Using a Music Therapy Collaborative Consultative Approach for the Inclusion of Young Children with Autism in a Child Care Program

Petra Kern, Chapel Hill, NC 27599, USA

Abstract

Young children with Autism Spectrum Disorder are increasingly included in conventional child care programs, receiving therapeutic services within the context of ongoing classroom routines. This article discusses the benefits of an inclusive environment and the rationale for providing embedded services, particularly the application of a collaborative consultative model of service delivery, for young children with autism. The following series of single case studies provides evidence that individually designed music therapy interventions can increase the independent performance of young children with Autism Spectrum Disorder during challenging child care routines and can be embedded by teachers in ongoing activities. To illustrate the research design of each study, staff development activities, interventions provided, and results, a case vignette example is presented for each experiment.

Zusammenfassung

Kleinkinder mit der Diagnose Autistisches Syndrom werden zunehmend in herkömmliche Kindertagesstätten integriert und erhalten ihre therapeutischen Maßnahmen im Kontext der alltäglichen Gruppenaktivitäten. Dieser Beitrag bespricht die Vorteile einer integrativen Umgebung und Gründe zur Einbindung von therapeutischen Maßnahmen, insbesondere der Anwendung eines kollaborativen Beratungsmodells für Kleinkinder mit frühkindlichem Autismus. Die folgende Serie von Einzelfallstudien liefert den Beweis, dass individuelle musiktherapeutische Interventionen die Handlungsfähigkeit von Kindern mit Autistischem Syndrom während für sie schwieriger Gruppenabläufe in einer Kindertagesstätte verbessern können und Erzieherinnen die Interventionen erfolgreich in den normalen Tagesablauf eingliedern können. Um das Forschungsdesign der einzelnen Studien, das Mitarbeitertraining, die angewandten Interventionen und die Ergebnisse anschaulich zu machen, werden Fallvignetten beispielhaft für jedes Experiment aufgeführt.

Young children with *Autism Spectrum Disorder* (ASD) frequently experience difficulties in making friends and participating in everyday routines and activities. Specific characteristics of autism, such as focusing on people in the environment, comprehending and using verbal and nonverbal language, playing meaningfully with toys and interacting with peers, may interfere with the ability to achieve group membership and engage in typical play and self-care activities. The social ecology of inclusive child care settings may influence these children's social engagement, learning and development positively. Thus, children with autism are increasingly being included in community-based child care settings, receiving their

10.29091/9783752001839/010

therapeutic services in the context of ongoing class activities and routines. However, environmental arrangements and individualized interventions emphasizing the children's strength and needs are necessary for successful inclusion.

The purpose of the series of studies described here was to understand if individually designed music therapy interventions would increase the performance of seven young children with ASD during challenging routines in an inclusive child care program and to learn if teachers could embed the interventions in the ongoing classroom routine. The interventions addressed difficulties the targeted children faced during (a) the morning greeting routine, (b) multiple-step tasks within classroom routines, and (c) peer interactions on the childcare playground. The effects of the music therapy interventions were evaluated by using single-case experimental designs (ABAB withdrawal design, alternating treatment design, multiple baseline design), which allowed a controlled experimental approach to the investigation of a single child under different circumstances, as well as the flexibility to adapt the intervention to the child's needs and the particular treatment approach (Aldridge, 2005; Kazdin, 1982; Tawney & Gast, 1984). Research literature regarding inclusion, models of service delivery, and music therapy for young children with ASD was reviewed to support and inform the studies.

Inclusion: The socio-cultural environment is an integral force in a child's learning and development (Piaget, 1951; Stern, 2000; Vygotsky, 1978). Full inclusion of children with special needs in their natural environments – such as community-based interactive play settings – has been supported on ethical, legal, and educational grounds (Wilson, 2002; Wolery & Wilbers, 1994). For young children with ASD, whose social interactions and relationships, language and communication, and behaviors are significantly affected, early education, treatment, and involvement with typically developing peers can greatly enhance the child's ability to participate meaningfully in family and community life and to play a vital role in society (American Psychiatric Association [APA], 2000; Dawson & Osterling, 1997; Handelman & Harris, 2001; Kluth, 2003; National Research Council, 2001; TEACCH, 2004; Wolery et al., 2001).

