <u>District of Columbia</u>, 1977, p. 135.

²Center for Disease Control, <u>Rubella Surveil-</u> <u>lance</u>, January 1972-July 1973, Issued November 1973, p. 3. ³Robert Dantona, "Centers and Services for Deaf-Blind Children: Past, Present, and Future," <u>Fifty-Third</u> <u>Biennial Conference</u>, Association for the Education of <u>the Visually Handicapped</u>, July, 1976, Louisville, Kentucky, p. 55.

cases may not have been reported and, secondly, the etiology of the double impairment in some cases is uncertain. There are many causes for hearing and vision impairment: congenital factors, disease, trauma, and errors in medical treatment.

The increase in the deaf-blind population in so few years is quite significant in terms of how these children are to be educated. Through the combined efforts of educators and parents of the afflicted children, the severity of the nationwide problem was recognized. In 1968, Congress approved of a plan to develop Regional Deaf-Blind Centers. In 1969, one million dollars was appropriated by Congress for the purpose of establishing these centers. Two more centers had been established by 1970. The ten Regional Centers now in existence cover all fifty states, with funding increased from one million dollars in 1969 to sixteen million dollars in 1976.

These centers are administrative and organizational units designed to identify and serve the needs of deaf-blind persons through providing mandatory diagnosis, evaluation and placement services. Parents

of, and personnel working with deaf-blind persons, may also receive supportive services from these centers.⁴

The observer of a deaf-blind child witnesses the fact that, beside the already mentioned handicaps, this child is also without language. It is understandable, then, why it becomes imperative that all means available be used through which a child can become self-expressive, socialized, and share in the human aspects of order and meaning.

Most people understand the feasibility of providing music for the blind. But, why music for the deaf? Why music for the deaf-blind? Music in the education of the deaf dates back to the early 1800s, possibly earlier. If music has been used historically so long in the education of the deaf, it would seem that the therapeutic and remedial uses of music could be a source of self-organization and self-expression for the rubella deaf-blind child whose mannerisms are usually quite bizarre and whose emotional releases are socially unacceptable. One cannot expect to eliminate these behaviors without finding satisfying substitutes for them.

⁴Robert Dantona, "A History of Centers and Services for Deaf-Blind Children," <u>State of the Art--</u> <u>Perspectives on Serving Deaf-Blind Children</u>, Bureau of Education for the Handicapped, U.S. Office of Education, pp. 18-22.

Music has the primitive appeal of rhythm which evokes physiological and psychological responses. Even rhythm that cannot be heard can be felt. In its simplest form, rhythm is basic to all humans in heartbeat, gait, and life cycle. Rhythm can also provide persons with energy and order, two very important factors in working with the deaf-blind person.

It would be presumptuous to think that the correct choice of music and music-related activity could, by itself, eliminate atypical characteristics of the deaf-blind child. However, it would be equally foolish to overlook the tremendous versatility of music in its potential for satisfying self-expression, fulfilling socialization needs, and as an adjunctive therapy in the remediation of behavioral, physical, perceptual and conceptual deficiencies.

The Rubella Syndrome

Most persons have either experienced or have known someone who has contracted German measles, a virus also known as rubella. This disease is usually considered as more of a nuisance than a critical condition. Its onset is most often imperceptible and, in some mild cases, is hardly noted, as in cases known as "subclinical." Its most common symptoms are muscular ache, fever, nasal congestion, and mild rash. It is sometimes

accompanied by a slight cough. As insignificant as these symptoms appear to be, to a pregnant woman and her unborn child, especially in the first trimester of pregnancy, this virus can and does wreak irreversible havoc in their lives. Although the mother does not suffer serious or lasting physical effects (sometimes none at all), the fetus is afflicted with an active virus occasionally lasting through its first year of life.

Vision and hearing impairments of varying degrees are the most prevalent handicaps present in these babies. Experience indicates that, for some, this double impairment is in no way as limiting as the accompanying damage to the central nervous system which, in turn, may cause retardation, seizure activity, and behavioral disorders. A combination of these conditions presents an added handicap which contributes to communication disorders.

Although a number of rubella children have minimal vision <u>and</u> hearing loss, severe neurological impairment may not allow for meaningful processing of sensory input. From research, it is not clear whether behavioral disorders are due to frustration as a result of input-processing difficulty or if they are psychogenic.

How are professionals to determine who should be identified as deaf-blind?

The deaf-blind child is defined as a child who has ". . . auditory and visual handicaps, the combination of which causes such severe communication and other developmental and educational problems that they cannot properly be accommodated in special education programs solely for the hearing handicapped or for the visually handicapped child."⁵

There are some implications to be derived from this definition. A child may be diagnosed as legally deaf-blind or clinically deaf-blind. In the former, legal blindness consists of visual acuity of 20/200 or less in the better eye with correction, or if visual acuity is better than 20/200, but has a limited central field of vision.⁶

There is no legal definition for hearing impairment; it is normally categorized according to severity, from mild to profound. Profoundly

⁵Robert Dantona, "Centers and Services for Deaf-Blind Children: Past, Present, and Future," Fifty-Third Biennial Conference, Association for the Education of the Visually Handicapped, July, 1976, Louisville, Kentucky, p. 56.

⁶Vanja Holm, "Multiple Handicaps: A Developmental Approach to Their Assessment," <u>Proceedings</u> <u>Workshop for Serving the Deaf-Blind and Multihandicapped</u> <u>Child: Identification, Assessment, and Training</u>, California State Department of Education, Sacramento, California, 1979, p. 24.

hearing-impaired persons are considered to be deaf.⁷ Clinically, or functionally, a person is diagnosed deaf-blind when his auditory and/or visual mechanisms appear to be intact, but, due to brain damage, is unable to process incoming visual and auditory stimuli, in effect, causing deaf-blindness.

Observable characteristics of a typical rubella deaf-blind child are many. Physically, the child is smaller in stature when compared to a normal child of the same chronological age. Frequently the child is thin, has a low hairline and delicate hands and feet. There is an overall delay in physical development.

Behaviorally, the deaf-blind child is similar to one who might be diagnosed as autistic. There is little or no observable recognition of human relationship. Furthermore, there is little interest in objects, except when these objects serve to enhance the child's most prominent behavioral characteristic, e.g., light gazing. The deaf-blind child has a fanatic obsession with light. Such obsession undermines much of the effort made by those who are in a position to teach or train him. Constant restlessness, distractibility, and impulsiveness

⁷Formerly, deafness was diagnosed as mild, moderate, severe, or profound. Except for the profoundly deaf, recent audiological journals consider all other categories as hearing-impaired. However, for the sake of simplicity, those with both hearing <u>and</u> vision impairments are referred to as deaf-blind.

also contribute to the child's difficulty in learning. Finger flicking, arm flapping, and rocking are to be included in the list of behavioral characteristics. Some children are noted to be self-abusive by headbanging, pinching and "picking" at externally caused or self-inflicted wounds.

For purposes of educational planning, there has been some effort to classify rubella deaf-blind children according to their learning potential. In an article by Smith, educational categories are as follows:

- 1. middle trainable and below
- upper trainable and below 8
 middle trainable and above

Brewer and Kakalic give credit to Smith for the delineation of percentages in each category:

approximately sixty percent to seventy-five percent are "middle trainable and below" in what he calls "practical functioning levels," approximately fifteen to twenty-five percent are "upper trainable through lower educable," and "approximately five to ten percent are "middle educable and above."9

The high percentage of very low functioning children is an indicator that professionals and parents

⁸Benjamin F. Smith, "Potentials of Rubella Deaf-Blind Children," 1980 Is Now--A Conference on the Future of Deaf-Blind Children, ed. Carl E. Sherrick, John Tracy Clinic, Los Angeles, California, 1974, p. 65.

⁹Garry D. Brewer and James S. Kakalic, "Serving the Deaf-Blind Population: Planning for 1980," 1980 Is Now--A Conference on the Future of Deaf-Blind Children, ed. Carl E. Sherrick, John Tracy Clinic, Los Angeles, Claifornia, 1974, p. 28.

responsible for their education must be as creative and daring as their minds allow them to be in the effort to reach as many children as possible, in an effective a manner as possible.

Overview

The purpose of, and need for, this study has been stated. General information regarding the rubella virus and resulting birth defects found in its wake has been provided to familiarize the reader with specific needs and problems encountered by parents and educators, as well as by the children themselves.

In Chapter II, a brief look at existing curricula for rubella deaf-blind provides a reference point for the use of music in the therapeutic setting. Finally, a summary of articles dealing with music and deaf-blind children is presented.

In Chapter III, a sketch of a developmental music program is suggested. A glossary of terms, as they are applied in this work, is supplied.

Specific objectives, methodology, and resource materials needed for carrying out the music program are found in Chapter IV.

Chapter V presents a report on observable behaviors and responses of rubella deaf-blind children who have received music therapy over a period of time. In this instance, the application of music therapy has been carried out in an exploratory manner. Results of this exploration are the source of suggestions found in this guide. Ideas for experimental research and methods of evaluation conclude the work.

CHAPTER II

RELATED LITERATURE

General Curricula for Deaf-Blind Children

A review of existing curricula makes clear that there is no standard curriculum for use with rubella deaf-blind. This reinforces the awareness that although rubella children have many common identifying characteristics, each child is unique, as determined by a particular set and severity of handicaps.

