International Society for Music Education
ISME Commission
Special Education, Music Therapy and Music Medicine
Established in 1953

# 18th Seminar for the Commission for Music in Special Education, Music Therapy, and Music Medicine

Liza Lee, Editor

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Music Therapy, and Music Medicine

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MUSIC COLLEGE OF CAPITAL NORMAL UNIVERSITY

BEIJING, CHINA

International Society for Music Education
ISME Commission
Special Education, Music Therapy and Music Medicine

# Proceedings of the 18th International Seminar of the ISME Commission on Music in Special Education, Music Therapy, and Music Medicine

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## Mission

The commission on Music in Special Education, Music Therapy and Music Medicine was established in 1974. The Commission was established in order to contribute to the progressive development of music therapy and music in special education. The commission seeks to emphasize the importance of communication between the related disciplines that are involved.

The commission aims to:

- gather and present detailed information from each specific profession;
- exchange information regarding training of the three professions;
- share information and research through an informal email discussion group and through biannual seminar meetings; and
- present the outcomes of these meetings in publications.

## Commissioners 2008-2010

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# ABSTRACTS

# Music therapy for autistic children

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The purpose of this study was to explore whether music therapy or music teaching has a more significant impact on the communicative behaviours of children with autism both within the music session and in the classroom. Ten 6-9 year-old autistic children with non-verbal or limited language were selected to participate in the study. The duration was 10 weeks with 15-30 minute music therapy and music education sessions.
Results of the study revealed that participants responded positively to music therapy sessions. It is possible that with training, a classroom teacher could successfully incorporate music therapy and music education techniques such as increased child-led activity, improvisation with instruments, to increase the expressive communication of children with autism. This type of intervention would not serve as a substitute for individual or group music therapy, but as a supplement, as music teaching by definition involves primarily musical goals, rather than communication goals. Professionals are encouraged to collaborate to provide multi-dimensional support for the child with autism and his/her family.

**Keywords:** Music therapy, Music education, Autism

# The effects of relaxation exercises accompanied by turkish music on eliminating pains of violin and flute students

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The aim of this study was to exhibit the effectiveness of the loosening exercises on violin and flute students. The exercise(s) herein, accompanied by Turkish music, were done in order to reduce aches caused by playing the aforementioned instruments. Subjects of the study were flute and violin students of Gazi University's Music Instructor Department. 10 flute and 10 violin students were selected randomly among those who volunteered to attend the study and who had long-term aches due to performing. Students were taught the loosening exercises practically and provided both a written and illustrated program to help them apply the exercises to future practice. Every week throughout one semester (14 weeks), at the beginning of flute and violin lectures, students completed posture and loosening exercises accompanied by the typically used in Turkish music therapy sessions. The researchers followed-up with the students via e-mail, phone calls, and in person conversations. After the 14- week experiment period,a survey was conducted to ascertain the intensity of the students' aches. Data were evaluated via using SPSS. Results revealed a significant change in the physical discomforts of the students before and after the experiment. Additionally, interviews revealed that the music used during the loosening and posture exercises had a calming effect upon the students and helped them concentrate on the exercises.

**Key Words:** Flute education, violin education, Turkish Music, Music therapy, loosening exercises.

# Rhythm Education for Diverse Learners

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Special music education permits diverse learners to participate in goal-oriented music tuition, thereby making maximal use of their learning potential and resources. Through the development of special music education, new applications and practices the diverse learner at the Special Music Centre Resonaari (Helsinki, Finland) becomes attached to goal-oriented instrument tuition. This is the route to learning.
The Resonaari Music School unlocks music education for marginal groups. Resonaari is open for people of all ages, both children and adults, with special needs that prevent or make it hard for them to study in ordinary music schools with conventional methods. This presentation-workshop will introduce the Rhythm Education Model developed for diverse learners in Resonaari. Rhythm Education Model has five functional steps: 1. Imitation, 2. Echoes (call & response), 3. Playing from visual information (Figurenotes) 4. Word rhythms & rhymes and 5. Composing. Each step includes exercises that are played over basic pulse. At all levels complexity can be varied continuously form very simple to very complicated. Variety both in musical patterns as well as in the ways of playing makes playing interesting and offers challenges for all pupils.
All exercises are played by using tabledrumming (it means playing with hands on the table) but naturally all exercises can be played also in bodypercussion, un-pitched percussion or with tuned instruments. It is easy to use exercises in individual lessons or in therapy sessions as well as in the classroom music sessions.
Originally the Rhythm Education Model was developed for rhythmical music education. However, improvements have been shown in neurocognitive, sensorimotor and motor skills as well as in speech, language and even in social skills. Currently the model is also used for example as a part of speech therapy in Finland and it has been integrated in mainstream music teaching and music therapy.
Goal-oriented music teaching is a means for members of special groups to acquire an increasingly broad command of musical skills and knowledge. A new group – musicians who are themselves members of special needs groups – is emerging in society. These musicians, and people with learning difficulties are starting to take the stage as artists on a par with others. This positive change in cultural life is not only affecting the definition of disability and attitudes; it is also changing the concept of the musician and making the whole cultural field more democratic.

**REFERENCES**

Adamek, M. S. & Darrow, A. 2005. Music in Special Education. Silver Spring: AMTA, Inc.

Kaikkonen M. & Uusitalo K. 2005. Soita mitä näet. Kuvionuotit opetuksessa ja terapiassa. Oppimateriaalikeskus Opike: Helsinki. (Play what you see. Figurenotes in teaching and rehabilitation).

Kurtz, L. A. 2008. Understanding motor skills in children with dyspraxia, adhd, autism, and other learning difficulties. A guide to improving coordination. Jessica Kingsley Publishers: London.

McCord, K. & Fitzgerald, M. 2006. Children with Disabilities Playing Musical Instruments. Music Educators Journal, 92(4), 46-52.

Zdzinski, S. F. 2001. Instrumental Music for Special Learners. Music Educators Journal, 87(4), 27-31.