Service delivery: The Division of Early Childhood (DEC) (Sandall, McLean, & Smith, 2000), as well as the Committee on Educational Interventions for Children with Autism (National Research Council, 2001), recommend that interventions for young children with autism be embedded in ongoing classroom routines. The rationale for inclusive service delivery is manifold (McWilliam, 1996; Wesley, 2004; Wolery & Wilbers, 1994): (a) to minimize stigma and isolation by having the child remain in class with her/his peers; (b) to capitalize on the child's naturally

10.29091/9783752001839/010

occurring learning opportunities by providing support in context; (c) to increase the number of experiences that promote learning by addressing daily problems whenever they occur; (d) to promote social competence by keeping the child involved in activities with classroom peers; (e) to increase generalization by practicing the skills needed in the place they are needed; and (f) to ensure consistency by having all the adults working with a child be aware of the rationale for providing treatment and the implication of the intervention. To support the child's participation in naturally occurring environments, routines, activities, and social interactions, therapists work with the individual child or a group of children within the ongoing classroom routines, or as consultants to the classroom staff and families to embed therapeutic goals (National Research Council, 2001; Dunst et al., 2001; McWilliam, 1996, 2000; Sandall, McLean, & Smith, 2000; Wesley, 2004). This model of service delivery is referred to as „integrated", and occupational therapists, speech / language pathologists, physical therapists, and special educators have evaluated and successfully applied this model in inclusive child care settings (Dunn, 1996; Garfinkel & Schwartz, 2002; Rainforth & Roberts, 1996; Wilcox & Shannon, 1996). However, though music therapy services can either be provided directly to clients or through consultation with professionals and others directly involved with the client (American Music Therapy Association [AMTA], 2004), only 17% of the music therapists in the U.S. provide consultative services in educational settings (Register, 2002). Some attention has been paid to embedded treatments and the collaborative and consultative models of music therapy service delivery as effective strategies for including students with special needs within public school settings (Furman, 2002; Humpal, 2002; Johnson, 2002; Snell, 2002). Additionally, no formal research is currently available to describe whether or not integrated models of service delivery, especially collaborative and consultative strategies, are effective for serving young children with special needs in interactive play settings.

Music therapy: Music therapy has a long tradition of serving young children with special needs, especially those with autism (Alvin & Warwick, 1991; Nordoff & Robbins, 1977).

Studies on interest in music and relative strength of musical abilities in children with autism (e. g., Applebaum et al., 1979; Thaut, 1987, 1988), and the effectiveness of music therapy interventions in addressing the characteristics of autism is documented by anecdotal reports (e. g., Gottschewski, 2001; Gustdorff & Neugebauer, 1997; Nelson, Anderson, & Gonzales, 1984; Schumacher, 1994), as well as numerous research accounts (e. g., Brownell, 2002; Bunday, 1995; Kostka, 1993; Pasiali, 2004; Wimpory, Chadwick & Nash, 1995). Music therapy interventions address the challenges associated with autism in an intentional and developmentally appropriate manner and are effective in facilitating development of core skills and personal growth. Key strategies applied to educating children with autism – such as individualization, structure and predictability, and emphasis on the child's strengths and individual needs – are incorporated in music therapy treatments or are part of the nature of music itself (American Music Therapy Association [AMTA], 2002). Music therapy also strongly supports and facilitates inclusion of chil-

10.29091/9783752001839/010

dren with special needs in various educational settings (Wilson, 2002). That said, the effectiveness of music therapy interventions for the inclusion and improvement of core skills in young children with autism enrolled in inclusive preschool settings is documented by few music therapists (Furman, 2001, 2002; Humpal & Wolf, 2003; Snell, 2002), and controlled studies of any kind are missing altogether.

The research study: This series of single case studies was conducted at the inclusive Family and Child Care Program of the Frank Porter Graham (FPG) Child Development Institute, which is affiliated with the University of North Carolina at Chapel Hill, USA (Frank Porter Graham Child Development Institute (FPG), 2004). The Family and Child Care Program enrolled about 80 children from six weeks of age to five years old. Children with and without disabilities attended the same classroom, where the philosophy followed developmentally appropriate guidelines (Bredekamp & Copple, 2002). Of the 30% of the children with various disabilities, 11 were diagnosed with ASD by external agencies using the Psychoeducational Profile-Revised (PEP-R) (Schopler et al., 1990), Autism Diagnostic Observation Schedule (ADOS) (Lord et al., 1999), Vineland Adaptive Behavior Scales (Sparrow et al., 1984), Childhood Autism Rating Scale (CARS) (Schopler, Reichler, & Renner, 1988), clinical observation, and parent interviews. Classroom peers included both males and females from different ethnic groups and were ages two to five. All experiments were undertaken in the child care programs' inclusive classrooms or playground using the integrated therapy approach.