All curricula surveyed have basic commonalities. They usually specify the differences found in deaf-blind population which are normally listed as those afflicted due to: (1) prenatal infection, e.g., rubella virus; (2) genetic, hereditary birth defects; and (3) postnatal disease or trauma. Those least intellectually handicapped are, to a great extent, in the third group, while the rubella virus most often causes severe brain malfunction, affecting cognitive development.

A clear statement of the objectives and a stepby-step presentation of methods and/or strategies are to be expected in a good curriculum. There is also a need for frequent evaluation of these objectives to determine

their effectiveness when used with a particular child. In practice, the most successful curriculum is the one which is designed with a specific child in mind. Hart urges this approach when she writes, ". . . we have to stop trying to make the children fit the molds and begin making molds to fit the children."¹

Skills which the child has already mastered must be taken into consideration along with his deficiencies. Serious developmental lags are not uncommon. This evidence is a reminder that although a child may be chronologically several years of age, he may be only twelve to eighteen months of age developmentally; therefore, knowledge of the developmental process is essential in planning an educational plan for the child. Sequential increments in the learning process are important for the experience of success by the child. As tedious as it may seem to the instructor, sequential teaching and learning methods prove to be the most expedient in the already delayed developmental process of the seriously handicapped.

Skill goals most commonly found in the curricula surveyed are:

¹Verna Hart, "Multi-Handicapped: The King of Challengers," <u>Fifty-First Biennial Conference, Associa-</u> tion for the Education of the Visually Handicapped, June 1972, Miami Beach, Florida, p. 1.

- 1. personal, social, and emotional development
- 2. acquisition of gross and fine motor skills
- 3. self-care skills and communication
- 4. perceptual and conceptual skill development
- 5. orientation and mobility
- 6. functional math (time, money, measure, etc.)
- 7. pre-vocational, vocational goals
- 8. constructive use of leisure time

In the first group of skill goals, growth in body awareness, interaction with adults and peers, and appropriate emotional responses are stressed.

Gross and fine motor skills, the second group of skill goals, include training in directionality, laterality, spatial concepts, coordination of larger muscles to fine eye-hand coordination, and manual grasping, holding, and releasing.

Skill goals five through seven would indicate that the students involved have reached adequate behavioral maturity and a degree of functional independence.

Toileting, dressing, and eating--set three--are the basic self-care skills considered in existing curricula. Education in simple food preparation, table setting, bed-making, and laundering are included when age and ability allow for development in these activities. Communication skill methods presented to the deaf-blind child are diverse. Natural gestures, use of pictures, objects, fingerspelling, manual signing, and normal speech are all used. Individual needs of the child determine the mode of communication as well as the timing for introduction to more complex forms. A child's social development is a very important factor when considering communication goals.

All of these skills, to some degree, involve the development of concepts and perceptions. As in the education of the normal child, there is much overlapping in the developmental process and emergence of splinter skills of the rubella deaf-blind child.

Training in mobility and orientation help the student make better use of residual hearing and functional vision. It also helps the child increase his environmental awareness and techniques for getting about safely. This segment of the educational plan encourages as great an independence of movement as possible.

Some of the skills required for pre-vocational training occur in the integrated program of the deafblind child. These would include the development of behavioral management, attention span, effective use of vision and hearing, gross motor coordination, fine motor coordination, and the development of the tactile sense through matching, sorting, and assembling of objects.

Matching and sorting are done according to size, color, shape, and texture.

Education in vocational skills is included in the planning for a child whose potential and progress indicate that some type of employment is a realistic goal for the future. This might be in a very structured sheltered workshop setting, or, if possible, in a broader social situation such as business or industry.

Rubella deaf-blind must also be taught recreational activities, or appropriate use of leisure time. These are important for physical fitness, relaxation, and social interaction. Reviewed curricula indicate that swimming is a favorite physical activity for the multihandicapped rubella child.

Although some progress has been made in curriculum development for rubella deaf-blind children since government funding in 1969, there continues to be varying opinions of what the content and procedure should be. Trial and error continues. At first glance this may appear to be disheartening. On the contrary, it is often through trial and error that educators eventually come to realize what is best in the search for effectiveness in such a challenging and relatively new area of education. As in all education, the critical ingredient for success lies in the energetic creativity of the professional,

coupled with sensitivity, perception, humor, hope, and genuine caring for fellow human beings.

Music and the Deaf-Blind

There is a paucity of literature on the subject of music used with deaf-blind of any age or of any etiology. This is not surprising when one considers that the traditional concept of music presupposes somewhat complex intellectual and physical agility. The awareness of the double sensory deficit with accompanying brain damage usually found in rubella deaf-blind makes it even less surprising.

A brief mention of the use of songs with deafblind children is made in an article by Hayes in a <u>Southwest Regional Workshop Book of Proceedings</u>. In a report from A. F. Kent School Annex, San Anselmo, California, use of music is also made in the context of recreation, suggesting the use of a particular record series.²

Stensrud writes of the work of two music therapists and their use of rhythm instruments in stimulation programs. There are also suggestions for rhythmic patterning, gross motor activities, listening, and free

²Gene A. Hayes, "Current Status of Deaf-Blind Programs in California," <u>Program Development in Recrea-</u> tion Service for the Deaf-Blind, ed. John A. Nesbitt, University of Iowa, Iowa City, Iowa, 1974, p. 55.

play through music. Dance and movement are briefly mentioned.³

In an article entitled "Rhythm, Music, and Dance," Wright speaks of rhythm and dance in the context of therapeutic value in a recreational setting. Wright mentions rhythmic movement, movement qualities, spatial concepts, use of rhythm instruments, and metric patterning. There is brief discussion of what is meant by these activities, and how they are carried out.⁴

Rhythmic play and motor activity is very much stressed at the Instituut voor Doven (School for the Deaf) in the Netherlands. In an article by J. van Dijk, the vibrating and motoric qualities of music in conjunction with sight, when possible, are mentioned as a means toward establishing a higher functioning level necessary for communication.⁵

Unpublished material by Zimmerman and Barkus focuses on the use of and adaptation of Orff-Schulwerk

³Carol Stensrud, "Jungle Fun--Recreation for the Deaf-Blind," <u>Program Development in Recreation Service</u> for the Deaf-Blind, ed. John A. Nesbitt, University of Iowa, Iowa City, Iowa, 1974, p. 130.

⁴G. Hayes, P. Cotten, and V. Wright, "Rhythm, Music, and Dance," <u>Program Development in Recreation</u> <u>Service for the Deaf-Blind</u>, ed. John A. Nesbitt, University of Iowa, Iowa City, Iowa, 1974, pp. 201-208.

⁵J. van Dijk, "Movement and Communication with Rubella Children," <u>National Association for Deaf/Blind</u> <u>and Rubella Children</u>, Annual General Meeting, 1968, p. 2.

methodology. A third unpublished paper by van Bosch gives special emphasis to rhythm. Self-expression, creativity, social interaction, speech, and concept development are possible goals, as written by these authors. All share the common belief that rhythm is basic to life and is of value in the perceptual-motor and spatial development of the child.

In none of the literature surveyed was there mention of a sequential or developmental approach. Suggested procedure was sketchy at best, or nonexistent, nor was there indicated the functioning level of the student or the etiology of deaf-blindness. Awareness of these two factors is essential for the evaluation of this literature and its potential for use with the severely impaired rubella child. Through experience one is inclined to conclude that these afore-mentioned authors intend their material to be effective with quite high functioning deaf-blind children: that is, those with minimal brain damage.

Diagnostic Evaluation of Deaf-Blind Children

Assessment of the level of functioning and prognosis for future psychoeducational development of deaf-blind children is a matter of on-going discussion. Dialogue among experts centers on the following: (1) the questionable validity of standardized testing

procedures designed for a normal population when administered to an abnormal segment of society, (2) the questionable validity of a diagnosis based largely on subjective observations, (3) the recent trend in psychometric testing to incorporate descriptive approaches in order to offset the erroneous belief that test scores leave no room for growth, and (4) the exploration of new ideas suggested by innovative minds and modern technology.

Criticism of standardized tests exists for these reasons: time limits place unfair demands on the multihandicapped child; communication involving hearing and vision is necessary to complete the test; language skills are necessary to carry out instructions; tests require social skills and environmental awareness which are beyond the deaf-blind child's experience; necessary modifications of test items automatically alter normative results.

Evaluation of children by means of a purely subjective description is equally suspect. Records of seventy multihandicapped children, provided by Curtis and Donlon, indicate pertinent information regarding this method. These researchers found "1,646 different terms used to describe the children, with a very high percent referring to judgments, observations of behavior, and physical status rather than formal test results or

functional skills."⁶ According to Donlon, all of these reports contain "inconsistencies, repetition, and incompleteness."⁷ Donlon, however, does not completely rule out the value of personal involvement in the assessment of these children.

In an effort to combine all objective and subjective information into a viable testing procedure for deaf-blind children, Curtis and Donlon suggest the use of a videotape protocol "with generally standardized procedures for objectifying the adult's impressions of a child."⁸

There appears to be agreement among professionals that testing should be carried out in both structured and unstructured settings. The structured setting calls for interaction between adult and child for the purpose of task completion by the child. The unstructured setting takes on as many forms as there are activities in which the child participates.

Hammer discusses the ipsative approach to assessment. In this approach

⁶Nan Robbins, "Educational Assessment of Deaf-Blind and Auditorally-Visually Impaired Children," <u>State</u> <u>of the Art--Perspectives on Serving Deaf-Blind Children</u>, California State Department of Education, Sacramento, California, 1977, p. 117.

