

The Sound Path - Finding My Way in The Playground

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Abstract

The goals of the project were to make his playground be a good learning environment for a blind child. A part of the Center is a childcare program that enrolls about 80 children from 6 weeks of age to 5 years old.

Goal of Intervention

Because he appeared unhappy and fearful on the playground and because music therapy has these potential benefits, the following goals were established.

- 1. To make the playground a useful place for children with visual impairments.*
- 2. To design the playground so that it would be motivating and engaging place for children with disabilities*
- 3. To design the playground to promote a variety of development skills such as social and communicative interaction, motor skills, and self-expression for all children.*
- 4. To apply music therapy principles in designing the adaptation of the playground and to uses an integrative therapy approach.*

The Sound Path had positive effects on the child with visual impairment. Children with disabilities found a medium which attracted them and led to independent play. The Sound Path added music to the daily life of the children enrolled in the child care program and addressed therapeutic goals. Music therapy plays a role on the playground using an integrative therapeutic approach.



Overview

The project I will discuss was done at a child care center. It involved a young child who was blind. The goals of the project were to make his playground be a good learning environment for him. I decided to adapt the playground by providing him with a path for moving about the large space, adding musical stations to the playground, and providing staff development to his teachers. I did a study to evaluate these adaptations, and I found that simply adapting the playground resulted in some benefits, but when we later taught his teachers what to do, we

were able to meet the goals of the project. Although the playground was adapted for this one boy, there were benefits for his classmates—some of them had other disabilities and some did not have disabilities. I want to describe this project and then allow time for discussion.

FPG Child Development Center

The project to make a playground occurred at the Frank Porter Graham Child Development, which is a university research and training center at the University of North Carolina, Chapel Hill, USA. A part of the Center is a childcare program that



enrolls about 80 children from 6 weeks of age to 5 years old. About a third of the children have disabilities, and children with and without disabilities are in each class. The missions of the childcare program are to do research, train professionals, and demonstrate innovations. The childcare program uses an integrated therapy approach; that is, the therapy and other special instruction are done in the classroom. This is done to minimize the stigma and isolation from pulling children out of the classroom and to capitalize on naturally occurring learning opportunities (McWilliams, 1996; Wollery & Wilbers, 1994). In the past, speech-language therapy, occupational therapy, physical therapy, and special education were all done through the integrated therapy approach. The professionals in these disciplines consult with the teachers, and help the teachers implement activities and strategies based on the professionals' disciplines. A part of this project was to take the knowledge and principles from music therapy, and through adaptation of the playground and staff training help the teachers improve the experiences for this blind child who had tremendous difficulty on the playground.

Participant

The participant for this study was a 40-month old African-American boy, who was diagnosed with congenital blindness, and was functioning at about the 2-year

level based on the Wisconsin Behavior Rating Scale (Song & Jones, 1980). As it is recommended practice for child care programs, David's class spent large blocks of time outside on the playground (Bredkamp & Copple, 1997). On the playground he appeared fearful, depended upon adults for guidance and interaction. Peers often ignored him and went about their play. He rarely engaged with materials, did not climb on the slide or climbing equipment, did not ride the tricycles, and did not dig in the sandbox. Sometimes he asked for a ride in a wagon or he pushed a toy shopping cart on a concrete track for riding tricycles. He frequently engaged in stereotypic behavior like rocking his body and shaking his head. Although this child was the primary participant in the study, other children with disabilities also had similar difficulty on the playground.

Goals of Intervention for Children with Visual Impairment

The difficulties David experienced on the playground are predictable. Children who are visually impaired have difficulty managing large, defined spaces (Warren, 1994). They also need input to reduce their "blindisms"; that is, their stereotypic behavior. In addition, input helps them reduce their echolalia (Warren, 1994). Also, they need interventions to promote interaction with others and to reduce their social isolation (Warren, 1994).