In all three studies, the music therapy interventions were designed and implemented by using a music therapy collaborative consultative model of service delivery. Parents and caregivers, classroom peers and classroom teachers participated in the interventions, in consultation with the music therapist. In each case, a unique song, matching the target child's personality and demands of the identified difficulties, was written by the author in collaboration with the classroom teachers. Specific goals, strategies, and procedures were individualized for each target child, and predictable routines, structured teaching, and visual cues, as generally used with children with ASD, were taken into consideration in the interventions' design. Staff development activities on the use of music therapy techniques were provided prior to each experiment, and peer-mediated strategies were applied to increase peer interactions for the study taking place on the child care playground (McGee, Morrier, & Daly, 2001). To illustrate the design of the studies, the interventions provided and the results of those interventions, a case vignette example is provided for each experiment (the morning greeting routine experiment actually involved two children, the multiple step tasks experiment had one participant, and the playground peer interaction experiment involved four children). Results of interventions for those children not represented in case vignettes were comparable to those that are introduced.

10.29091/9783752001839/010

Case Vignette: Ben

For 10 months, three-year-old Ben attended the FPG community-based child care program five mornings a week. He was diagnosed with ASD and had difficulty transitioning from home to school. Each morning when his nanny brought him to school, Ben held on to her, cried or screamed and ignored any efforts of his teachers to welcome him. His nanny reported feeling „bad" about leaving Ben while he was upset, teachers „dreaded" the arrival of the child, saying things like „it's fine once he's here, but just getting him here is hard," and peers did not take notice of him and went about their play. His Mom and teacher hoped that he would learn to enter the classroom happily and independently, greet his peers during morning arrival time by communicating „hello" in some way, wave „good-bye," and engage in meaningful play.

Both Ben's Mom and his teachers noticed that he was interested in song activities, playing musical instruments, and listening to soft and mellow music. During an interdisciplinary team meeting, Ben's classroom teacher asked about the efficacy of music therapy interventions for Ben's challenging morning transition. The music therapist, familiar with the child, suggested using a greeting song incorporating the morning greeting routine in use by Ben's classmates. After the team agreed on five specific steps for the greeting routine and identified additional individual education goals, the music therapist composed in close collaboration with the classroom teachers a unique song tailored to the child's challenges, personality, and strengths. Together they worked out how the song intervention would fit into the existing morning routine. The music therapist provided training to the teachers and caregiver and modeled how to include Ben and his peers in the morning greeting routine.

Prior to implementing this new intervention, baseline data was collected about Ben's performance as he entered the classroom. That data indicated a low level of independent actions (M=23.3%) in greeting peers, separating from his nanny, and engaging in play. When the adults felt comfortable with using the song and Ben's new morning greeting procedure, the teachers implemented the intervention in the ongoing classroom routine. As soon as Ben entered the classroom, his nanny and classroom teachers sang each step of the greeting song to Ben. Ben entered the classroom and looked for a peer to greet by exchange a „hello" picture symbol. His teachers first prompted him to follow each step of the routine and then gradually withdrew their support. Peers began to cluster around him each morning, singing the song and wishing him a „good morning." However, this original implementation of the intervention did not change Ben's behavior significantly (M= 30%), because the „good-bye" part was still troublesome to him and triggered undesirable behaviors such as biting and scratching. After consulting with the music therapist, the teacher and caregiver decided that it was too hard for Ben to understand both concepts: greeting and saying good-bye. Therefore the decision was made to eliminate the good-bye part of the greeting routine and Ben's caregiver left after he entered the classroom smoothly. This modified version of the intervention improved Ben's independence in this routine immediately and significantly (M=60%).

To test the validity of the intervention, the morning greeting song was withdrawn for five days. Ben's independence dropped to a mean of 40%. When the greeting song was re-introduced, independence in following the greeting routine smoothly rose to a mean of 80%.