⁷Ibid. ⁸Ibid.

the child serves as both the experimental subject to show the effects of intervention as well as the reference criteria for the interpretation of data. In this approach, the child is compared to himself over a period of time.⁹

This type of assessment allows for on-going charting of changes in functioning levels. Its weakness is twofold: (1) it lacks controls for reliability of observation, and (2) it is lacking in generalization potential. Despite these limitations, it is considered to be the most productive assessment tool for use with deaf-blind children at this time. Separate assessment procedures of communication, language, affect, adjustment, and temperament are in early stages of research.

Special developmental scales have been devised to assess deaf-blind children in their own environment, with special emphasis on their specific characteristics. Test items on these scales are gleaned from a variety of standardized developmental schedules (see Appendix A). Qualitative performance rating as provided by these scales offers information from a valuable, though different perspective.

⁹Edwin K. Hammer, "Psychological Assessment of the Deaf-Blind Child: The Synthesis of Assessment and Educational Services," <u>International Seminar on Deaf-</u> <u>Blind</u>, Royal National Institute for the Blind, Condover Hall, Condover, Shrewsbury, England, 1974, p. 4.

At this writing, there are no standardized tests for the purpose of evaluating cognitive abilities of deaf-blind students. The desirability of such a test is highly questionable when one takes into consideration the diversity within the rubella population. In the meantime, new non-standardized measurements (see Appendix A) play an important role in the task of placing deaf-blind youngsters in appropriate educational settings.

CHAPTER III

DEAF-BLIND CHILDREN FOR WHOM THIS

IS INTENDED

There are many deaf-blind persons with varying etiologies; their handicapping conditions vary as well as the causes. Children afflicted with the rubella virus suffer serious neurological deficits manifested in mental retardation, language disorders, and severe behavior problems, among other anomalies. While deafblind of other etiologies may also present similar problems, it is not uncommon to find very capable, independent persons with the multiple afflication, especially if these afflictions are caused by postnatal trauma or disease. The needs of this population are proportionately different, depending on education and experience prior to the accident or illness.

Before accepting the possibility of the effective use of music in the development of severely handicapped deaf-blind children, it is important to consider the various ways in which music is perceived by the average person. One can then consider the special needs of the

rubella deaf-blind and how music can help satisfy these needs.

Music is an art form. A composition is conceived by the composer and brought into being by the performer. The one who listens to the composition receives its message and, thereby, completes the cycle. This process is most often experienced as an aesthetic and/or social one.

Music education emphasizes learning about music: its history, literature, theory, elements, composition, and performance. It provides the means toward knowledge, understanding, and appreciation of music. The composer, performer, and educator all attend to music for music's sake.

Although some deaf-blind children can enjoy some aspects of music as mentioned above, these will be very few. Music therapy is the discipline through which the majority can be served. Music therapy goals incorporate the development, and restoration or alleviation of emotional, physical, and/or intellectual disorders through the sensitive application of music and music activities, e.g., calming music for the distraught or hyperactive child; musical activities which will promote the relaxation and stretching of constricted muscles; and rhythmic activities which may contribute to the
development of fine and gross motor skills and, possibly, language development.

The deaf-blind child is deprived of the normal functioning of both distance senses: hearing and vision. These are essential channels for the acquisition of environmental information and all that that implies; thus necessary information must then be obtained in other ways, as lack of sensory stimulation greatly inhibits intellectual development.

Essentially, the deaf-blind child learns through movement and sense of touch, with some input attributed to taste and smell. It is common to observe a rubella child exploring the environment by smelling objects and/ or mouthing them.

Before one can meaningfully receive incoming stimuli, there must be an awareness of self permitting interaction between the stimulating person, object, or event. In other words, one must have a sense of being separate from the stimulus, but aware of its presence and possible effect on our person.

Sensory integration deficits are easily observable in motor delays, poor muscle tone, retardation, communication problems, perceptual, emotional, and behavioral disorders. "The result of sensory integrative dysfunction is a lack of organizing, structuring, and relating of self to objects and objects to

objects."¹ Sensory integration is a key factor in all learning. "Sensory input via the sensory systems, combined with memory provide us with perception."²

Perception has several definitions and is sometimes used synonymously with concept. In this study perception is defined as ". . . awareness of the elements of environment through physical sensation: reaction to sensory stimulus."³ Addressing himself to the deaf-blind population in particular, Hammer defines perception as ". . . the building of sensory inputs and integrating them into patterns of recognition."⁴ In this sense, perception becomes meaningful through imitation.

The most fundamental aspects of music as found in vibration, rhythm, and movement serve such an

³"Perception," <u>Webster's Third New International</u> <u>Dictionary</u> (1976).

¹Cindi Robinson and Marianne Riggio, "Jean Ayres' Sensory Integrative Approach," South Central Regional Center for Services to Deaf-Blind Children, 1975, p. 3.

²George H. Sage, <u>Introduction to Motor Behavior</u>: <u>A Neuropsychological Approach</u>, Addison-Wesley Publishing Company, Reading, Massachusetts, 1971, p. 72.

⁴Edwin K. Hammer, "Psychological Assessment of the Deaf-Blind Child: The Synthesis of Assessment and Educational Services," <u>International Seminar on Deaf-</u> <u>Blind</u>, Royal National Institute for the Blind, Condover Hall, Condover, Shrewsbury, England, 1974, p. 18.

imitative purpose. The careful application of these contributes to the development of self-awareness and of gross and fine motor skills. Rhythm and movement also contribute in the establishment of physical well-being, as well as providing a source of individual or group recreation. To a few of these children, music may provide the means of growth in concept development.

Vibration

Vibration is a musical property which is a pulsation of sound waves (pitch), causing sensation. The sensation is normally received by the ear. It may also be felt by the body. In this tactile sense it is especially useful to the deaf-blind child. Its value is primarily that of sensory stimulation. It awakens an awareness of self in relation to the environment. It may also arouse curiosity, a motivating factor for learning.

Rhythm

A simple definition of rhythm may be stated as "measured motion" or "an ordered recurrent alternation of strong and weak elements in the flow of sound. . . ."⁵

⁵"Rhythm," <u>Webster's Third New International</u> <u>Dictionary</u> (1976).

There are many theories about rhythm and the integral role it plays in the psychology and physiology of human beings. It is appropriate to mention a few of its qualities as mentioned by Seashore, as it applies to perception, pleasure, and efficiency. Of the qualities Seashore lists, the following may be considered to be of great value in the development of the rubella deaf-blind child:

rhythm favors perception by grouping . . . a principle which is involved in all auditory perception

rhythm adjusts the strain of attention

rhythm gives us a feeling of balance as it is built on symmetry

rhythm stimulates and lulls

rhythmic periodicity is instinctive . . . to act in rhythmic movement is of biological value

the instinctive craving for the experience of rhythm results in play, which is the free self-expression for the pleasure of expression . . . 6

The rubella deaf-blind child is in great need of assistance in the effort toward purposeful motor development, organization of process (especially in language), behavioral control, predictability, and appropriate self-expression. It is believed that

⁶Carl E. Seashore, <u>Psychology of Music</u>, Dover Publications, Inc., New York, 1967, pp. 140-145.

rhythmic activities can contribute to the attainment of these goals.

Movement

Movement is known as a change of position. To the average person movement in its simplest form means walking, that is, going from one place to another. The complexity of such a commonplace motor activity is rarely taken into consideration.

In the normal course of events, an infant gradually becomes aware of the kinesthesia of his own body. This kinesthesia is the sensation of movement in muscles, tendons, and joints. Although the child does not intellectually understand what he experiences, this kinesthesis informs the infant on a sensory level of the condition of his body and what it can or cannot do. This information eventually gets the child in motion. Such motion is encouraged and reinforced by visual and auditory stimulation, as well as by the sense of power that motoric independence generates.

In comparison to the normal child, the rubella deaf-blind child frequently has neurological impairments limiting his ability to relate cause and effect. There must be an intermediary to help the child experience the combination of environmental cause and the effect it has on his person. This intermediary may be in the form of another person or a skill.

Kinds of Movement

A person is as self-sufficient as he is skillful. To a rubella deaf-blind child, the acquisition of ordinary skills such as self-care, daily living skills, and simple work skills are a time-consuming and mostly frustrating challenge. All of these skills require coordinated muscle and behavior control through motor patterns.

One may consider four basic movements as necessary facilitators in the development of motor skills. These are: axial movement, gross motor, fine motor, and locomotor movements.

Axial movements are those performed while the person remains in a stationary position. These include rocking, swaying, stretching, reaching, bending, and the like.

Gross motor skills involve the large muscle groups of torso, arms, and legs. Balance plays a major role in the refinement of these skills.

Fine motor skills require coordination and control of small muscles. Most important of these are manual dexterity and eye-hand coordination. Although the child diagnosed as rubella deafblind is visually impaired, there frequently is enough vision to allow for performance of skills requiring eye-hand coordination. The child must be taught how to use this vision effectively, in conjunction with the sense of touch.

Locomotor skills are those which propel the body through space. Rolling, crawling, and creeping are normally the first to develop. Walking, running, jumping, skipping, hopping, and dancing follow as coordination skills and strength of balance improve.

In many cases, the rubella deaf-blind child must be guided through these stages by planned experience in order to compensate for the severe visual and/or auditory deprivation. Sensory limitations of this nature hinder normal development of spatial concepts and depth perception--two critical components for safe locomotion.