# Understanding the needs for sound-based interaction

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Sound and music can, in many ways, improve the quality of life of children and adults with special needs. Sound and music are unique mediums for interaction. Technology allows people of all abilities to create channels for communication. The iMuse Project is dedicated to the development of multi-sensory environments for autonomous interaction. Students at the iMuse Centre learn through interaction with special needs children and adults. With iMuse, a facilitator, works together with participants, to design an environment that allows for autonomous exploration and expression. In order to do so, it is necessary to understand the physical as well as both the emotional and motivational needs for interaction Participant must not only be physically able to interact but must be intrinsically motivated to do so. Only when both aspects are understood can engagement and interaction emerge.

The knowledge provided by family, caregivers, therapists, and teachers is a very important source of information. However, the most critical sources for gaining insight are the participants and their ways of relating to the world around them. In our view, open- minded observation and communication are the keys to learning about and truly meeting a person's needs. This presentation will highlight examples from our practical work to demonstrate our theoretical and practical approaches.

# A sense of self: Developing awareness and expression

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Since the landmark research conducted by Langer and Rodin in 1976, many studies have shown that giving the individual some control over their existence – agency can improve mental and sometimes physical well-being. Certainly, when control over one's daily life is removed, through illness, increasing disability, or through the regime of institutionalised care, a sense of helplessness and disenfranchisement can lead to inertia and depression. Unfortunately, many elderly individuals, both frail and infirm, are often left with little, if any, autonomy - this, at a time when the numbers of *young old* and *older old* are expected to increase in many societies in the coming decades.

The focus of the *i*MUSE research project has been to develop an environment, which gives control, and the possibility of expression and communication, (back) to even severely handicapped or disabled people. The latter is made possible through the use of specific technological interfaces, which allow for instinctive and intuitive actions on the part of the user. The project has developed a multi-sensory environment, which combines sound, vibration, and visual projections and is *interactive* rather than a passive experience in which different audio/visual stimuli are presented to an inactive person. A facilitator optimises the *i*MUSE environment to engage the needs and abilities of different users.

The methodology adopted by the facilitator is of crucial importance. At the heart of the approach, is *aesthetic resonation*, moments or periods of time during which apparent disabilities become background rather than foreground. As a result, users can be seen to be active in ways not normally deemed possible, and reveal personal expression and delight often not shown in daily living. Techniques associated with Intensive Interaction and *Person Centred Care* also forms part of the approach employed by the facilitator.

This presentation is primarily video-based and will illustrate the *i*MUSE environment and its effect. The primary emphasis is placed upon sound, and all sounds created within the environment are heard, felt as vibration, and seen as a visual projection by the user. There are typically three sections to each session:

i. vocal interaction with microphone and sound processing.
ii. expressing with sound with a gesture capture device (Soundbeam).
iii. receptive mode, in which relaxation is enabled through playing particular music together with low frequency sound.

A number of short case studies with elderly infirm people revealing the effect of this approach over a number of months and years will be introduced. Cases will illustrate how improvements in physical and mental conditions can be enabled, and in some cases, a sense of self rediscovered through the giving of control in an aesthetic, interactive environment.

# Participant-centered design of sound and music-based interaction

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The purpose of this workshop is to provide a platform for comparing and discussing different approaches to working with music and sound in an educational setting. As part of our commission meeting, our seminar host in Beijing, has provided us with the opportunity to visit a school for children with special needs. Workshop participants will be able to observe the everyday life of the children attending the school. The visit will be the common starting point for the development of ideas for using music to improve the quality of life for the children in the school. To ensure that conference participants understand the abilities and needs of these children as well as the Chinese school system, a number of Chinese professionals who work with special needs children will join the workshop. With their help, it will be possible to 'translate' different approaches to a concrete situation and discuss a range of possible aims and methods of musical interaction. The resulting ideas of using music as a medium to improve children's quality of life will be presented in a plenary session following the workshop. We hope to open up an intercultural dialogue spanning countries as well as modes of practice.

# PAPERS

# Assessing the effectiveness of applying soundbeam technology on enhancing an autistic child's disruptive behaviors and development

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**ABSTRACT**
The aim of this qualitative study was to investigate the effectiveness of using Soundbeam technology to improve an autistic child's disruptive behavior as well as other areas of development such as attention span, cognitive, language, and emotional development. Therapeutic procedures included the establishment of goals, observational assessment, and successive evaluation. A variety of teaching techniques and styles were used to adjust the participant's learning situation. The participant, a 4 year-old male who had received a clinical diagnosis of autism as well as profound and multiple learning disabilities, was selected by purposive sampling. Duration of the study was 22 weeks with 30-minute instructional sessions twice a week. Data analysis involved a telephone interview as well as a personal interview with the parents in order to triangulate data, gather background, and set guidelines for the study. The results revealed the positive efficacy of using Soundbeam technology on enhancing the participant's behavior, attention span, cognitive, language, and emotional development.

**Keywords:** Soundbeam, Technology, Autistic Child, Disruptive Behavior

## INTRODUCTION

### Background

Technology is becoming an increasingly important tool for professionals in special needs education and music therapy (Adams, 2006). The aims of using Soundbeam technology are to develop interactive communication skills, independent physical movement and control and relaxation for people with special needs (Ellis, 2004). Soundbeam technology provides a medium through which even profoundly physically disabled or learning impaired individuals can become expressive and communicative through using music and sound (Ellis, 2007; Ellis, 2008).

### The motivation of the study

The researcher learned the technology at Sunderland University from Professor Philip Ellis. Previous studies include the implementation of Soundbeam technology as a means for developing mainstream children's creativity and for enhancing a Williams Syndrome child's motor skills and attention span. She is currently interested in extending her Soundbeam research to participants with varying backgrounds and needs so that more special needs Taiwanese children will benefit.

### The purpose of the study

The aim of this qualitative study was to investigate the effectiveness of using Soundbeam technology to improve an autistic child's disruptive behavior as well as other areas of development such as attention span, cognitive, language, and emotional development.

### Research Questions

The specific research questions asked are:

1. Can Soundbeam technology be effective in countering the participant's disruptive behavior?
2. Can Soundbeam technology be effective in improving the participant's attention span, cognitive, language, and emotional development?

## RELATIVE LITERATURE REVIEW

Music therapy provides a non-threatening and soothing way of communication for the children with special needs, particularly autistic children (Alvin & Warwick, 1992; Lee, 2006). As technology has evolved so has the quality of our lives. The positive effects of combining music and technology in the field of special education are well documented.