10.29091/9783752001839/010

On many days Ben now enters the classroom with a smile on his face, joyfully jumps up and down, and vocalizes or names a peer to greet. The song intervention evokes a positive view and interest of peers toward Ben as evident in remarks such as „He doesn't cry anymore," or „He did a great job." Peer interaction frequently continues when Ben plays a hand drum that is offered to him as a toy to play with for the last step of the routine. Furthermore, teachers' and the caregiver's stress level has been reduced due to Ben's smooth transition during arrival time. Ben's Mom is very pleased and satisfied seeing her son's positive development and uses other songs to teach him skills at home.

Case Vignette: Andy

Andy was a 3-year old boy with ASD enrolled in the FPG inclusive child care program. His favorite activities were to identify letters and numbers, listen, dance, and sing to music. Clara, his classroom teacher, said: „Andy really responds well to music. He makes eye contact with me as soon as I start a melody. Singing songs with him during major transitions in the classroom helps him to understand what to do next." However, Andy tended to have difficulties with managing the required steps of classroom routines such as cleaning up his toys after free play. Cleaning up at different times throughout the child care day was a readily familiar routine for his classmates. Clara found it important to teach children to clean up because it keeps the classroom organized and functional.

Each child is expected to put toys back in the designated play area independently. To make the cleaning-up procedure a more fun activity for her class, she and the children would sing „Clean up" from Barney & Friends while putting toys in the designated area. Clara noticed that Andy stiffened his legs and body, flapped his arms, whined, tried to escape, and avoided cleaning up if she prompted him with words to engage in cleaning up. But when she sang the cleaning-up song to him in the same situation, he started to clean up his toys as his classmates did.

Using an alternating treatment design the music therapist verified that a song intervention helped Andy to participate more independently in this classroom routine. In collaboration the teacher and music therapist decided to design individual song interventions to help Andy to be more independent in additional self-care routines such as hand washing and toileting. The lyric of a pre-composed song were altered to the demands of hand washing, and for the toileting procedures the music therapist composed an individualized song.

Results indicated that the implementation of either form of the intervention (song intervention/lyric intervention) was successful in increasing Andy's independent performance for each self-care routine. However, the song intervention was more effective than the lyric intervention for the hand washing (song intervention M=66.0% versus lyric intervention M=57.1%) and cleaning-up procedures (song intervention M=66.6% versus lyric intervention M=36.7%), whereas for toileting the lyric intervention (M=38.2%) was slightly more effective than the song intervention (M=32.0%).

10.29091/9783752001839/010

Case Vignette: Phillip

Phillip was a friendly four-year-old boy with a sense of humor and a good temperament. He was diagnosed with ASD and had particular difficulty with interacting with classmates and engaging in meaningful play. When his inclusive preschool class was let loose to run around on the playground, he wandered around aimlessly, flapped his arms, spun a leaf, or sat on a bench, unless his teachers involved him in a meaningful activity such as riding a tricycle. Sometimes children trailed around after him and engaged him in a little chasing game. Phillip did not know how to approach his classmates appropriately and frequently pushed or screamed at them. As play progressed, peers frequently teased him or were scared and ran away. Phillip's mom and teachers were not pleased by the childrens' interaction. Phillip's mom said she didn't like her son „being all by himself or rough to friends" while others played nicely with one another.

The music therapist observed Phillip's and his peers' behavior on the playground. She approached Phillip's classroom teachers Rebecca and Patricia and they engaged in defining the problem the children have. Together they evaluated possible strategies to improve Phillip's and his peers' playground interaction. Rebecca said that Phillip is amazingly adept in participating in musical activities. At the next interdisciplinary team meeting, Phillip's teachers and the music therapist suggested a music therapy intervention aimed to improve Phillip's playground peer interaction and play and engagement on the playground. Baseline measures indicated few positive interactions with peers (M=4.1%).

Earlier in the year, the music therapist initiated modification of the playground by adding an outdoor music center (Music Hut) on the child care playground. She and her colleagues realized that the opportunity to engage in musical activities might enhance the overall playground experience, especially for children with special needs. Additionally, she created and distributed a booklet and CD with songs incorporating instruments in the Music Hut for promoting therapeutic goals such as interaction, initiation, cooperative play, self-expression and awareness, attention, and body control among teachers.

The Music Hut enhanced meaningful play and engagement for many children with and without disabilities, but did not improve Phillip's peer interactions. In the experimental condition with the Music Hut alone, the number of positive peer interactions rose very little (M=6.3%). Phillip's mom and other specialists agreed that an individualized song intervention, which included targeted education goals and made use of intervention strategies already in use for Phillip, would be helpful. The intervention was also designed to use peers as formal and informal helpers. The intervention could then be embedded by Phillip's teacher in the daily playground routine to achieve positive peer relationships. After staff training, identifying Justin and Jacky as Phillip's peer buddies, Phillip's unique song was introduced to his class.