Auditory Discrimination

Auditory discrimination skills include: a person's ability to distinguish between the presence and the absence of sound; the localization of sound (place); the source of the sound (object or person); some characteristics of sound (timbre, pitch, loudness, tempo); auditory memory and sequencing (the ability to reproduce

a series of sounds in the correct order); and the meaning of words, that is, language.

The ability to localize the place and source of sound strengthens skills requiring auditory-motor and visual-motor cues. Awareness of the characteristics of sound informs the child of pleasure, pain, fear, or danger. Auditory memory skills will enhance the ability to communicate, either in the rhythmic flow of sign language or in the effort to speak when these are reasonable goals.

The earliest stage of auditory awareness is usually indicated by an eye blink, a reflexive motion, or a change in behavior. In other words, the awareness of sound is indicated by a motor response of some sort.

The advanced stage of language skills presupposes the cognitive abilities of abstraction, generalization, and comprehension. The rubella deafblind child's language skills vary depending on physical, neurological, and behavioral deficits. Very few have the capacity for intelligible speech. Although their mode of communication may be gestural, sign language, or the use of language boards, the recognition of a few basic safety warning sounds such as fire alarms, sirens, and horns should be in the repertoire of those with functional hearing.

Vocal sounds such as those indicating fear, anger, pleasure, pain or danger may also prove helpful in communication. These are paired with facial expression, pantomime, puppets, or pictures. Vocal sounds used in imitative play enhance the child's physical self-awareness as well as proving helpful in establishing communication skills.

Socialization

Socialization is a process beginning in infancy through which a person assumes behavioral patterns, customs, and modes of human interaction as specified in the person's immediate environment. This is enlarged as the individual's scope of experience broadens.

The rubella child's greatest development challenge is perhaps found in the area of socialization. The reality of the child's handicaps begins an emotional strain within the family unit. Uncertainty in human attachments continues in the event that a child is placed in an educational setting requiring long periods of time away from home. The multiplicity of professional personnel he encounters in the course of the educational process may also contribute to confusion due to inconsistent methods of interaction. Even if the problems encountered within the family and professional settings were eliminated, the rubella child cannot

easily establish relationships because of his handicapping conditions.

The appropriate use of objects is often the first challenge the child experiences on the road to socially acceptable behavior. Deaf-blind children commonly use objects for self-stimulation unless they are taught how to use these objects functionally.

The first phase of interaction with an adult is largely that of self-seeking. The adult is someone who will satisfy the child's physical needs. Affectionate rapport between some children and specific adults may indeed develop over a long period of time. However, this outcome is not to be automatically expected.

Peer interaction for a rubella deaf-blind child will most often remain on the level of isolated or parallel play in recreational activities. Lack of curiosity, communication skills, and autistic-like qualities of rubella children account for this fact. More frequently, the child may playfully interact with one adult, in a simple, structured activity which has been prepared through sequential learning over a period of time.

A few less-impaired rubella children may learn to interact in and enjoy structured peer group activities. Children who participate in such group recreation usually have developed enough language and social skills

to make this shared activity a rewarding and enjoyable one.

Music--Sensory, Motoric, and Social Instrument

Upon reflection of the specific and complex needs of rubella children and the diversity of music, it becomes clear that many aspects of music have a contribution to make in their training and development. In Chapter IV the reader will find musical activities suggested for specific developmental purposes. These have been used with a number of rubella children in recent years with encouraging signs of success.

It must be remembered that not all children respond to stimuli in the same way, if at all. The needs, abilities, and personality of the child must always be taken into consideration, when adapting programs.

Developmental lags and splinter skills are a common occurrence in all children. Therefore, the suggestions of the next chapter are not intended to be followed in strict sequence, but used as the child indicates readiness or receptivity.

CHAPTER IV

MUSIC FOR USE IN THE TRAINING AND DEVELOPMENT OF RUBELLA DEAF-BLIND CHILDREN

Techniques and goals for use with music in the training and development of rubella deaf-blind children are provided in the following pages. These are suggested in a developmental sequence, beginning with self-awareness, awareness of others, objects, and environment. Sensory integration is considered throughout and is included in all activities of motor, vision, hearing, and tactile development.

Due to the need for meaningful processing ability, discrimination, communication, and cognition call for a level of functioning higher than that required for imitation or rote motoric memory. Choice of activities is, then, to be made accordingly. Communication skills and social development are interdependent. Therefore, it is essential to consider the value of non-verbal communication between therapist and child, as conveyed in touch, facial expression, and attitudes.

There is a wide spectrum of skills involved in social development. Some youngsters may not go beyond simple interaction with one adult in a structured setting, while others will benefit from and enjoy peer group activities.

Specific activities listed for the attainment of certain goals may frequently be applied for several purposes, depending on the child's receptivity, age, and size. Suggested goals and techniques in no way exhaust the possibilities. A child's response may create a new idea to which the therapist should respond.

It is important to remember that all development in deaf-blind children occurs slowly and sporadically. Activities need preparation and introduction in small increments before they can be effective. Splinter skills can be very helpful but, at times, misleading, providing the therapist with mixed results. Awareness of this fact is necessary in the choice of activity and desired goal(s).

This curriculum guide is written with a one therapist, one child ratio in mind, except for a few group activities, where the student number increases. Use of recordings may frequently be eliminated if a therapist has an assistant to provide "live music," leaving the therapist free to work directly with the child. Experience indicates that all children need some

degree of "hands on" therapy to produce desired results. This can gradually be extinguished, using only occasional prompts (verbal and/or physical) until the child becomes independent.

Praise, affection, and a "favorite activity" have been used to reinforce every effort toward desirable responses. Primary reinforcers are not recommended. They tend to create uncertainty in cause and effect results. Music is expected to be the stimulus and effective reward.

Recommendations for Facilitation of Activities

Because music has an effect on human physiology, it is necessary to be informed of the child's neurological condition, especially in the case of seizure activity and/or severe spasticity. In such instances, it is recommended that the musical stimulus be considered carefully, using that which reflects predictable rhythms, medium pitch, and nonabrasive instrumental qualities. Although instrumental sounds are not intrinsically abrasive, particular sounds may be irritating or aversive to individual persons and certain neurological conditions. When possible, the child should be encouraged to explore the sound-making object before it is played. With a spastic child, it is also more effective to begin rhythm/motor development by utilizing the

child's own natural body rhythm before attempting to impose another. The reason for this is three-fold: (1) it is developmentally sound to begin with assets the child already has, (2) it promotes relaxation of muscles, and (3) promotes success and positive feedback for the child.

Although it is desirable to use large floor space, children who exhibit poor attention and/or hyperactive behavior usually benefit from limited space at first, e.g., a chair, mat, hulahoop, or large box. Locomotor activities should begin "in place" to help child establish organization of the desired rhythmic pattern, giving the hyperactive child a sense of direction. These precautions permit gradual gain in confidence and self-control while keeping disciplinary measures at a minimum.

Chairs used by the child must be of a size allowing the feet to be firmly placed on the floor. When this is not possible, a foot stool or other safe substitute is to be used. When a child's balance is insecure, chairs with sides are recommended to promote a feeling of safety and relaxation. It is also important for the adult to be at eye level with the child whenever possible.

When a completely blind child is about to be introduced to usually loud-sounding instruments, it is

especially important to allow preliminary tactile and auditory exploration of the instrument. Deaf-blind children learn from oral exploration also. This is to be permitted whenever it is safe to do so. This type of exploration is a good developmental technique and also minimizes the possibility of negative neurological, behavioral, and emotional effects triggered by surprise.

If the use of recordings is desirable or necessary, the following points are to be considered:

1. Volume should be monitored carefully, especially if the child is wearing hearing aids; hearing deficits are often related to pitch or quality of sound. Loud volume is sometimes painful and/or detrimental to the child.

2. Instrumental renditions are most effective; deaf-blind children cannot discriminate recorded texts nor can they process these rapidly enough, if at all.

3. If a child appears to respond to low pitches, increase bass and decrease treble on stereo component; do the opposite if the child responds better to high pitches.

4. Musical selections of definite, clear rhythmic accent are most effective.

5. A stereo system is preferred to a monaural set.

As growth patterns overlap, so do the ideas presented here. Consideration of the child's needs and personality must always come first, even when these needs follow a slightly different order. In some cases, sequential order is not desirable. However, one must not expect a severely sensory-deprived child to effectively respond to music unless it has first been felt and relished by him. Skill in determining the desired goal(s) and techniques best suited for a particular child is the responsibility of everyone involved with the child's program.