### The effects of music therapy for autistic children

Studies have revealed that music therapy has had a significantly positive impact when used to treat individuals with autism (Allgood, 2005; Brownell, 2002; Wager, 2000). In particular, music therapy can offer autistic children opportunities to experience non-threatening outside stimulation. The latter is especially important as many do not engage in direct human contact.

Music, in and of itself, can serve as a communication channel for children with autism (Kissinger, & Worley, 2008). The attraction of music to autistic children relates to their feelings of inclusion absorption within a musical environment (Alvin and Warwick 1992). Music therapy uses music as a tool to support stronger speech skills, improve eye contact, and strengthen other areas of the autistic child's life (Berger, 2002). Music therapy has enabled autistic children to experience happiness and calmness (Rahim, & Hamzah, 2008). Research has also revealed that music has a huge effect on the brain processes, providing a soothing "blanket" for the listener thus allowing the system to relax, especially for individuals with autism (Berger, 2002).

### The effects of music technology for autistic children

Autistic children have successfully engaged in musical activities involving adaptive technologies such as the MIDImate switch access system (Assistivex, 2003) and automatic movement technologies that convert movement to music like Soundbeam (Soundbeam Project, 2003; Swingler, 2003). The use of these adaptive technologies has created a paradigm shift in which access to a musical instrument no longer requires physical strength, endurance and fine motor abilities (Ellis, 1995). As a result, participation in musical tasks and the subsequent emotional, psychosocial and therapeutic rewards is no longer restricted by physical barriers (Schwellnus et al., 2002).

Some autistic children are unable to communicate with language. Due to the importance of communication, socialization, and interaction with others, autistic children are in need of solutions and approaches for speech and language development. Research has indicated that technology can improve quality of life (Hailpern, 2007). Also revealed is that sound therapy combines the power of new technologies with an aesthetic response to sound. This non-interventionist approach can encourage users' interaction and development of their communicative skills (Ellis, 1995). Through sound therapy sessions, an autistic child can progress in a number of areas, such as movement control, attention span, eye contact, vocalization, social interaction, and positive emotions (Ellis & Van Leeuwen, 2000).

One study revealed the benefits of developing an audiovisual immersive interactive environment as a means for encouraging the creative interaction and expression of a 12-year-old male with Autistic Spectrum Disorder. For example, results indicated that the setting increased engagement spans and vocal utterance while in the environment (Williams, 2008).

## METHODOLOGY

The therapeutic procedures in this qualitative study included the establishment of goals, observational

assessment, and successive evaluation. A variety of teaching techniques and styles were used to adjust the participant's learning responses. All session observations were recorded on videotape.

**Participants**

The participant for this study was a 4 year-old male who was clinically diagnosed with autism and many profound learning disabilities. The participant was mute and not particularly interested in music. He exhibited a high sensitivity to touch, made no eye contact, and had very disruptive behavioral problems. The participant was enrolled in a special kindergarten in Taichung, central Taiwan, and was selected by purposive sampling to participate in the study.

**Setting**

The study took place at the "Soundbeam Technology Child Development Center" of Chaoyang University of Technology, Taiwan.

**Duration**

This study lasted for 22-weeks and included half-hour sessions held two twice per week. The total intervention lasted for 44 sessions.

**Curriculum Design**

A. Hypothetical curriculum design

The initial hypothetical curriculum design included four phases based upon previous research. The phases included free exploration and instructional learning which was comprised of sound guidance, image guidance with sounds, and purposive guidance. The target goals are:

a. Free exploration phase

In this phase, the participant would explore sounds freely through physical movement. Through sound exploration, the sounds served to motivate the child's curiosity, attention, and learning.

b. Sound guidance phase

The target sounds of Soundbeam would lead the participant to imitate the target objectives such as a flying bird.

c. Image guidance with sounds phase

The target sounds of Soundbeam and target images of Arkaos VJ3.61FC1 and G-force would lead the participant to imitate the target objectives' motions.

d. Purposive guidance phase

The purposive guidance would include sound vocalization, Soundbeam activities, image activities, and relaxation time.

B. Revised alternative curriculum design

According to the participant's responses, the researcher adjusted the curriculum phases in order to reach the study goals. The alternative curriculum phases were the following:

a. Sound guidance phase
b. Image guidance with sounds phase

**Data analysis**

After obtaining consent, initial data collection involved a telephone interview as well as a personal interview with the parents in order to gather background and to set guidelines for the study. At the end of the study, the data analysis included interviews with parents, observation forms of music activities from four independent observers, parental observation forms, researcher's teaching logs, and feedback forms.

**Assessment**
The assessment instruments included a pre and post-diagnosis of the participant from a medical doctor at a local hospital; anecdotal observation forms to gather data on the participant's changes of behavior and development from four observers who were trained graduate students; interview reports from the parents at home; and the researcher's teaching logs. All intervention sessions were video recorded, viewed, and evaluated by four independent observers**.** At the end of the study**,** five social reliability assessment reports were completed by the parent and four observers.

**Coding**
The following is the researcher's coding symbol:

| Data Resource | Coding | Meaning |
|---|---|---|
| Observation form of music activities | O-1-2-08152008-3-2 | The observation form of the second time of the week one on August 15, 2008 for the activity 3 by observer two |
| The parental interview | PI-09102008-1 | The parental interview on September 10, 2008 by observer one |
| The parental observation form | PO-10112008 | The parental observation form on October 11, 2008 |
| The researcher's teaching log | RTL11222008 | The researcher's teaching logs on November 22, 2008 |

**RESULTS**
In order to increase the objectivity and reliability of the research results, a cross-comparison was conducted on the triangulated data. There were four phases to show the results:

A. Accommodation stage: from week 1 to week 4
Due to the participant's disruptive behavior, the parents accompanied him to class for the first two weeks. The participant had the lessons without parents from week 3 to the end of the study. The curriculum design at this stage focused on free exploration.
The sounds were changed every minute to test the participant's preferences. Initially, the sensor was placed behind and above the participant. Regardless of the sensor position chosen by the instructor, the participant could not calm down nor could he sit still in his chair. The distance range of sounds was set to be broad, between 0.20m and 5.00m. The participant's attention span, behavior, cognition, language, and emotional development had not improved in this phase.

a. Disruptive behavior
The participant had very disruptive behavioral problems which included biting, hitting, kicking, slapping, and scratching others, as well as hurting himself throughout the first phase of the study.