Shortly after, Phillip and Justin held hands and ran across the playground to the Music Hut, where Rebecca waited for them. Both were playing the gong in a loud fashion while singing, „I want to play the gong with you." Justin wanted to know if this song is called Phillip's Groove and jumped joyfully up and down when his teacher verified it. Next, Phillip initiated dancing and signed, „I want to dance with you." He took

10.29091/9783752001839/010

Justin's hand and spun around with him. His eyes were sparkling and Justin commented, „This is my favorite part." This teacher mediated intervention resulted in an increase in positive peer interactions substantially (M=77.4%). During the peer-mediated phase of the intervention, Rebecca stepped out of the Music Hut and only provided support when needed, which resulted in a decrease in Phillip's interactions with peers (M=21.9%), though this was still a significant improvement over the baseline condition.

Conclusions

This cumulative case study illustrates that music therapy interventions are meaningful and effective for young children with autism, and can be successfully embedded in ongoing classroom activities and routines. The music therapy collaborative consultative approach was effective in enabling teachers to implement the interventions successfully. Through individualized song interventions, children with autism acquired and improved skills and social interactions with peers in the natural environment. Collaborative consultation, widely employed elsewhere in early intervention / early childhood special education to promote program sustainability, is an appropriate and effective way of providing music therapy treatment. Indeed, it allows for the expansion of music therapy services. Overall, music therapy enhances services for young children with autism. However, training of music therapists in collaborative consultative methods of service delivery, along with continued research into the effects of embedded music therapy interventions in inclusive child care programs, is warranted.

References:

Aldridge, D. (Ed.) (2005). Case Study Designs in Music Therapy. London, England; Bristol, PA: Jessica Kingsley Publishers.

Alvin, J., Warwick, A. (1991). Music therapy for autistic children (2nd ed.). Oxford, England: University Press.

Applebaum, E., Egel, A. L., Koegel, R. L., Imhoff, B. (1979). Measuring musical abilities of autistic children. Journal of Autism and Developmental Disorders, 9 (3), 279–285.

American Association of Music Therapy (AMTA) (2002). Music therapy and individuals with diagnosis on the autism spectrum. Retrieved December 16, 2004 from the Internet: http://www.musictherapy.org/factsheets/autism.html/

American Association of Music Therapy (AMTA) (2004). AMTA Member Sourcebook 2004, 185–186.

American Psychiatry Association (APA) (2000). Diagnostic and statistical manual of mental disorders (4th ed.), Text Revision. Washington, DC: Author.

Bredekamp, S., Copple, C. (Eds.) (2002). Developmentally appropriate practice in early childhood programs (2nd ed.). Washington, DC: National Association for the Education of Young Children.

Brownell, M. K. (2002). Musically adapted social stories to modify behaviors in students with autism: Four case studies. Journal of Music Therapy, 39 (2), 117–144

10.29091/9783752001839/010

Bunday, E. M. (1995). The effects of signed and spoken words taught with music on sign and speech imitation by children with autism. Journal of Music Therapy, 32 (3), 189–202.

Dawson, G., Osterling, J. (1997). Early intervention in autism. In M. J. Guralnick (Ed.), The effectiveness of early intervention (pp. 307–326). Baltimore, MD: P. H. Brookes Publisher Co.

Dunn, W. (1996). Occupational Therapy. In R. A. McWilliam (Ed.), Rethinking pull-out services in early intervention: A professional resource (pp. 267–313). Baltimore, MD: Paul H. Brookes Publishing Co.

Dunst, C. J., Bruder, M. B., Trivette, C. M., Raab, M, McLean, M. (2001). Natural learning opportunities for infants, toddlers, and preschoolers. Young Exceptional Children, 4 (3), 18–25.

Frank Porter Graham Child Development Institute (FPG) (2004). FPG Child Care Center. The FPG Family and Child Care Program. Retrieved December 16, 2004 from the Internet http://www.fpg.unc.edu/childcare/

Furman, A. G. (2001). Young children with autism spectrum disorder. Early Childhood Connections, 7 (2), 43–49.