GUIDE	
MUSIC	
DEVELOPMENTAL	

Musical Stimulus	Goal (s)	Pre-reguisite(s)	Material(s) 1	ľechnigue – Positioning
vibration	 sensory stimulation self-awareness 	- trust - passive acceptance	triangle a bells bells rhythm sticks cymbals, etc. b	 a) therapist plays the instrument and holds it against the child's fingers, hands, arms, legs, back, or bare feet while the instrument is vibrating attention is given to child's tolerance and responses b) attention is given to child to explore the instrument c) explore the instrument d) place one stick between child's teeth, <u>gently</u> tap with other stick
vibration	 sensory stimulation self-awareness 	 size of child must be small enough to fit on top of piano in seated or prone position trust passive acceptance 	piano d	 place child on the piano in whatever position seems most secure therapist plays, observing therapist plays, observing various of the child to various changes in rhythm, pitch, and intensity if child is too large to be safely placed on the piano, a wooden platform under the piano or bass drum can be effective

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Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
vibration	- sensory stimulation - self-awareness	- trust - passive acceptance	guitar bass xylophone gong mallets	 a) therapist plays guitar while child's bare feet or hands rest on the body of the guitar, or fingers rest gently across vibrating strings b) therapist plays xylophone while child's bare feet or hands rest on xylophone stand c) therapist plays gong in various rhythms while child's bare feet are touching edge of gong
vibration	- sensory stimulation - self-awareness	- trust - passive acceptance	snare, bass, or tympani, mallets	 a) place child's fingers or hand lightly on drum head while therapist plays b) with child lying on the floor, place child's bare feet against drum head while therapist plays
vibration	 sensory stimulation self-awareness 	 trust passive acceptance behavioral control 	stereo set and speakers recording	a) position same as above while recording is played at a variety of volume, bass and treble levels (feet or hands on speaker(s))
vibration	- sensory stimulation - self-awareness	 trust passive acceptance behavioral control 	double bass	 a) position same as above while therapist plucks strings b) place child's back against double bass held in upright position by the therapist c) lay double bass on side with child's back up against it
vibration	 sensory stimulation self-awareness awareness of another 	 trust tolerance of physical contact age/size of child 	none	 a) hold child on lap while singing to child b) place child's head against singer's chest and/or throat c) place child's hand on singer's throat

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
vibration rhythm	- self-awareness - awareness/other	 sufficient hearing child's tolerance of stethoscope in ears 	stethoscope	 a) child listens to own heartbeat b) child listens to heartbeat of therapist while therapist feels pulse and sings a synchronized rhythm pattern
vibration rhyth m	- self-awareness - awareness/other	- trust - passive acceptance	bass bar and mallet	a) therapist plays bass bar in simple, steady pattern while singing same rhythmic pitch. Child has one hand on thera- pist's throat and one hand on the bar
vibration rhythm	- self-awareness - awareness/other	 trust passive acceptance (spontaneous) sound production by child 	none	a) therapist gently taps child on back or abdomen while child is spontaneously vocalizing
vibration rhythm melody	 self-awareness awareness/other presence/absence of sound 	 trust tolerance of physical contact 	<pre>* recording stereo set and speakers</pre>	a) place child's hands or feet on stereo speakers while record- ing is playing and therapist taps recorded rhythm on child's shoulders, alternating right and left



* Recordings recommended only when "live" music is not possible.

Musical Stimulus	Goal(s)	Pre-reguisite (s)	Material(s)	Technique - Positioning
vibration rhythm melody	 self-awareness awareness/other presence/absence or sound child response 	- trust - tolerance of physical contact	two chairs	 a) therapist and child sit oppo- site sech other: Onlid piaces with hand on therapist's throat with the second second second second being and on child's other hand and on child's other hand second second to 'take turns'
vibration rhythm melody	 self-awareness awareness/other presence/absence of sound cause/fact child response 	- behavioral control	wooden platform piano bass drum mallet	a) have child sit or lie on wooden platform while therapist plays plano, drum b encourage child to produce sound on instrument

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
vibration rhythm melody meriody	- gelf-awareness - awareness/other - cause/effect - attention span	 behavioral control tolerance of physical contact consideration of age, size 	piano	a) therapist sits at the piano with child on lap, both facing the piano; rest child's hands on therapist's hands; thera- pist's chin on child's shoulder; child's back to therapist's chest while thera- pist sings to accompanying rhythm on the piano
vibration rhythm melody	 self-awareness awareness/other cuse/effect child motor response 	- tolerance of physical contact	none (recording optional)	 a) therapist seated while child stands with hands on therapist's throat, back, or chest; therapist sings while tapping sung rhythm patterns on child's legs in rhythm

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
vibration rhythm melody	- self-awareness - awareness/other - cause/effect - child vocal response	- tolerance of physical contact	piano	a) therapist seated at piano, plays with one hand and the other on child's throat; child has one hand on therapist's throat
rhythm melody	- awareness/other - child response - interaction - attention span	- tolerance of physical contact	non	 a) therapist and child seated opposite each other, hands on each other's shoulders, while therapist taps short, simple b) as above, add singing by the therapist b) as above, add singing by the therapist c) encourage child to make any kind of vocal sounds d) encourage child to imitate shoulders

Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythm melody auditory stimulation	 self-awareness awareness/other awareness/other cause/effect presence/absense sound vocal production 	 tolerance of physical contact tolerance of headset residual hearing N.B. remove hearing aids if worn by child 	electric piano with headset	 a) therapist sits at the piano with child on lap in face-to- face straddle position; therapist plays piano in vary- ing registers and volume, observing child's facial and physical responses to determine awareness of presence of sound and sound quality b) therapist occasionally moves motion without actually pro- ducing sound-to determine if child is really hearing
				<pre>instrument or simply responding to physical movement of therapist's arm c) therapist sings on "ba," "boo," "bee," "pah," and "doo" "boo," "bee," "pattern played; place child's fingers on therapist's lips d) encourage child to make sounds</pre>

Musical Stimulus	Goal (s)	Pre-reguisite(s)	Material(s)	Technique - Positioning
vibration	- self-awareness	- residual hearing	cardboard	a) therapist holds child on lap in
rhythm auditorv	<pre>- cause/effect - vocal production</pre>	 tolerance of physical contact 	cylinders e.d	face-to-face straddle or both sit on separate chairs of same
stimulation	- sensory stimulation	- consideration of	empty paper	beight
	- social interaction	age/size	towel roll,	b) therapist places cylinder
	- channel sound		cut in half	against child's ear while
	directly into			covering child's other ear with
	child's ear			other hand; therapist gently
				sings a one-tone rhythm pattern
				using "ba," "boo," "bee," """
				"pan," and "doo" syllaples; do not combine two sounds st
				first: gradually increase
				volume until child indicates
				awareness of sound by facial
				expression or physical
				movement
				c) child feels vibration on thera-
				pist's throat as well as that
				going through cylinder; child
				also places fingers on thera-
				pist's lips for extra sensory
				input
				d) provide separate cylinder for child, encouraging him to make
				sound through it to the
				therapist's ear

CAUTION: child may make sound of volume painful to a hearing person; therapist prepares by placing one finger over own ear to avoid pain or harm

Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement (axial)	 kinesthetic awareness sensory integration calming hyperactivity positive emotional interaction attention span balance 	 receptivity to physical contact consideration of age, size 	stereo set recording (waltz) (lullaby)	 a) therapist holds child in arms and rocks in steady rhythm back and forth, or side to side motion (on chair or floor) b) therapist holds child in lap in face to face straddle (on chair or floor) c) both sit on floor, legs extended in <> position, place hands on each other's shoulders, rock as above (legs may need to overlap) d) sit or stand, back to back, arms outstretched and entwined, rock as above
rhythmic movement (axial) auditory stimulation	 balance sensory integration attention span social interaction manual dexterity (fine motor) 	- behavioral control - manual grasp	hula hoop scarf ribbon recording (waltz) (lullaby) stereo set	 a) therapist and child hold hands (if tolerated),* rock back and forth, or side to side motion in standing or seated position b) introduce hoop to child, use as a link between therapist and child *(tactile defensive child may need to begin with object before hand-holding) c) use scarf or ribbon for same activity to strengthen and refine child's grasp

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement (axial) auditory stimulation	 balance sensory integration attention span attention fan social interaction gross motor (axial) visual-motor skill 	- behavioral control - sufficient vision	stereo set recording (instrumental music)	 a) while remaining in place, therapist initiates slow body part movement, e.g., arms, legs, head, torso b) begin with symmetric arm or leg positions, gradually combining the two c) introduce trunk movement, e.g., bending, swaying, rocking in standing position d) introduce asymmetrical arm or leg positions, gradually com- bining the two
				N.B. child may need "hands on" manipulation by therapist at first
rhythmic movement	 balance sensory integration attention span actial interaction gross motor (axial) visual-motor group activity 	 behavioral control sufficient vision 	<pre>small, bright- colored objects or instruments stereo set recording</pre>	 a) using previous technique, hold object in one hand, occasion- ally changing its location, e.g., high, low, or side, while encouraging child to imitate b) preceding activities may be used in group setting, provid- ing preliminary preparation and independence of movement have been taken into consideration

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement recorded sound melody	 gross motor sensory integration social interaction visual-motor independent motor response 	- behavioral control - free leg movement	chairs recording (march) stereo set	a) therapist sits on chair facing child, also seated on a chair; therapist places bare feet under bare feet of child ("piggy-back" fashion) and moves them in walking]]] or running]]]] I rhythm
				b) encourage child to place bare feet under those of the thera- pist in imitative motor response while the therapist claps her own hands for child to see or feel, providing rhythmic continuity



Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement	 sensory integration gross motor eye-hand coordination (fine motor) visual-motor social interaction 	- behavioral control - sufficient vision	chairs 2 pr. rhythm sticks (contrasting colors) colors)	 a) therapist and child stand or sit, each holding one stick; therapist taps one or two beats on child's stick and manipulates child's natural rhythm is different. b) a show with the therapist now moving the position of the sticks in new position of the sticks in new position of the sticks in new position of the thythm patterns of rhythm patterns of sticks in new position of the sticks in new positin new position of the sticks in new p

 thythm - sensory integration - behavioral control tympani or vibration - switchent vision - switchent - s	Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
c) use technique for re- enforcement of sign language development, if and when child reaches that stage	rhythm vibration	 sensory integration eye-hand coordination (fine motor) visual perception (shape, color) motor response language ("same") 	 behavioral control sufficient vision therapist skill in basic sign language 	tympani or snare drum 2 sets of vari- ous colors/ pieces of construction paper 0, Δ, Π variety of pictures	 a) place colored piece of construction paper on drum head, struction jit with a mallet; manipulate child's hand on mallet to do same while other hand rests gently on the edge of the drumhead; move paper or picture to various locations on drumhead for visual tracking b) if/when child is ready, use same technique for color and/or shape discrimination/perception; therapist plays one and signs "play same" for child to imitate
					<pre>c) use technique for re- enforcement of sign language development, if and when child reaches that stage</pre>