*The participant couldn't stop crying, screaming and slapping people for the whole session when he first came to the class.* (O-1-1-08012008-1-1, O-1-1-08012008-1-2, RTL08012008)

*When a drum sound was played, the participant suddenly turned to slap a teaching assistant.* (O-1-2-08082008-3-2, O-1-1-08082008-3-4)

*When a single note of piano sound was played, the instructor tried to motivate the participant's vocalization by singing "Aah~~~with a high tone. The participant started to slap the instructor's face.* (O-2-1-08122008-3-1, O-2-1-08122008-3-4, RTL08122008)

*During the Soundbeam activity session, the participant bit and scratched the instructor's arm while he was held to the soundbox.* (O-2-2-08152008-3-2, O-2-2-08152008-3-3, RTL08152008)

b. Cognitive development

The participant's cognitive competence was poor when he first came to class. He needed the instructor's consistent assistance. Most of the time, his disruptive behavior affected his learning.

*When the instructor sang the hello song to the participant, he couldn't do the proper responses at all.* (O-3-1-08192008-1-2, O-3-1-08192008-1-3, O-3-1-08192008-1-4, RTL08192008)

*When the instructor asked the participant to say goodbye, he needed the instructor and assistants to hold his hand to wave goodbye.* (O-3-2-08222008-4-2, O-3-2-08222008-4-3, RTL08222008)

*When the instructor taught the participant target objective of bird with the bird sound, the participant started screaming and slapping.* (O-4-1-08262008-1-2, O-4-1-08262008-1-3, RTL08262008)

c. Language competence

The participant was mute most of the time; therefore, at this phase he did not make any improvement. The instructor tried to motivate the development of his spoken language skills by singing the vowel sounds with sound effects. However, the participant only screamed along with disruptive behaviors throughout the first phase.

*While the instructor sang hello to the participant, he started screaming and slapping people including his parents.* (O-1-1-08012008-1-1, O-1-1-08012008-1-4, RTL08012008, PO-08012008)

*When the instructor said good morning with the accelerative whole tone scale, the participant started screaming.* (O-2-2-08152008-1-2, O-2-2-08152008-1-4, RTL08152008)

*While playing the single note of the violin sound, the instructor sang "O~~~", the participant started beating, kicking and hitting the instructor.* (O-3-1-08192008-3-1, O-3-1-08192008-3-2)

The parents, who observed the participant's language competence at home, found that his spoken language skills were no different than before the study.

*His spoken language is still limited to sounds without meaning.* (PO-08082008)
*Except for screaming, he was mute most of the time.* (PO-08222008)

d. Attention span

The participant's disruptive behavior affected his learning, so that he could not focus upon anything during this phase.

*When the instructor sang "U~~~" with a sound effect, the participant stared at the instructor for a second, then ran around the room.* (O-4-1-08262008-3-1, O-4-1-08262008-3-4)

*While having the participant sit on the sound chair, the instructor sang "I" with sound effect tone to the participant. The participant tried to struggle from the chair.* (O-4-2-08292008-3-1, O-4-2-08292008-3-2)

*When the instructor sang "Aah~~~" with clapping hands, the participant tried to scratch the instructor's hands.* (O-4-2-08292008-3-1, O-4-2-08292008-3-2, O-4-2-08292008-3-3, O-4-2-08292008-3-4)

The parents, who observed the participant's attention span at home, found that he could not concentrate on anything they taught.

*His attention span is still poor and can't listen to parents.* (PO-08262008)
*He likes to start at something that he is interested, but dislikes to listen to whatever parents taught him.* (PO-08292008)

e. Emotions

The participant showed negative emotions, such as crying, screaming and showed resistance during lessons at home. His negative emotions persisted throughout this phase.

*When the assistant held the participant to the sound chair, he was struggling and crying.* (O-1-1-08012008-3-1, O-1-1-08012008-3-2)

*When the instructor asked the participant "Did you hear the singing bird?" he slapped the instructor's face.* (O-2-2-08152008-3-2, O-2-2-08152008-3-4, RTL08152008)

According to the parental observation forms, the participant did not show positive emotions during the first phase. (PO-08082008) (PO-08152008) (PO-08222008) (PO-08292008)

B. Vocalization phase: from week 5 to week 7

The participant had been mute since he was a baby so the parents asked for help with his spoken language skill development. The second phase therefore focused upon vocalization and curriculum contents included Soundbeam activities and relaxation time. The sounds, ranging between 0.20m and 2.00m, focused upon one note at a time in order to elicit the participant's vocalization. Sensor placement depended upon the participant's movement direction. During this phase, the participant's attention span behavior, cognition, language, attention span and emotional development began to show improvement.

a. Disruptive behavior

During the vocalization phase, the participant's disruptive behavior improved slightly. Violent behaviors were not recorded in weeks 5 or 7 *(O-5-1-09022008-1-2, O-5-2-09052008-1-3, RTL09022008; O-7-1-09162008-1-1, O-7-1-09192008-1-4, RTL09162008)*. During week 6, the participant acted inappropriately, when the assistant corrected his violent behavior ( i.e. kicking and beating people) *(O-6-1-09092008-1-1, O-6-1-09092008-1-2, RTL09092008)*. Similarly, when the assistant turned

off the lights during the relaxation time, the participant was scared of the dark and therefore, started crying *(O-6-1-09092008-1-1, O-6-1-09092008-1-2, RTL09092008)*.