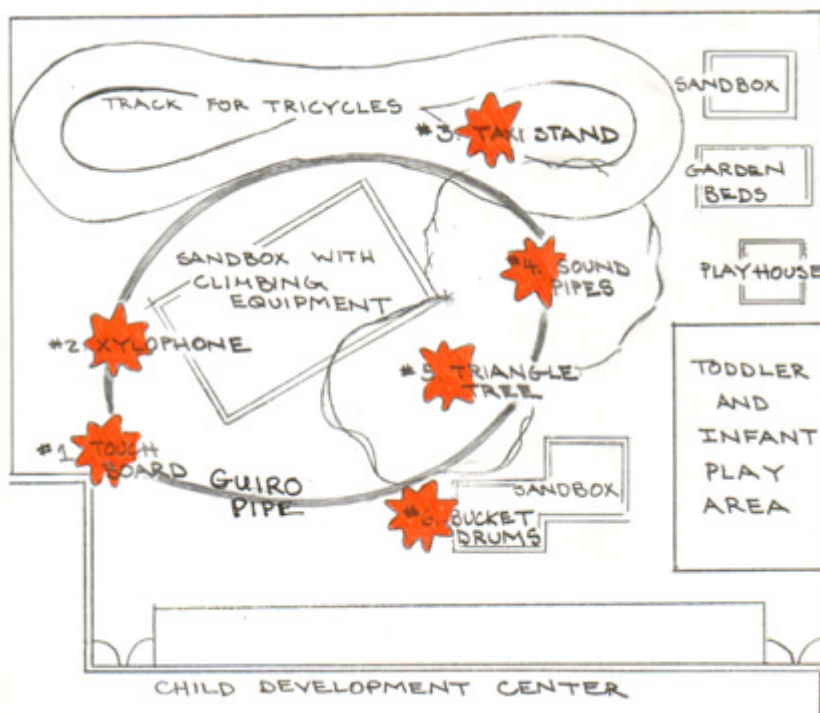
Why Music Therapy for Children with Visual Impairment?

Music therapy has a great deal to offer to children who are blind. For blind children, the auditory system is a primary source through which they connect with and understand the social and physical world. Sound can be used to provide feedback on children's location, and can be used to promote independent movement from one place to another. Further, it may be possible to reduce blindisms through music and other sensory input. Echolalia may be modified by giving the repetitive pattern a different meaning through music. Also, music may be a means of increasing social interactions between children.

Goal of Intervention

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4. To apply music therapy principles in designing the adaptation of the playground and to use an integrative therapy approach.

Research Study

These goals were evaluated through a research project (Kern & Wolery 2001). I observed David on the playground in the following areas: (a) his social interactions with peers and with adults, (b) his play and engagement with materials and equipment, (c) his movement on the playground, and (d) his stereotypic behaviors. The project progressed through three phases. The first was a baseline which was the playground before adaptations. The second was adaptations of the playground. The third was the adaptations of the playground plus delivery of staff development.

The Sound Path

I want to describe how the playground was adapted. The adaptations involved two major changes: One was putting in a

boundary to serve as a path for David to move around the playground. The second was building musical stations and placing them in logical locations on the playground (see Kern and Wollery in press). A map of the playground can be seen on the previous page. It was very large, had a long concrete track for riding tricycles and pulling wagons, a wooden play house, garden beds, large sandboxes, and trees for shade.

Sound Path Boundary

The boundary (109 meters) circled the central portion of the playground. It was made from plastic drainage pipe and was modeled on a guiro. This pipe was submerged about three-quarters of the way into the ground. A 4-wheel push cart was constructed for David to push. It had a rubber flap that produced a sound when he pushed it over the drainage pipe. This was done to provide him with auditory feedback about his movements.