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement	 locomotor (walking, running) sensory integration independent gross motor response 	- mobility	chairs recording (march) stereo set	 a) therapist sits on floor, facing child; child sits on chair while therapist places hands around child's ankles to move legs in a walking d d d and running d d pattern b) therapist sits opposite child and demonstrates c) encourage child to do same independently while seated, standing, and in motion
rhythmic movement melody	 locomotor (walking) sensory integration independent gross motor response social interaction 	 mobility manual grasp consideration of size 	hula hoop recording (march) stereo set	a) therapist and child stand face to face inside hoop; therapist may need to manipulate child's hold on the hoop; therapist walks backward, encouraging child to walk forward in rhythmic pattern
rhythmic movement melody	 locomotor (walking, running) sensory integration independent gross motor response social interaction 	- mobility	2 sets of "footprints" stereo set recording (various rhythms, beginning with child's own body rhythm)	 a) place cardboard (textured for blind child) "footprints" on floor b) demonstrate walking on them in rhythmic pattern (bare feet) c) encourage/help child to do same with therapist d) encourage/help child to do same independently

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythmic movement melody	 locomotor (walking, running) sensory integration gross motor coordination eye-hand coordination (fine motor) interactive play 	- mobility - sufficient vision	2 pr. rhythm sticks recording (march) stereo set	 a) therapist and child stand face to face, keeping time to music with feet b) once rhythm pattern is estab- lished, child and therapist hold sticks and begin to march; therapist walks back- ward while child marches for- ward, playing each other's sticks in alternating four- beat phrases c) may be used as interaction game between peers
rhythm auditory stimulation	- auditory training - attention span	- residual hearing - behavioral control	2 each of: drum, gong, tone block, mallets mirror (optional)	 a) therapist sits behind child or in front of child with low divider between them b) if seated behind child, use mirror in front of child for observation of possible physical reactions/responses of child to sound c) begin with instrument child might have responded to in past; therapist plays instru- ment, encouraging child to raise hands when heard; stay with one instrument until responses are consistent d) expand choice of instrument for auditory training cues/ responses

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythm auditory stimulation melody	<pre>- locomotor (jumping) - auditory motor - language "in," "out," "jump"</pre>	- mobility - balance - trust	large box with flap top [ive" song (jumping) picture (jumping) "Jack-in-the- Box" drum gong tone block mallets	 a) child gets in box; on a pre- determined cue jumps up to push box-top open b) a large drum played by the therapist can be used as an auditory cue (gong, tone block) c) a rhythm pattern with an exag- gerated accent can be tapped on box for child to feel for cue
rhythm auditory stimulation melody	 locomotor (jumping) "game" interaction auditory motor language "in," "out," "jump" 	- mobility - balance	hula hoop song/picture re: jumping drum gong tone block mallets	 a) place hoop on floor while therapist demonstrates jumping from inside to outside and vice versa b) help child to practice same of therapist sings pre-determined song and/or plays instrument to provide auditory cue for child's jump d) this technique to be used again later in language development of "in" and "out" concepts
rhythm harmony	 visual tracking manual grasping eye-hand coordination arm extension appropriate play attention span 	- behavioral control - sufficient vision	resonator bells 4-pronged mallet	 a) therapist arranges 3 or 4 resonator bells in chord pattern (chord holder desirable); demonstrate playing of bells (anove location of bells for visual tracking by child b) move location of bells for visual tracking by child c) manipulate child's hand in holding the mallet and locating the bells d) encourage independent motor and/or vocal response by child

Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique-Positioning
vibration rhythm melody	 cause/effect visual tracking manual grasp manual grasp eye-hand coordination arm extension attention span social interaction 	 behavioral control sufficient vision 	bass xylophone and mallet	 a) therapist demonstrates glis- sando action across xylophone, with one hand of child feeling the vibration b) help child to carry out glis- sando action with one hand while feeling vibration with other hand c) arrange xylophone bars in pen- tatonic scale pattern, helping child to locate groups of bars in a combination of visual and allet, gradually adding second mallet e) if and when child reaches needed social development level, structure "dialogue" game between therapist and child, beginning with 1- or 2- note patterns f) use above technique to refine goals, using smaller instru- ments, such as alto and soprano

Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythm auditory stimulation	 auditory discrimination attention span concept concept development: "same" 	 residual hearing behavioral control potential ability to understand "same" 	2 each of variety of instruments mirror (optional)	 a) therapist sits in front of child with low divider between them, or behind the child, in which case a mirror is placed in front of the child for observation of possible physi- cal reactions/response of child to sound stimulus b) if child has no vision, prepare activity with tactile explora- tion paired with auditory input tion paired with auditory input svisual field and then picking up/playing same one in front of child place two different sounding instruments in front of child's visual the plays one, encourag- ing child to pick up/play the "same" one
rhythm auditory stimulation	 auditory discrimination visual perception attention span concept development: "same" 	 residual hearing behavioral control sufficient vision potential ability to understand "same" 	<pre>l set of various instruments with matching pictures (5" x 8" min. size and in color)</pre>	 a) therapist places one picture at a time in front of child, plac- ing "same" instrument on top of it, after it has been played by child or therapist b) gradually add a second, third, etc., picture and instrument c) present two pictures and one instrument at a time, always encouraging child to play the instrument beforehand and then matching instrument to picture

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
rhythm melody auditory stimulation	 auditory auditory discrimination (location) attention span directionality auditory-motor 	 residual hearing behavioral control ability to "come find" source of sound frustration tolerance 	any available instrument	 a) therapist plays instrument at distance of child's arm's length, changing location after each time child locates the instrument (child may need demonstration and prompt at first) b) gradually extend distance between child and instrument, alternating location of instrument for kinesthetic purposes
Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning	
---	--	--	---	
 auditory auditory discrimination (speed of sound) sensory integration group activity physical experience of changing rhythms 	- residual hearing - behavioral control - mobility	drum and mallet piano picture of dancing/ marching recording stereo set	 a) recording of contrasting rhythms is played while thera- pist demonstrates body movement response b) therapist and child respond to recording in co-active body movement c) sometimes effective to use flash cards or thermoform copy of rhythm pattern in large print, e.g., J J J J , J J J , J J - M.B. if child has indicated a personal inner rhythm pattern, use it first, gradually intro- ducing others d) therapist plays drum or piano in J J J pattern, encouraging child to: (1) establish "feel of rhythm" and (2) move freely around the room in response to musical stimuli f) therapist plays drum or piano in G fraction of the room in response to musical stimuli f) therapist plays drum or piano in G fraction of the room in response to musical stimuli 	
	<pre>Goal(s) - auditory discrimination discrimination (speed of sound) - sensory integration - group activity - physical experience of changing rhythms</pre>	Goal(s) Pre-requisite(s) - auditory - residual hearing discrimination (speed of sound) - mobility - mobility - mobility - mobility of changing rhythms	Goal(s)Pre-requisite(s)Material(s)- auditory- auditoryMaterial (s)- auditory- residual hearingdrum and malletdiscrimination- behavioral controlpiano(speed of sound)- mobilitypiano- group activity- mobilitypiano- physical experience- mobilityrecordingof changing rhythms- frequisiterecording	

Musical Stimulus	Goal(s)	Pre-reguisite(s)	Material(s)	Technique - Positioning
rhythm melody auditory stimulation	 auditory auditory presence/absence of sound auditory-motor movement control following directions 	 residual hearing mobility eye-hand coordination sufficient vision 	piano drum and mallet ball (8-10° dia.) balloon on a string	 a) therapist plays piano or drum with one hand; demonstrate bouncing of ball while musical stimulus is present and stopping when music stimulus is removed b) therapist plays piano or drum while child bounces ball (no specific rhythm pattern necessary)
				N.B. sometimes is more effective to respond to child's bouncing, as it is likely to be sporadic; begin and end musical stimulus according to child's action with the ball
				 c) begin with 4-bar phrases until child understands what is expected; gradually increase and decrease length of phrase d) if child's fine motor skills are adequate, a balloon on a string may also be used e) child plays drum to correspond with piano played by therapist