After the instructor added the relaxation time, the participant's resistance to taking lessons decreased *(O-7-1-09192008-2-2, O-7-1-09192008-2-3, RTL09162008)*.
The parental observation form showed the participant's decreased violent behavior at home. He stopped biting his parents before going to bed as long as the parents played the relaxation music from class for him *(PO-09022008, PO-09092008, PO-09162008).*

b. Cognitive development
During week 5, the participant correctly responded when the instructor gave him directions, such as "give me your hands," "clap your hands," or "drink your water" *(O-5-1-09022008-1-1, O-5-1-09022008-1-2, O-5-2-09052008-1-4, RTL09022008).* His parents indicated that although he could follow directions during lessons, he still could not follow their directions at home *(PO-09022008, PO-09092008, PO-09162008)*.

c. Language competence
In this stage, the participant was able to make few vowel sounds and sometimes made rhythmic and melodic sounds. During week 5, the participant made sounds of "I" and "A" *(O-5-1-09022008-1-1, O-5-1-09022008-1-3, O-5-2-09052008-1-4)* and in week 6, he made the vowel sounds "I," "A," "U" and "O" *(O-6-1-09092008-1-3, O-6-1-09092008-1-4, RTL09092008)*. During week 7, the participant hummed a song with a melody similar to "Twinkle, Twinkle, Little Star" *(O-7-1-09192008-1-1, O-7-1-09192008-1-3, RTL09192008)*. This was the first time he had ever sung spontaneously *(O-7-1-09192008-1-2, O-7-1-09192008-1-3)*.

d. Attention span
During this phase, the participant's exhibited a longer attention span. He was able to focus upon listening to the sounds from Soundbeam and music for relaxation. The duration lasted from 5 to 66 seconds *(O-7-1-09192008-1-2, O-7-1-09192008-1-4, RTL09192008)*. During week 5 and 6, he was able to look at the instructor from 5 to 10 seconds with the instructor's assistance *(O-5-1-09022008-1-2, O-5-1-09022008-1-3, O-6-1-09092008-1-1, O-6-1-09092008-1-2)*. By week 7, however, the participant was able to look at the instructor thus meeting the target objectives of doing so for a few seconds without needing any reminders or assistance *(O-7-1-09192008-1-1, O-7-1-09192008-1-2)*.According to the parents observations (as per their form), no obvious differences were exhibited between weeks 5 or 6 *(PO-09022008, PO-09092008)*. However, in week 7, he was able to watch a cartoon on television and listen to the relaxation music from the class by himself at home *(PO-09162008)*.

e. Emotions
The participant decreased his negative emotions during week 5 *(O-5-1-09022008-1-1, O-5-1-09022008-2-3)* and increased his positive emotions during week 6 *(O-6-1-09092008-2-1, O-6-1-09092008-1-4)*. With the exception of crying due to his separation anxiety at the beginning of the lesson and his fear of darkness during relaxation time, the participant's emotions were more positive and stable than in the previous stage *(O-7-1-09192008-2-1, O-7-1-09192008-3-3, RTL09192008)*. By the end of this phase, the parental observation form indicated the participant calmed down more easily especially with relaxation music from the class *(PO-09162008)*.

C. Shifting stage: from week 8 to week 13
The participant made greater changes at this phase. Curriculum contents included a "Hello Song,"

Soundbeam activities, relaxation time, and "Goodbye Song." In order to become familiar with the participant's preference for pitched or un-pitched sound, the instructor adjusted the sound to a single note within one octave. The sensor was placed depending on the participant's direction of movement and the pitch sequence chosen was that of a whole tone scale. The range of the sounds was set up between 0.20m and 2.00m. Starting in week 12, the researcher and observers began documenting the participant's sounds and the pitch. The participant's attention span, behavior, cognition, language, and emotional development were improving more than in the previous phase.

a. Disruptive behavior

The participant did not display disruptive behavior during weeks 8, 9, 11, and 12 *(O-8-1-09232008-1-1, O-9-2-10032008-2-4, O-11-1-10142008-3-2, O-12-1-10212008-1-3)* but did during weeks 10 and 13 due to illness. When the participant displayed violent behavior, the assistant played the relaxation music immediately so as to calm the participant *(O-10-1-10072008-1-2, O-10-1-10072008-3-4, O-13-1-10282008-2-1, O-13-1-10282008-3-3)*.

b. Cognitive development

In this phase, the participant was able to correctly respond to the instructor's direction, such as "Give me your hands," "Clap the drum," "Nod your head" and "Shake your hands." During week 11, the participant was not only able to clap hands with the instructor but was able to clap the rhythmic beats with the instructor *(O-11-1-101432008-1-1, O-11-1-101432008-2-3, O-11-1-101432008-2-4, RTL10142008 )*.

The parental observation form revealed that the participant still could not understand the parents' directions during week 8 *(PO-09232008)* but in week 9, the participant could understand "Turn off the lights" *(PO-09302008)*. During weeks 11 and 12, the participant was able to understand the number 1 and knew where food was located in the family home *(PO-10142008, PO-10212008)*. During week 13, the parents' indicated the participant's progress was improved. For example, he was able to open and close windows and pick up his things at home *(PO-10282008*

c. Language competence

The participant's spoken language skills included mainly vowel sounds and humming of rhythmic melodies within one octave, such as: "A," and "I." The frequency of his spoken sounds was greater than before. During this phase, the participant's screaming had decreased and he expressed more single vowel sounds *(O-9-2-10032008-2-1, O-10-1-10072008-2-3, O-11-1-10142008-2-2, O-12-1-10212008-2-3, O-13-1-10282008-2-4)*. From weeks 8 to 13, the participant was able to make the vowel sounds "A," "E," "I," "O" and "U;" imitated the instructor's long and short sounds; and hummed a single melodic line with the Soundbeam setting *(O-8-1-09232008-2-1, O-9-2-10032008-2-2, O-10-1-10072008-2-3, O-11-1-10142008-2-4, O-12-1-10212008-2-1, O-13-1-10282008-2-4).*

The parental observation forms revealed that the participant made an "O" sound to show his hunger and an "I" sound for anger *(PO-09232008)*. During week 10, the participant was able to hum a few phrases of children's songs *(PO-10072008)* and in week 13, the participant's school teacher indicated that he could hum a phrase of a Christmas song *(PO-10282008)*.

d. Attention span

The participant's attention span was longer than in the previous phases. While listening to the sounds from Soundbeam and relaxation music, the participant's attention span lasted between 10

seconds to 7 minutes *(O-10-1-10072008-1-1, O-11-1-10142008-2-4, O-12-1-10212008-2-1, O-13-1-10282008-3-4)*. When the participant listened to the music, he did not need the instructor's guidance. The participant's attention span could last for 7 minutes during relaxation time *(O-12-1-10212008-3-1, O-13-1-10282008-3-4, RTL10282008)*. From weeks 8 to 13, the participant was able to look at the instructor for 20 seconds *(O-8-1-09232008-1-3, O-9-2-10032008-2-1, O-10-1-10072008-2-3, O-11-1-10142008-2-2, O-12-1-10212008-2-3, O-13-1-10282008-2-4)*.