Furman, A. (2002). Music therapy for learners in a community early education public school. In B. L. Wilson (Ed.), Models of music therapy interventions in school settings (2nd ed) (pp. 369–388). Silver Spring, MD: The American Music Therapy Association, Inc.

Garfinkle, A. N., Schwartz, I. S. (2002). Peer imitation: Increasing social interactions in children with autism and other developmental disabilities in inclusive preschool classrooms. Topics in Early Childhood Special Education, 22, 26–38.

Gottschewski, K. (2001). Autismus aus der Innenperspektive und Musiktherapie [Autism from an inside-out perspective and music therapy]. In D. Aldridge (Ed.), Kairos V: Musiktherapie mit Kindern: Beiträge zur Musiktherapie in der Medizin (pp. 40–57). Bern; Goettingen; Toronto; Seattle: Verlag Hans Huber.

Gustorff, D., Neugebauer, L. (1997). Musiktherapie mit Bahman, einem autistischen Jungen: Eine Fallstudie [Music therapy with Bahman, an autistic boy: A case study]. In D. Aldridge (Ed.), Kairos I:Beiträge zur Musiktherapie in der Medizin, 12–13. Bern; Goettingen; Toronto; Seattle: Verlag Hans Huber.

Handleman, J. S., Harris, S. L. (Eds.) (2001). Preschool education programs for children with autism (2nd ed). Austin, TX: Pro-Ed.

Humpal, M. E. (2002). Music therapy for learners in an early childhood community interagency setting. In B. L. Wilson (Ed.), Models of music therapy interventions in school settings (2nd ed) (pp. 389–428). Silver Spring, MD: The American Music Therapy Association, Inc.

Humpal, M. E., Wolf, J. (2003). Music in the inclusive environment. Young Children, 58 (2), 103–107.

Johnson, F. (2002). Models of service delivery and their relation to the IEP. In B. L. Wilson (Ed.), Models of music therapy interventions in school settings (2nd ed) (pp. 83–107). Silver Spring, MD: The American Music Therapy Association, Inc. Kazdin, A. E. (1982). Single case research designs: Methods for clinical and applied settings. New York: Oxford University Press.

Kluth, P. (2003). You're going to love this kid. Teaching students with autism in the inclusive classroom. Baltimore, MD: Paul H. Brookes Co. Kostka, M. J. (1993). A com-

10.29091/9783752001839/010

parison of selected behaviors of students with autism in special education and regular music classes. Music Therapy Perspectives, 11, 57–60

Lord, C., Rutter, M., DiLavore, P., Risi, S. (1999). Autism Diagnostic Observation Schedule (ADOS). Los Angeles, CA: Western Psychological Services.

McGee, G. G., Morrier, M. J., Daly, T. (2001). The Walden Early Childhood Programs. In J. S. Handelman and S. L. Harris (Eds.), Preschool education programs for children with autism (2nd ed) (pp. 157–190). Austin, TX: Pro-Ed.

McWilliam, R. A. (Ed.). (1996). Rethinking pull-out services in early intervention: A professional resource. Baltimore, MD: Paul H. Brookes Publishing Co.

McWilliam, R. A. (2000). It's only natural … to have early intervention in the environments where it's needed. Young Exceptional Children Monograph Series No. 2: Natural Environments and Inclusion, pp. 17–26. Denver, CO: The Division for Early Childhood of the Council for Exceptional Children.

National Research Council (2001). Educating children with autism. Committee on educational interventions for children with autism. In C. Lord, J. P. McGee (Eds.), Division of Behavioral and Social Science and Education. Washington, DC: National Academy Press.

Nelson, D. I., Anderson, V. G., Gonzales, A. D. (1984). Music activities for children with autism and other pervasive developmental disorders. Journal of Music Therapy, 21 (3), 100–116.

Nordoff, P., Robbins, C. (1977). Creative Music Therapy: Individual treatment for the handicapped child. NY, NY: John Day Books in Special Education.

Pasiali, V. (2004). The use of prescriptive therapeutic songs in a home-based environment to promote social skills acquisition by children with autism: three case studies. Music Therapy Perspectives, 22 (1), 11–20.

Piaget, J. (1951). Play, dreams, and imitation in childhood. NY, NY: Norton.

Rainforth, B., Roberts, P. (1996). Physical therapy. In R. A. McWilliam (Ed.). Rethinking pull-out services in early intervention: A professional resource (pp. 243–265). Baltimore, MD: Paul H. Brookes Publishing Co.

