Cognitive Disabilities

Accommodating Special Learners in the Music Environment

In educational settings in the state of Wisconsin, the term Cognitive Disabilities is used instead of Mental Retardation.

Characteristics

Individuals with cognitive disabilities have been labeled by the terms *developmentally disabled, educable mentally retarded, trainable mentally handicapped, mongoloid (Down's syndrome), brain-injured, brain-damaged, neurologically impaired, slow learner, hyperactive,* and many others. Some labels are descriptive of behaviors that may or may not be symptomatic of the condition (e.g., hyperactive) and, hence, are inappropriately used to describe the population of people with cognitive disabilities as a whole.

Mental retardation, according to the definition adopted by the American Association of Mental Deficiency in 1973, *is general subaverage intellectual functioning existing concurrently with deficits in adaptive behavior and is manifested during the developmental period.* Individuals with cognitive disabilities usually perform below average in all areas of learning (cognitive, psychomotor, and affective). This means that these children can be expected to function on levels characteristic of younger children in gross and fine motor, language, and social skills as well as in the area of concept development.

Retardation can apparently be caused by both organic and environmental factors. Children labeled as brain-damaged, brain-injured, or neurologically impaired may have retardation because of organic causes, such as genetic defect, or as a result of infection or injury that can occur before, during, or after birth. Learning problems associated with these children because of organic factors may include perceptual and thinking disorders, motor problems, and behavior disorders. Difficulties associated with retardation due to nonorganic causes (e.g., familial-cultural factors) are poor self-concept, lack of motivation, poor health and nutrition, family disorganization, perceptual and thinking disorders, and inadequate language development. Psychologists do not agree to what extent intelligence is inherited or can be influenced by adverse environmental factors. Recent brain research indicates that normally healthy brain cells that receive insufficient stimulation during the developmental preschool years may never fully mature. Nutrition and health are also factors in brain cell development. It is probable that in a significant number of cases both organic and environmental factors contribute to the condition.

The majority of individuals who fall below the range of mild retardation are of the organic type. Many have neurological impairment (or central-nervous-system damage) and may have multiple problems including motor involvement, developmental aphasia (failure to develop language), physical impairments (such as poor vision or hearing), seizures, and bizarre behaviors. Some may be *hyperactive* while others are *hypoactive.* It is a rewarding experience to work with children who must put forth such monumental effort to achieve what the

normal individual does naturally at a much younger age. It is in working with these children that a teacher's most creative ideas and energies are challenged. It is the children from this group who are so misunderstood, feared, and neglected in public education, who must constantly struggle to find ways to express intelligence, communicate needs, and demonstrate skills. Sometimes the struggle is too great – some children will give up and begin to function as they think others want or expect, which, all too often, is way below potential. Not all individuals with neurological impairments are retarded as well. Approximately half of those with central-nervous-system damage have intellectual abilities *above* the demarcation line for retardation. There are some who have specific learning disabilities due mainly to perceptual problems, but they do not have the other learning problems associated with retardation. Severe cognitive deficiencies may limit the intellectual development of some, but there is an increasing number of others who have overcome learning difficulties well enough to earn college degrees.

In most school systems, children are divided into groups based on an IQ score that, at best, gives a quantitative evaluation of the child's functioning level *at the time of testing.* Intelligence tests are both culturally and language biased, which means that unless appropriate norms are used they discriminate against children with language difficulties, children with language differences (i.e., children from non-English-speaking families and children who speak black-English vernacular), and all children from homes other than white urban middleclass. It is therefore unwise for a teacher to consider the IQ score as an *absolute* measure of a child's ability or potential. The idea that intelligence is fixed is now obsolete. A classic study revealed that the IQ scores of infants with mild retardation were raised 30 points in four years as a result of educational experiences (Heber, et al, 1972). Testing that specifically identifies deficient skill areas is far more valuable to the educator than an IQ score.

The majority of individuals with mild retardation will become independent adults, attaining basic literacy and computation skills by the time they leave public school. Today, college programs that begin training teachers of people with handicapping conditions as undergraduates have the chance to influence the development of attitudes as well as techniques and skills. Many new college graduates have benefited from courses of study that include extensive field experiences with both normal students and students with handicapping conditions.

Many adults with cognitive disabilities are able to function semi-independently, working in sheltered-workshop centers or in the community under supervision and living in group homes or private apartments in the community. Their academic achievements in reading and computation seldom extend beyond the primary level, even if they remain in school until the age of twenty-one or later.

People with severe and profound retardation represent the smallest percentage of people with cognitive disabilities. Most often they live in group homes. The people with *profound retardation* require total care and frequently are bedridden. Music has been effectively employed to stimulate their sensory awareness and elicit responses, and may be the only

meaningful interaction to which they initially relate. It may serve as an important foundation for building their interaction with the world around them.

Learning Style

Although people with cognitive disabilities develop most concepts in the same order and stages as normal children, they achieve them later. Their learning styles are characterized by slower rates, smaller quantities, and frequent and exact repetition. They are slower to master language skills, have difficulty generalizing, and show only limited ability to abstract. Social problems arise when they attempt, or are expected, to function commensurate with their chronological peers in this area.