The parental observation, however, revealed that the participant focused more on the parents' directions. During week 9, the participant was able to look at the picture books for a few seconds *(PO-09302008)*. At week 10, the teacher told the parents the participant could sit and attend in the class for a longer period of time *(PO-10072008)*. From weeks 11 to 13, the participant's attention span showed no improvement at home *(PO-10142008) (PO-10212008) (PO-10282008)*.

e. Emotions

The participant showed positive emotions during weeks 8, 9, 11, and 12 *(O-8-1-09232008-1-1, O-9-2-10032008-2-2, O-11-1-10142008-3-4, O-12-1-10212008-2-2,)*. Due to his illness in weeks 10 and 13, the participant only displayed negative emotions. After listening to relaxation music with additional comforting by the instructor, however, his negative emotions transferred to that of calmness *(O-10-1-10072008-1-3, O-13-1-10282008-2-2)*. In this phase, the participant started showing his happiness by smiling and laughing *(O-8-1-09232008-2-3, O-9-2-10032008-1-1, O-11-1-10142008-2-2, O-12-1-10212008-3-1)*.

Parental observation forms revealed that the participant's negative emotions would most often occur when he was sick or hungry. During week 10, he was able to take the school bus without crying and screaming *(PO-10072008)*. In week 13, the parents found that the participant exhibited positive emotions *(PO-10282008)*.

D. Stable phase: from week 14 to week 22

E.

From week 14 to the end of the study, the participant became more stable. The curriculum contents included a "Hello Song," Soundbeam Activities with *G-Force* visual aids, relaxation time," and a "Goodbye Song." The *G-Force* visual aids played a crucial role for the participant to motivate his behaviors and development. Sensor placement depended upon the participant's direction of movement. The sounds were focused on *single shot* and a range of sound between 0.20m and 2.00m. At this stage, the participant's learning performance was stable.

a. Disruptive behavior

Due to the participant's illness during weeks 14 and 18, the participant manifested violent behavior in class. After the instructor added the *G-Force* visual aids, however, he stopped his disruptive behavior and was able to stare at the pictures on the screen *(O-14-1-11042008-2-3, O-18-1-12022008-2-4)*. Except for the two weeks of illness, the participant's violent behavior and other problems were clearly diminished *(O-15-1-11142008-2-1, O-16-1-11182008-4-3, O-17-1-11252008-2-2, O-19-1-12092008-3-4, O-21-1-12232008-3-3, RTL12302008)*.

The parental observation forms revealed that the participant only displayed violent behavior during weeks 14 and 15 at home. Afterwards, there was no disruptive behavior until the end of the study *(PO-11042008) (PO-11112008) (PO-12116008) (PO-12302008)*.

b. Cognitive development

During week 16, the participant was able to follow the beats of the "Hello Song" and tapped on his lap *(O-16-1-11182008-1-2, O-16-1-11182008-1-3, RTL11182008)*. When the instructor sang goodbye to him, the participant was able to wave his hand without assistance *(O-16-1-11182008-4-1, O-16-1-11182008-4-2, RTL11182008)*. In week 17, the participant held and clapped hands with the instructor spontaneously while doing the Soundbeam activity *(O-17-1-11252008-2-1, O-17-1-11252008-2-2, O-17-1-11252008-2-4, RTL11252008)*. During previous phases, the participant needed assistance during relaxation time. In this phase, however, as he heard the music, he lay down immediately and when the music stopped, he sat up and was ready to sing the goodbye song to the instructor *(O-16-1-11182008-3-1, O-17-1-11252008-4-2, O-18-1-12022008-4-3, RTL12232008)*.

According to the parents, the participant's cognitive development clearly progressed. He was able to follow the parents' directions to do things, such as "put your toys back in the closet," "pick up the bag for me," and "give the cup to Mommy" *(PO-11112008) (PO-11252008) (PO-12232008) (PO-12302008)*.

c. Language competence

The participant's language competence as stable as it had been in phase 3. His spoken sounds were still mainly vowel sounds and melodic phrases. At this stage, the sounds that the participant made included vowel sounds "A," "E," "I," "O" and "U", long, and short sounds and imitating sounds from the instructor *(O-16-1-11182008-2-2, O-17-1-11252008-2-3, O-19-1-12092008-2-4, RTL12302008)*. Most of his spoken sounds were those he was able to make by himself. The frequency with which he made sounds had increased from previous sessions *(O-19-1-12092008-2-2, O-20-1-12162008-2-4, O-21-1-12232008-2-3, RTL12302008)*.

The parental observation forms revealed that as long as the participant's emotions were stable, the frequency with which he made sounds and hummed was more consistent *(PO-12022008) (PO-12162008) (PO-12232008) (PO-12302008)*.

d. Attention span

After the instructor added the *G-Force* visual aids, the participant's attention made dramatic changes. Improvements in his attention span were evidenced by the way in which he watched the instructor, looked at the visuals, and listened to the relaxation music (i.e. from 10 seconds to 10 minutes.) At this stage, the participant did not need the instructor's assistance while attending the class *(O-16-1-11182008-2-1, O-17-1-11252008-2-3, O-18-1-12022008-2-2, O-19-1-12092008-2-4, O-20-1-12162008-3-3, O-21-1-12232008-4-1, RTL12302008)*.

e. Emotions

Except for the participant's illness in week 18, during which time negative emotions were exhibited *(O-18-1-12022008-1-1, O-18-1-12022008-2-4, RTL12022008),* his emotions were at other times positive, especially when he saw pictures on the screen *(O-16-1-11182008-2-2, O-17-1-11252008-2-1, O-19-1-12092008-2-3, O-20-1-12162008-2-4, O-21-1-12232008-2-1, RTL12302008)*. Additionally, he would sometimes smile and hum with the sounds. The participant's negative emotions were transferred by the visual aids from G-Force and relaxation music. At the end of the study, it was obvious that

his negative emotions were decreased and the positive emotions increased *(O-22-1-12302008-1-2, O-22-1-12302008-2-1, O-22-1-12302008-3-3, O-22-1-12302008-4-1, RTL12302008)*. The participant's parents also confirmed the same change at home, such as he was quieter than before, smiled sometimes and had less violent behavior *(PO-11252008) (PO-12092008) (PO-12232008) (PO-12302008)*.