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Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Technique - Positioning
vibration rhythm auditory stimulation	 language development concept: fast-slow group activity group interaction 	 potential for communication skills in signed or spoken word therapist skill in basic sign language 	drum sticks, gong, etc. mallets recording stereo set pictures of: horses, birds-fast (optional)	 a) therapist moves in slow walk while signing "slow" and speaking the word simul- taneously: encourage child to imitate sign, word, and movement b) "fast" rhythm pattern is demonstrated by therapist, signing and speaking the word simultaneously; encourage child to imitate as above c) use various instruments to produce "fast" and "slow" pat- terns; therapist and child terns; therapist and child teready, discuss pictures of animals and their motion

lusical Goa timulus	l(s)	Pre-requisite(s)	Material(s)	Technique - Positioning
ibration - 1 hythm - c uditory - 9 stimulation - 8	anguage development concept: loud-quiet froup activity locial interaction	 potential for communication skills in signed or spoken word therapist skill in basic sign language 	drums cymbals gong mallets speakers (optional)	 a) therapist stamps feet rhyth- mically (wooden floor or plat- form desirable) while signing "loud" and speaking word simultaneously; encourage child to "do same" b) therapist claps hands loudly to rhythm, using large arm motion, speaking word "loud" simultan- eously, encouraging child to "do same" c) various instruments are played while therapist signs and signing and speaking word "dultaneously" d) therapist "tiptoes" while signing and speaking word "guitet" simultaneously" added gesture of finger to lips in "sh!" fashion is helpful therapist claps hands softly with minimal arm and hand motion, speaking word "quiet" sign and gesture child to "do same" f) play stereo at alternating volumes; identifying each with sign and gesture outiet" volume; encourage child to identify by gesture and/or sign h) if child does not have suf- ficient hearing, help him to identify by quality of vibration

Musical Stimulus	Goal (s)	Pre-requisite(s)	Material(s)	Techr	nique - Positioning	
auditory stimulation rhythmic movement	 language development concept of emotion appropriate display of affect 	- simple communication skills, signed or spoken	pictures of faces/events: happy, sad, angry, afraid Laurel/Hardy puppets or substitute songs re: happy, afraid angry, afraid		herapist demonstrates with acial expression and body ovement various emotions: appy, sad, angry, afraid; se pictures to re-enforce; se only one emotion until ell understood; encourage hild to imitate herapist demonstrates various motions, one at a time, child oints to matching picture uppets are effective as ntermediary if child cannot how emotion igned songs in pantomime of arious emotions demonstrated y therapist; encourage child o join or take turns	_
				N.B.	special consideration to be	

N.B. special consideration to be given to child's abstraction/ generalization abilities; never work on more than one emotion at a time; gradually use contrasting pairs, e.g., happy-sad

Musical Stimulus	Goal(s)	Pre-requisite(s)	Material(s)	Technique-Positioning
melody auditory stimulation rhythmic movement	 auditory-motor appropriate play attention span peer interaction gross-motor coordination following directions 	 behavioral control simple communication skills, signed or spoken 	piano drum and mallet chairs recording stereo set	 a) demonstration of "musical chairs" game by therapist and other staff member, using presence/absence of sound for movement cues b) begin with two children and one chair, all taking turns until game is understood; gradually add number of children and corresponding number of chairs
melody harmony auditory stimulation rhythmic movement	 group activity auditory-motor gross/fine motor coordination appropriate play peer interaction following directions 	 behavioral control sufficient hearing sufficient motor control simple communication skills, signed or spoken 	<pre>1 hula hoop per couple recording: wake Up, Calm Down Elizabeth Polk Educational Activities, Inc. AR 695</pre>	 a) follow instructions on record jacket of Wake Up, Calm Down by Elizabeth Polk for selection Shoemaker's Dance "Wind the Bobbin" b) demonstrate step-by-step, allowing practice time on individual basis c) encourage child to join game a little at a time
melody auditory stimulation rhythmic movement	 peer interaction following directions group activity development of visual-motor skill 	 mobility potential for following directions 	recording: I'm Not Small Zeitlin- Berman Educational Activities, Inc. AR 547	 a) step-by-step explanation and demonstration by therapist and two children b) follow instructions in booklet accompanying recording of 1^m Not Small, Zeitlin-Berman, for selection "Dance Around" c) encourage child to join in game a little at a time

Musical Stimulus	Goal (s)	Pre-reguisite(s)	Material(s)	Technique - Positioning
melody harmony auditory stimulation rhythmic movement	 gross-motor creative movement social interaction 	 residual hearing sufficient vision mobility 	stereo set recording piano scarves ribbons balloons	 a) using recording of various rhythm patterns, therapist moves in free style, encourag- ing child to imitate b) scarves, ribbons, or balloons are helpful to promote freedom and variety of movement as well as to dispel self-consciousness encourage child to be leader for therapist or classmate to imitate d) when child is ready to move freely and independently, therapist provides music on piano

CHAPTER V

RESULTS OF WORK USING MUSIC WITH DEAF-BLIND CHILDREN

The effectiveness of music and music activities with seriously impaired deaf-blind children often demands that the therapist's performing and aesthetic skills may have to be temporarily altered. Instead, the therapist's intuition, sensitivity, and human warmth contribute to the establishment of rapport, eventually leading the child to respond to musical stimuli.

Observations based on the writer's work in music therapy with rubella deaf-blind children are presented for consideration:

 The greater the physical contact with the child, the more successful the experience is likely to be. Touch is a basic form of communication.

2. Intervention at an early age makes the above more possible.

3. The child's own body should be considered as the basic instrument.

4. The lower functioning child should have individual, daily music therapy sessions; the amount of

time for each session is determined by the attention span of the child.

5. Left to their own devices, most rubella deaf-blind produce a rhythm, vocally or with an object, which is approximated by this notation:

6. Generally, the rubella child does not necessarily respond best to low-pitched instruments as is normally expected of the hearing impaired.

7. Most rubella deaf-blind indicate, by choice, a preference for bells, triangles, glockenspiel, and piano; there is an absolute dislike for rhythm sticks.

8. Recordings are not effective with lowfunctioning children and discretion should be applied in the use of them.

9. Short, "live" improvised compositions, using "bits" of rhythm and/or melody are most effective in meeting particular needs.

10. A plan of action is never so important that it must take precedence over unexpected cues or responses from the child; one must always be ready to observe and explore.

11. As with normal children, effectiveness of techniques varies from child to child.

Experience also indicates that growth of deafblind children is similar in content to that of the normal child; however, growth is fragmented, and the order in which skills are acquired is frequently "topsyturvey." Also, the average rubella child needs to be "put through the paces," so to speak, because he cannot make compensatory adjustments to complete what is being asked of him. Cause and effect are not readily perceived.

The preceding comments list the most significant observations made by one who has worked with a number of rubella deaf-blind children in a music therapy setting. It is probable that some of these observations are already familiar to other professionals who also work with this population.

The suggested curriculum as presented in Chapter IV is the result of trial and error followed by trial and success. Other music therapists are urged to work with these suggestions, and to modify them to fit the specific needs of the children.

Need for Experimental Research

Research is needed to determine if, in fact, present techniques and experience can contribute to the growth and development of some rubella deaf-blind children. At this point, these techniques, even though interesting, raise many questions. For example, might eye-hand coordination skills be mastered more easily through musical activities than through some other

discipline? If one reflects on why most rubella children encountered in music therapy sessions and elsewhere spontaneously vocalize, or move, or tap an object in a particular rhythm pattern, then one can make certain assumptions. Could such a rhythm pattern be related to the rubella child's defective heart? How general is this trait in the overall rubella population? Is this knowledge useful to better understand the child?

At this time there does not appear to be documented research on the use of music with the lowfunctioning rubella deaf-blind. Because their needs are so great, one cannot discount any avenue of learning until such learning has been proven ineffectual.

Suggestions for Carrying Out Experimental Research

The rubella deaf-blind child is as complex as his needs are extensive. There has not yet been devised a standard format for the general assessment of the rubella child. In time, with the aid of research, music might be found helpful as one segment of diagnostic testing for deaf-blind.

Although the preceding chapter suggests activities in broad developmental terms, it is by no means exhaustive, keeping in mind that what the child responds to best, or shows curiosity about, is a place to begin. Only when the therapist has captured the child's attention can the study be pursued. This is why a music therapist with whom the child is familiar should conduct the actual sessions in a research project. Previous interaction between the two will provide the opportunities to develop a communication system satisfactory to both. This is an important point: the absence of a communication system can cause severe behavioral problems with the child, affecting the research results.

The learning process of the rubella deaf-blind child is slow; thus research must be extended over a period of time. Each session within the research period should be no longer than the child can easily tolerate, and should be at the same time every day, if possible.

The use of videotape is a most reliable method of data collection. It is recommended for the following reasons:

1. The responses of deaf-blind children are often very subtle, and might not be noticed in the actual unfolding of a session.

2. It is possible that a response be attributed to musical stimuli when it actually should not have been.

3. A better judgment of the effectiveness of an activity can be made when viewed in context.

4. The total commitment of the therapist to the child automatically eliminates a credible objectivity in an evaluation.

5. Use of videotape eliminates the need to have observers in the room during sessions when viewing booths are not available.

 Tapes can be used for teaching purposes at a later date.

7. The development/growth of the child is accurately recorded.

Arguments against the use of videotape should be mentioned. For some institutions, the cost of purchasing video equipment and tapes might be prohibitive. However, new portable models are less expensive and quite practical, and videotapes are reusable.

The placement of the microphone, if not built in the camera, can present a problem, depending on the type of child and/or session being recorded. The size of the room used might be a deciding factor. If a technician is required to operate the equipment, scheduling may be difficult on a regular basis for a long-term research project. However, none of these problems are insurmountable and are well worth the effort necessary to overcome them.

Conclusion

The purpose of this study is to provide a developmental guide in the use of music in the training and treatment of rubella deaf-blind children. Although it may not prove to be effective with all such children, it is believed to be a viable source of help for many.