Learning experiences for people with cognitive disabilities are most successful when they are concrete. The use of visual aids and manipulative materials is very helpful. Difficulties with language and abstractions make seatwork that requires reading and writing skills a questionable music activity for people with cognitive disabilities. Shorter attention spans are common, so that tolerance for lecture-type presentations is negligible. Attention spans seem to increase when they are actively involved in music making. Although their memory functions are reportedly inadequate, disparities frequently occur in the music class. The music experience is retained longer because it is internalized through multi-sensory involvement and because of the role of music in neurological processing and the holographic characteristics of music memory. Students enjoy singing, playing instruments, and moving to music. Through rote learning they are capable of performances that are very musical. Generally they will learn at about one-half to three-fourths the rate of normal children. Highly structured, slow-moving, sequential approaches to elementary music reading have been used successfully with people with cognitive disabilities.

Beginning efforts to provide music experiences for low-functioning children often focus on having the children respond, either vocally or instrumentally, to a physical cue, such as gesture or touch. This technique is a step above imitation or mimicking, which even the lowest functioning students can be taught to do. The music educator must persist toward a goal of independent response if the child is to grow musically as well as developmentally. Music learning progresses beyond imitative responses to independent playing (or singing or moving) with musical sensitivity, that is, with good tone, phrasing, and vitality, rather than mechanically. Responding musically develops eventually into sensing when to respond, and finally into a completely independent and musical response. The difference between responding on cue and presenting an independent response is the essence of musical understanding and, hence, music education. The child who is cued when and how to play can be said to have a musical “experience” because he or she contributes to the ensemble. But the child who responds accurately without cues is demonstrating musicianship—an understanding of one’s part as it relates to the musical whole. Even though a student may not be able to verbalize specifically about the elements of music or how they are

combined in composition, carefully designed activities provide the opportunity to demonstrate understanding of them through performance.

Too often, more attention is given to non-music skills with the result that the child's musical potential is never challenged at all. Or, if it is, music teachers expect verbal responses. Since children with cognitive disabilities so often do not have the verbal skills to say what they mean, this places them at an immediate disadvantage. Like normally intelligent individuals, people with cognitive disabilities possess varying degrees of musical talent and ability Although cognitive limitations will prevent the complete development of musicianship, these talents can be nurtured and expressed in a number of ways—rote learning, playing by ear, and so forth—to provide both enjoyment and a sense of achievement for the people with cognitive disabilities.

Learning Needs

The needs of the people with cognitive disabilities include the development of all basic skill areas, concept formation, and reasoning abilities. General education curriculum goals emphasize language development, cognitive skills, self-help skills, and social skills. Curriculums for older groups usually focus on practical skills for living and working in modern-day society (e.g., health and nutrition, managing money, job orientation, and leisure-time activities) that provide many opportunities for music correlation.

The people with cognitive disabilities need music experiences that are activity-based. Because of their cognitive deficiencies, they will usually comprehend only the most elementary music concepts. Their mental age should be considered when planning for them. For example, a thirteen-year-old with an IQ of 70 will have a mental age of approximately nine years. One can expect academic functioning between a third- and fourth-grade level. As an individual grows older, the grade gap widens, so that at age sixteen, when compared with normal peers, there may be more than six years difference in grade-level comprehension. Similarly, social and emotional developments are likely to be slower as well.

Following are some general suggestions for teaching people with cognitive disabilities.

1. Plan less material, some of which is repeated at least three or four times during the lesson.
2. Keep the mental age in mind when planning goals and objectives.
3. Keep the level of social development in mind when selecting materials.
4. Speak in short, simple sentences. It is possible to keep the level of language simple without "talking down."
5. Plan music activities that encourage independence, making choices, flexibility, and creativity.
6. Formulate music goals and objectives that challenge the intellect of the pupils. A continuous diet of success-oriented activities doesn't promote growth.

7. Discourage inappropriate behavior by demonstrating while explaining the appropriate behavior. For example, "Good friends say hello by shaking hands. I would like you to shake my hand like this when you want to show me that you are glad to see me."
8. Children with cognitive disabilities often need to be reassured of personal worth. This usually motivates their extreme efforts to please and their constant badgering for confirmation of success. For example, "Did I do good? Do you like me?" Always praise good work, but never use praise indiscriminately or dishonestly. When there is room for improvement, don't be afraid to say so and *be specific.*
9. Use concrete experiences and manipulative materials to aid in teaching abstract concepts.
10. Be satisfied with mini-step progressions toward goals and objectives. Other than occasional setbacks and plateaus, which are common, learning should always be moving in a forward direction, albeit inch-by-inch.

Summary

People with cognitive disabilities are characterized by general sub-average functioning. Although the ones with higher functioning will achieve literacy and independence by adulthood, those with moderate functioning will be semi-independent and require some supervision in adult life. Those with severe and profound levels of deficits in functioning will require care and supervision throughout their lives. Music involvement may be the first or only meaningful interaction in their lives and serves to build a foundation for future development in all areas. Not only do they enjoy music activities, but many show varying degrees of music aptitude and talent.

Music activities should be simple, concrete, repetitious, and geared to both social and mental ages. People with cognitive disabilities deserve music education programs that have music goals and instructional value in addition to providing recreation and entertainment.

Learning Needs

Atterbury defined four learning needs for this population which are extremely crucial for structuring successful experiences (Success in the Mainstream of General Music, Music Educators Journal, 72(7),1986, page 35).

- A slower rate of presentation
- More repetition
- Smaller amounts of new material
- Concrete experiences

If these needs are addressed when musical activities are structured, the students have an excellent opportunity for success. If any one of these learning needs is not considered when music activities are structured, you may anticipate that the students will have difficulty in successfully engaging in the activity.

Example: teaching the Japanese song *Sakura*.