Musical Stations

There were originally six musical stations and another is under construction. The six musical stations, with various hand-made instruments, were constructed from materials donated by local hardware stores and music shops (Martini, 1993). The Sound Path was installed on a special work day that involved parents and staff of the program. The instruments were accessible to all children, easy to play, and complied with safety regulations. The stations were

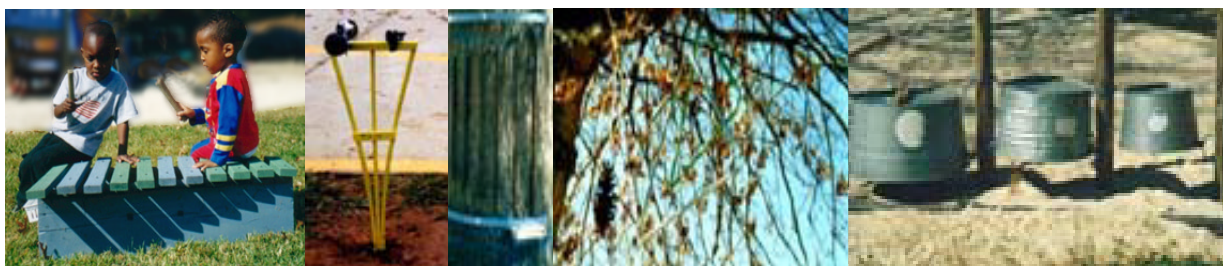
designed to be multi-sensory by using different materials, shapes, and colors. The ideas proposed by Snoezelen (Hulsegge & Verheul, 1998) for indoor multi-sensory stimulation rooms were integrated into the design of the stations. Recommendations for how to use the Sound Path to develop sensorimotor, social, cognitive and emotional skills were devised for each station.

Station # 1. The first station, Touch Board, was situated near the playground entrance. It consisted of a bamboo xylophone, jingle bells, rain maker, and a second set of jingle bells and bamboo xylophone—all of which were attached to the fence. It was set up to be a mirror image of itself.

Station # 2. This station was a Xylophone located near a large sandbox with climbing equipment. The xylophone was made of hardwood and had 11 bars. Each bar was painted either blue or green. The bars of the same color sounded harmonically together.

Station # 3. This station was a Taxi Stand. It had a child-sized bench and a trellis with a bicycle bell and a horn. Both the bench and trellis were painted yellow to simulate a taxi stand. This station was located near the tricycle track to attract peers and increase the probability of interactions.

Station # 4. This station, Sound Pipes, included seven copper pipes of different lengths and attached to the trunk of a



tree. The station was located at the tree, because it had a wooden bench around it. Teachers and children congregated at this bench to converse, interact, and rest.

Station # 5. This station, Triangle Tree, consisted of two large metal triangles hanging from the branches of a tree. These triangles were of different sizes to produce different sounds. This allowed the wind to activate them, but a metal mallet also is attached to the triangles so that they could be rung by an adult or by a child held by an adult.

Station # 6. This station, Bucket Drums, were attached between wooden posts in one of the sandboxes. The three drums were galvanized pails of three different sizes to produce different sounds.

Staff Development Activities

Although these adaptations were somewhat successful, my goals were not completely met. As a result, I conducted training for his teachers. This involved a verbal description of the musical stations with hands on experiences. I taught them the songs I composed for each station and gave them a practice CD. I gave them a printed description of "Things to do with the Sound Path", developed by the interdisciplinary team of the center. I made specific suggestions about how to involve David in the musical stations. Finally, feedback was given in the form of additional suggestions to the team at the center (see Table 1).

Results of the Study

Statistical Data

The results of this study show that during baseline he had few interactions with peers, had some interactions with adults,

rarely played with materials or equipment, he moved but did so without apparent purpose, and he had a lot of stereotypic behaviors. With the adaptation of the playground, there was little change in social interactions with peers, a little less interactions with adults, much more engagement with materials and equipment, a little less movement—but more purpose movement, and much less stereotypic behavior. After the staff development activities, there was more peer interactions, more social interactions with adults, more play and engagement, a little more movement, and less stereotypic behaviors.

Clinical Statements

Clinically, after the playground adaptations and staff development, he appeared more alert, was more responsive to adults, expressed his likes and dislikes verbally, seemed to be in a better "mood," seemed to learn turn-taking with peers more clearly which is an important accomplishment towards greater socialization (Gourgey, 1998), was more willing to take risks—for example, he would change the direction of his cart when he ran into something, was less fearful, and seemed to like the other children more and liked being with them.