Register, D. (2002). Collaboration and consultation: A survey of board certified music therapists. Journal of Music Therapy, 39 (4), 305–321.

Sandall, S., McLean, M. E., Smith, B. J. (2000). EC: Recommended practices in early intervention / early childhood special education. Longmont, CO: Sopris West.

Schopler, E., Reichler, R., Bashford, A., Lansing, M., Marcus, L. (1990). Psychoeducational Profile-revised (PEP-R). Austin, TX: Pro-ED.

Schopler, E., Reichler, R., Renner, B. (1988). The childhood autism rating scale (CARS). Los Angeles, CA: Western Psychological.

Schumacher, K. (1994). Musiktherapie mit autistischen Kindern [Music therapy with autistic children]. Stuttgart, Germany: Gustav Fischer Verlag.

Snell, A. M. (2002). Music therapy for learners with autism in a public school setting. In B. L. Wilson (Ed.), Models of music therapy interventions in school settings (2nd ed) (pp. 211–275). Silver Spring, MD: The American Music Therapy Association, Inc.

Sparrow, S. S., Balla, D. A., Cichetti, D. C. (1984). Vineland Adaptive Behavior Scales. Circler Pines, MN: American Guidance Service.

Stern, D. N. (2000). The interpersonal world of the infant: A view from psychoanalysis and development psychology. NY, NY: Basic Books.

10.29091/9783752001839/010

Tawney, J. W., Gast, D. L. (1984). Single subject research in special education. Columbus: Merrill.
Thaut, M. H. (1987). Visual versus auditory (musical) stimulus preferences in autistic children: A pilot study. Journal of Autism and Developmental Disorders, 17 (3), 425–432.
Thaut, M. H. (1988). Measuring musical responsiveness in autistic children: A comparative analysis of improvised musical tone sequences of autistic, normal and mentally retarded individuals. Journal of Autism and Developmental Disorders, 18 (4), 561–571.
Treatment and Education of Autistic and related Communication handicapped Children (TEACCH). (2004). Autism Primer: Twenty questions and answers (3rd edition). Retrieved December 16, 2004 from the Internet: http://www.teacch.com/teacch_i.htm.
Vygotsky, L. S. (1978). Mind in Society: The development of higher psychological progresses. Cambridge, MA: Harvard University Press. Wesley, P. (2004). Education flourishes in natural environments. All Together Now! (ATN), 10 (1), 3–5.
Wilcox, M. J., Shannon, M. S. (1996). Integrated early intervention practices in speech-language pathology. In R. A. McWilliam (Ed.), Rethinking pull-out services in early intervention: A professional resource (pp. 217–242). Baltimore, MD: Paul H. Brookes Publisher Co.
Wilson, B. L. (Ed.). (2002). Models of music therapy interventions in school settings (2nd ed). Silver Spring, MD: The American Music Therapy Association, Inc.
Wimpory, D. Chadwick, P., & Nash, S. (1995). Brief report: Musical Interaction Therapy for children with autism: An evaluative case study with two-year follow-up. Journal of Autism and Developmental Disorders, 25 (5), 541–552.
Wolery, M., Watson, L., Garfinkel, A. N., Marcus, L., Coburn, J. (2001). Replication Manual: Center-Based Early Intervention Demonstration Project for Children with Autism. Unpublished Manual.
Wolery, M., Wilbers, J. (Eds.) (1994). Including children with special need in early childhood programs. Washington, DC: National Association for the Education of Young Children.

Author Notes

This summary is based on work undertaken for my doctoral dissertation, completed under the direction of Prof. Dr. David Aldridge at the University of Witten-Herdecke, Germany. My deepest appreciation goes to the children and families, teachers and colleagues at the Family and Child Care Program of the Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill for their participation, dedication, and collaboration in these studies.
Portions of this manuscript were modified and reprinted with permission of *Music Therapy Today.* The original article appeared under the title Kern, P. (2004). Making friends in music: Including children with autism in an interactive play setting. *Music Therapy Today (online) Vol. V,* Issue 4, August 2004, available at http://www.musictherapyworld.net.

Dr. rer. medic. Petra Kern, Music Therapist BVM, MT-BC, Frank Porter Graham Child Development Institute, 105 Smith Level Road, CB# 8180, Chapel Hill, NC 27599, USA, kern@mail.fpg.unc.edu

10.29091/9783752001839/010