**Social Validity**

In order to support the validity of the study, a feedback form was used by the parents and four observers.

All respondents gave positive support for the study, and scored various aspects on a "1-5" scale. A score of "1" for questions in the "goals" section indicate that the respondent strongly disagreed with whether a goal of the study had been met; a score of "5" showed that they strongly agreed that a goal had been met. There were 24 scores of "5" (strongly agreed), 1 score of "4" (agreed), no scores of "3" (no comments), no scores of "2" (disagreed) and no scores of "1" (strongly disagreed).

A score of "1" for questions in the "effectiveness of the study" section indicated that the respondent agreed the participant regressed a lot; a score of "5" showed that they agreed that the participant progressed greatly. There were 12 scores of "5" (progressed a lot), 26 scores of "4" (progressed), 2 scores of "3" (no progress), no scores of "2" (disagreed) and no scores of "1" (strongly disagreed).

Table 1. *Social Validity.*

| **Items** | Feedback Questions | Strongly Agreed (5) | Agreed (4) | No comments (3) | Disagreed (2) | Strongly Disagreed (1) |
|---|---|---|---|---|---|---|
| **Part I Goals** | 1. The research teaching has a crucial meaning for young special needs children. | 4 | 1 | 0 | 0 | 0 |
| | 2. The research goals fit the needs of young special needs children. | 5 | 0 | 0 | 0 | 0 |
| | 3. Soundbeam technology has positive effects on young special needs children. | 5 | 0 | 0 | 0 | 0 |
| | 4. Soundbeam technology is a safe, not dangerous learning method and good for young special needs children. | 5 | 0 | 0 | 0 | 0 |
| | 5. You accept the use of Soundbeam and music activities to teach young special needs children. | 5 | 0 | 0 | 0 | 0 |
| | Total of the percentage | 96□ | 4□ | 0□ | 0□ | 0□ |
| **Items** | Feedback Questions | Progressed a lot (5) | Progressed (4) | No progress (3) | Regressed (2) | Regressed a lot (1) |
| **Part II The effective -ness of the study** | 1. After taking the research class, the participant's cognitive development is | 0 | 5 | 0 | 0 | 0 |
| | 2. After taking the research class, the participant's language is | 3 | 1 | 1 | 0 | 0 |
| | 3. After taking the research class, the participant's attention span is | 2 | 3 | 0 | 0 | 0 |
| | 4. After taking the research class, the participant's positive emotion is | 2 | 3 | 0 | 0 | 0 |
| | 5. After taking the research class, the participant's other areas of development are | 2 | 3 | 0 | 0 | 0 |
| | 6. After taking the research class, the participant's listening ability (including speaking, music, stories) is | 2 | 3 | 0 | 0 | 0 |
| | 7. After taking the research class, the participant's spoken language of intonation is | 2 | 3 | 0 | 0 | 0 |
| | 8. After taking the research class, the | 0 | 4 | 1 | 0 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | participant's spoken language of articulation is | | | | | |
| | 9. After taking the research class, the participant's spoken language of lip shapes is | 0 | 4 | 1 | 0 | 0 |
| | 10. After taking the research class, the participant's participation of the class is | 3 | 2 | 0 | 0 | 0 |
| | Total of the percentage | 32□ | 62□ | 6□ | 0□ | 0□ |

If you have other thoughts or opinions other than the description above, please write down here:

1. *From the parents: "Thanks for your efforts. After taking the lessons, my son had made progress in many areas. The study brings us hopes."*
2. *From the observers:*
   *Observer 1: "It's amazing! A mute boy could sing in the class and make progress in language competence, especially in understanding area."*
   *Observer 2: "The most effective part for the participant is the visual aids with the sounds. His concentration on the screen had made obviously progress."*
   *Observer 3: "The most impressive part for me is the participant's disruptive behavior had made big progress."*
   *Observer 4: "Combining technology and music brings a new way for treating special needs young children."*

**CONCLUSIONS**

The parents and the observers confirmed that Soundbeam technology and music activities improved the participant's attention span, behavior, cognitive, spoken language, and emotional development. The conclusion of the changes of the participant's disruptive behaviors and other areas of development are shown in the Table 2.

Table 2. *The changes of the participant's disruptive behaviors and other areas of development.*

| Phase / Development | Phase I Accommodation Phase (Week 1 to 4) | Phase II Vocalization Phase (week 5 to 7) | Phase III Shifting Phase (week 8 to 13) | Phase IV Stable Phase (week 14 to 22) |
|---|---|---|---|---|
| Disruptive Behavior | Serious disruptive behavioral problems, such as: biting, hitting, kicking, slapping and scratching people and hurting himself | Improved slightly. | Improved more | Behaviors of violent and other problem were decreased obviously |
| Cognitive Development | Poor | Could do few correct responses | Understood directions more | Responded to few directions without help |
| Language Competence | Mute most of the time | Making few vowel sounds and rhythmic and melodic sounds sometimes | Mainly was vowel sounds and humming with rhythmic melodies within one octave | vowel sounds and melodic phrase |
| Attention Span | Could not focus on anything | Lasted few seconds | Lasted from 10 seconds to 7 | Lasted from 10 seconds to 10 |

| | | | | |
|---|---|---|---|---|
| | | | minutes | minutes |
| Emotions | Negative emotions all the time | Negative emotions decreased | Started showing his positive emotions | More positive emotions |

## SUGGESTIONS

There are many different disciplines that can assist special needs children, including music, arts, drama, psychology, and other therapies. After obtaining the positive results for the participant of this study, the researcher values the use of Soundbeam technology in the field of special education.

For autistic children, distress might be caused by many factors including new situations, Soundbeam set up including the sensor's position and sound effects, as well as issues related to the individual participant. In these instances, it was usually advised that sensors be placed above or behind the participants. Individuals should also be considered with regard to placement and sound effects selection. Vibration equipment could send the sound through vibrating seats or cushions. The participant should be given the opportunity to realize that his action(s) is eliciting the resulting responses

In the current study, different sound effects - the result of setting and sensor position caused different results. For example, some minor pitch sequences caused emotions and crying. At this time, there are no absolute instructions for Soundbeam technology for use in a therapeutic setting. Therefore, use and application should always depend upon the needs of the participant.