The suggestions of using music with deaf-blind may be a stumbling-block for many therapists who argue that it is too radical, impractical, and not likely to succeed. However, advances in science, medicine, education, and the arts have all come about because someone, at some time or other, dared to try the unorthodox. We must do no less for the handicapped child.

The outcome of research suggested in this paper will be largely dependent upon how researcher and child perceive each other. Mutual respect and trust are the foundation for success. We must acknowledge the handicapped child as a person who is worthy of our respect and energy. Because handicapping conditions are secondary to the whole person, it is essential to approach the research task or the teaching and training of these children with an awareness of who they are and what they can do.

Maslow writes "What a man can be, he must be. This need we may call self-actualization."¹ The implication for therapy is that man must have the experience of growth that is potentially his. When a child is not able to provide this for himself, it becomes the responsibility of those who share his life to supply what might make him as whole as he is meant to be.

¹A. H. Maslow, <u>Motivation and Personality</u>, Harper and Brothers, New York, New York, 1954, p. 91. GLOSSARY

GLOSSARY

Abstraction: working of the mind; abstract thought

Anomalies: abnormalities

- Asymmetric: lack of symmetry in spatial arrangements of body parts
- Auditory discrimination: differentiation of sound stimuli
- Auditory memory: the ability to reproduce a sequence of auditory stimuli; recall
- Auditory-motor: ability to process auditory stimuli into motor responses
- Autism: childhood disorder rendering the child noncommunicative and withdrawn
- Brain damage: a structural injury to the brain as a result of accident, disease, surgery, or prenatal insult
- Cognitive: the faculty of knowing, of becoming aware of objects of thought or perception, including understanding and reasoning; thinking skills and processes
- Communication: interchange of information or thought through speech, print, signs, or gestures
- Concept: an abstract idea generalized from particular instances
- Congenital: present at birth
- Curriculum: a course of study; educational plan
- Depth perception: ability to distinguish one object from another; three-dimensional visual perception
- Development: changes in an individual from conception to death

- Diagnosis: analysis of available information, subjective and objective, to determine the nature of a disability
- Directionality: ability to match information concerning external stimuli with kinesthetic awareness of direction within the body
- Etiology: the study of causes or origins of a disease or dysfunction
- Evaluation: process of determining the effectiveness of instruction or therapy
- Expressive language: ability to communicate ideas through speech, writing, signing, or gesturing
- Fine motor activities: motor activities through which the fine and delicate muscle system is employed in precision movements
- Fingerspelling: use of manual alphabet for the spelling out of words
- Generalization: the ability to apply learned information in a variety of ways or situations
- Glissando: a rapid series of consecutive notes played on a piano, xylophone or similar instrument by sliding the fingers or mallet over the notes
- Gross motor activities: motor activities through which the large muscle groups are employed and total body rhythm and balance are of major importance
- Hyperactivity: excessive activity or energy; activity without purpose
- Kinesthesis: sensory awareness and impression of movement in muscles, tendons, and joints
- Laterality: the internal sensorimotor awareness of the two sides of the body and the ability to identify them as right or left
- Mental retardation: significantly subaverage general cognitive/intellectual functioning
- Metric pattern: movement based on meter; pre-determined rhythm pattern

Neurological impairment: evidence of specific and definable central nervous system disorder

- Orientation and mobility: a systematic method of instruction which enables the visually handicapped person to understand the environment and travel safely and efficiently
- Parallel play: independent play carried out next to someone but without interaction with the other
- Perception: means by which a person recognizes and integrates sensory information meaningfully; the integration of raw data obtained through the senses
- Perceptual-motor: interaction of perceptual information with motor activity
- **Prognosis:** the art of foretelling the course of a disease or dysfunction
- Prone position: lying on the stomach
- Physiological: pertaining to the functions of living organisms and parts, e.g., digestive system, heart
- Psychogenic: causation of a symptom or illness by mental or psychic factors as opposed to organic ones
- Psychological: relating to, or acting through the mind, especially in its affective and cognitive functions
- Psychometric testing: the science of testing and measuring mental and psychological ability, potential, and functioning
- Receptive language: language that is spoken or written by others and received by the individual with comprehension
- Residual hearing: remaining amount of hearing; functional
- Rubella: German measles
- Sensory deprivation: being cut off from usual external stimuli and the opportunity for perception through the loss or absence of hearing or eyesight
- Sensory integration: the ability to receive, interpret, and respond to sensory stimuli

- Sequential teaching: presenting ideas or tasks in developmental increments
- Spatial concepts: awareness of environmental space and personal space
- Spasticity: excessive tension of the muscles and resistance to extension
- Splinter skills: highly specific skills having limited relationship to the activities of the total organism, series of motor patterns
- Stereotype behavior: persistent mechanical repetition of a motor activity
- Symmetric: corresponding shapes and positions of parts (of the body)
- Syndrome: a configuration of symptoms that occur together and that constitute a recognized condition
- Tactile-kinesthetic: combining sensory impressions of touch and muscle movement
- Therapy: treatment for curing or alleviating a disorder
- Visual-motor coordination: ability to relate vision with the movements of the body or its parts

APPENDICES

APPENDIX A

ASSESSMENT INSTRUMENTS USED

WITH DEAF-BLIND

APPENDIX A

ASSESSMENT INSTRUMENTS USED

WITH DEAF-BLIND

Standardized Tests

Bayley Scales of Infant Development Infant Behavior Test The Psychological Corporation 304 E. 45th Street New York, New York 10017

Denver Developmental Screening Test W. K. Frankenburg and J. B. Dodds University of Colorado Medical Center Denver, Colorado

Hiskey-Nebraska Test of Learning Aptitude Marshall S. Hiskey 5640 Baldwin Lincoln, Nebraska 68507

Stanford-Binet Intelligence Test Houghton Mifflin Company Boston, Massachusetts 02107

The Leiter International Performance Scale Russell G. Leiter, Ph.D. Stoelting Company 1350 S. Kostner Avenue Chicago, Illinois 60623

Vineland Social Maturity Scale Edgar A. Doll, Ph.D. American Guidance Services, Inc. 720 Washington Avenue, S.E. Minneapolis, Minnesota 55414 Non-Standardized Tests

Learning Accomplishment Profile Anne Sanford Kaplan Press 600 Jonestown Road Winston-Salem, North Carolina 27103 Learning Accomplishment Profile for Infants M. Elayne Glover, Jodi L. Preminger, and Anne R. Sanford Kaplan Press 600 Jonestown Road Winston-Salem, North Carolina 27103 The Callier-Azuza Scale Robert Stillman, Editor Callier Center for Communication Disorders 1966 Inwood Road Dallas, Texas 75235

APPENDIX B

RESOURCES FOR INSTRUMENTS MENTIONED

IN GUIDE

APPENDIX B

RESOURCES FOR INSTRUMENTS MENTIONED

IN GUIDE*

Lyons 530 Riverview Avenue Elkhart, Indiana 46514

Magnamusic-Baton, Inc. 10370 Page Industrial Boulevard St. Louis, Missouri 63132

M. Hohner, Inc. Andrews Road Hicksville, New York 11801

Music Education Group 1415 Waukegan Road Northbrook, Illinois 60062

Rhythm Band, Inc. P.O. Box 126 Fort Worth, Texas 76101

^{*}In alphabetical order.

APPENDIX C

RESOURCES FOR RECORDINGS LISTED

APPENDIX C

RESOURCES FOR RECORDINGS LISTED*

Children's Book and Music Center 2500 Santa Monica Boulevard Santa Monica, California 90404

Educational Activities, Inc. P.O. Box 392 Freeport, Long Island, New York 11520

Kimbo Educational 10-16 North Third Avenue P.O. Box 477 Long Branch, New Jersey 07740

Lyons 530 Riverview Avenue Elkhart, Indiana 46514

^{*}In alphabetical order.

APPENDIX D

RECOMMENDED RECORDINGS

APPENDIX D

RECOMMENDED RECORDINGS*

Children's Book and Music Center 2500 Santa Monica Boulevard Santa Monica, California 90404

Adventures in Music, Complete 12-record set - M654 RCA Recordings, Gladys Tipton, Editor

Dance Music for Pre-School Children - PE148 Bruce King, Douglas Nordli

Lullabies From Around the World - M906 Marilyn Horne, Richard Robinson

More Learning as We Play - SE228 (instrumental selections) Winifred Stiles, David Ginglend

<u>Pictures at an Exhibition</u> - M633 Modeste Mussorgsky

Educational Activities, Inc. P.O. Box 392 Freeport, Long Island, New York 11520

I'm Not Small - AR547 "Dance Around" circle game Patty Zeitlin, Marcia Berman

*Almost all recordings are totally instrumental renditions and have clear rhythmic qualities which can be used for various purposes when the use of recordings is called for. Some recordings may be purchased from several companies. Mod Marches - AR527 Hap Palmer Modern Tunes for Rhythms and Instruments - AR523 Hap Palmer Movin' - AR546 "Pause" musical chairs game Hap Palmer Rhythms for Today - HYP29 Carrie Rasmussen, Violet Stewart The Feel of Music - AR556 (fast-slow; loud-soft) Hap Palmer Wake Up! Calm Down!, volume I - AR659 Elizabeth Polk

Kimbo Educational 10-16 North Third Avenue P.O. Box 477 Long Branch, New Jersey 07740 <u>Music for Movement Exploration</u> - LP5090 Karol Lee <u>Pretend</u> - EA563 (instrumental side) Hap Palmer <u>Sea Gulls</u> - EA584 Hap Palmer BIBLIOGRAPHY

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