Role of Music Therapy in Early Intervention

These positive results were based on applying music therapeutic principles to a situation where a child was not benefiting from his usual experiences on the playground. This raises the question of what is the music therapist's role in children's services. I believe there are at least four possible roles we can play to improve the lives of children.

First, is our traditional role of providing

direct therapy to an individual or small group of children. We understand the benefits of doing this and how to do it.

The second role for music therapists is to provide a mix of direct therapy and consultation to the child's teachers, parents, or other caregivers. This may allow the knowledge from our discipline to be spread to others; clearly they would not be therapists, but they may benefit from knowing what we have learned.

A third role for music therapists is to train practitioners from disciplines such as teachers or other therapists (speech, occupational, or physical therapists) and to consult with them about specific children. This is not a traditional therapy role, but may improve the services children receive in their usual environments. (The second and third roles are consistent with the integrated therapy approach that is used by other disciplines in helping children's teachers).

A final role for music therapists is to conduct research in early intervention. The potential benefits of such research are twofold: we will acquire new knowledge that can be used for improving children's lives, and it will provide our field with additional credibility when working with professionals from other disciplines.

Benefits for all Children

An interesting finding that occurred as a result of this project was that children other than David benefited. The following benefits occurred for all children.

1. The Sound Path added music to the

Recommendations to develop sensorimotor skills

- Explore how the instrument can be played: hit, scrape, touch, and so on.
- Explore the material. Is it cold or warm, hard or soft?
- Can you make the sand jump on the bucket drums?
- Coordination: hit with left or right hand, one hand versus two hands.
- Use pre-composed finger games; for example, "Thumbs on the Drums" which was written for the Bucket Drums for distinguish finger movement.
- Listen to the short tone of the bucket drum. Compare it to a long hold tone of the Sound Pipes.
- Find the highest or lowest sounding bucket.

Recommendations to develop social skills

- Call and response game (e.g., hit the drums three times and wait for a musical response from the other players).
- Practice turn taking.
- Develop a group rhythm and integrate all players.
- Interact with a signal given by a player (e.g., "If we hear the Bucket Drums, we walk, if not we freeze.").
- Move and dance to the tempo and sound of a player (e.g., walk with long steps—slow tempo accompaniment; walk with short steps—fast tempo accompaniment; walk on tip toes—high sound accompaniment; walk on your heels—low sound accompaniment)..

Recommendations to develop cognitive skills

- Imitate a simple rhythm pattern.
- Speak your name rhythmically and give every syllable a beat.
- Facilitate story telling with the Bucket Drums (e.g. "Chicka, Chicka, Boom, Boom" by B.Martin Jr. & J. Archambault)
- Sing songs including playing the drums (e.g., "Beat, Beat, Beat the Drum! by M. Schnur Ritholz).

Recommendations to develop emotional skills

- Find a rhythmical expression for different emotions. Can you play happy, angry, or sad?
- Self-esteem: Be the signal giver or conductor.

Table 1. Example of Recommendations for the Bucket Drums.

children's daily lives.

2. The teachers used the music stations to address goals of individual children with disabilities. For example, one child with cerebral palsy had a goal of grasping and releasing. Her teacher used the horn on the taxi stand to work on this goal.
3. Children tended to congregate at the music stations and this led to social interactions.
4. The music stations allowed children to make music and to express themselves through music.
5. The stations stimulated creativity in two ways. The children invented games with the stations, and they used them in their dramatic play, for example, they used the Xylophone as a boat and pretended to be on the ocean.

Final Conclusion

The Sound Path had positive effects on the child with visual impairment. Children with disabilities found a medium which attracted them and led to independent play. The Sound Path added music to the daily life of the children enrolled in the child care program and addressed therapeutic goals. Music therapy plays a role on the playground using an integrative therapeutic approach.

Short biography

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