In this study, the autistic child demonstrated dramatic positive changes in behavior and some degrees of improvement in other areas of development as a result of using Soundbeam technology. These findings suggest that Soundbeam Technology may serve as another avenue for enhancing autistic children's overall development. Although this study has provided the initial positive result of a single case study, future research is required in order to determine the response of other young special needs children to Soundbeam technology.

## REFERENCES


Adams, D. (2006). *An Investigation into the use of Music Technology in Music Therapy and Special Needs Education*. Leeds Metropolitan University, BSc Music Technology.

Alvin, J. & Warwick, A. (1992). *Music therapy for the autistic child* (2nd ed.). New York: Oxford University Press.

Allgood, N. (2005). Parents' perception of family-based group music therapy for children with autism spectrum disorders. *Music Therapy Perspectives, 23(2)*, 92-99.
Assistivex (2003). Web link: www.assistivex.com/Public/category

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

Berger, D S. (2002) *Music Therapy, Sensory Integration and the Autistic Child* London: Jessica Kingsley Publishers.

Ellis, P. (1995). Incidental music: A case study in the development of sound therapy. *British Journal of Music Education*, *12*, 59-70.

Ellis & Van Leeuwen, (2000). Living Sound: human interaction and children with autism. Paper presented at *ISME commission on Music in Special Education, Music Therapy and Music Medicine*, Regina, Canada.

Ellis, P. (2004). Vibroacoustic Sound Therapy: Case Studies with Children with Profound and Multiple Learning Difficulties and the Elderly in Long-Term Residential Care. Paper presented at *International Congress on Medical and Care Compunetics*.

Ellis, P. (2007). The development of interactive multisensory environments for expression, 1992 - 2007. Keynote, *Luxembourg Society for Music Therapy*.

Hailpern, J. (2007). Encouraging speech and vocalization in children with autistic spectrum disorder. *Accessibility and Computing, 89*, pp. 47-52.

Ellis, P. (2008). Sound thrapy. Paper presented at *the International Conference for the 2007-2008 Academic Year: The Application of Technology for Early Childhood Education and Special Education*. Taiwan: Chaoyang University of Technology.

Kissinger, L. & Worley, D. W. (2008). Using the harp as a communication channel with children with autism. *International Journal of Special Eudcation, 23* (3).

Lee, L. (2006). "Music Education In The Facilitation Of Social And Behavioral Changes In A Cohort Of Autistic Children." In M. Prause-Weber (ed.), *Musica – res severa verum gaudium – Proceeding of the ISME Commission Seminar on Music in Special Education, Music Therapy, and Music Medicine).* International Society for Music Education, pp. 29-36.

Rahim, N. A. & Hamzah, Z. A. (2008). Music therapy: storytelling with special needs children. Paper presented at *Third international conference on interdisciplinary social sciences*, Monash University Center, Prato, Tuscany, Italy.

Schwellnus, H., Tam, C., Chau, T., Knox, R., Johnson, P., & Hamdani, Y. (2002). Using movement-to-music technology for play with children with special needs, *OT Now,* July.

Soundbeam Project (2003.) Soundbeam 2®. Web link: www.soundbeam.co.uk/

Swingler, T. (2003). "Electronic music interfaces for people with disabilities: Do they lead anywhere?" In G. Craddock et al. (Eds.), *Proceedings of the AAATE Conference: Assistive Technology - Shaping the Future* (pp. 247-252). Dublin: IOS Press.

Wager, K. (2000). The effects of music therapy upon an adult male with autism and mental retardation. A four year case study. *Music Therapy, 18(2),* 131-140.

Williams, C. (2008). Creative engagement in interactive immersive environments. *Digital Creativity, 19* (3), pp. 203-211.

# Improvisation as communication in students with autism

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**ABSTRACT**
*Students with autism present challenges to general music teachers teaching in inclusive classrooms. Typical students perform, compose, and improvise in general music but students with autism are often difficult to engage and often only marginally participate. This case study will explore the story of one student with Asperger Syndrome participating in an after-school jazz Orff ensemble. Jason, like most students on the autism spectrum, has no friends his age and is socially isolated from his peers. Jason was encouraged to improvise using call and response with a peer as a method to build confidence in expressive communication with his peers. Gertrud Orff (1990, 1989) first identified the use of call and response improvisation in engaging autistic children with others. This paper follows Jason over three years as he participates in the Orff ensemble. Selected rehearsals and all concerts were videotaped and coded identifying musical and social attempts of Jason or his peers to communicate. The general music teacher who co-directs the ensemble was interviewed and kept a journal reflecting on Jason's musical and social interactions. Jason gradually developed the ability to respond musically to his peer's improvised ideas through his own improvisations and began to socially greet others in the group. Although he still does not seem to have friends in the group, he is included in his classmates' birthday parties.*

**Keywords**
Autism, Asperger Syndrome, Improvisation

## INTRODUCTION

Students with autism present challenges to general music teachers teaching in inclusive classrooms. Typical students perform, compose, and improvise in general music but students with autism are often difficult to engage and often only marginally participate. Since music tends to be a group participatory activity, it can be overwhelming for a child with social challenges. Performing with a group requires a musical awareness of how the individual musician sounds with others in the group. If a student struggles with social interactions it is reasonable to expect the student to have difficulty with awareness of how their part fits with the group.

The autism spectrum represents a range of disability that includes children with severe communication, behavior, and social challenges to children with normal language development and the ability to function in the typical classroom. Asperger Syndrome is diagnosed when a child has difficulties with socialization, cannot conform to social demands and has some repetitive behaviors (Batshaw, Pellegrino, & Roizen, 2007). Students on the autism spectrum often prefer to interact with objects or animals instead of people and sometimes have additional sensory sensitivities. Repetitive behaviors (perseveration) can range from rocking to hand flapping and head banging that can lead to injury. Children with autism function best in structured environments that are predictable.

This paper is a narrative inquiry case study that follows one student through grades four through six. Rehearsals and interviews were videotaped along with videotapes of his fourth and fifth grade general music classes. General music was not offered in grade six. Interviews were conducted with the student,

the general music teacher and the student's mother. The mother does not agree that the student has Asperger Syndrome but she is concerned about his lack of friends and on-going social challenges and has been enthusiastic about his involvement in the after-school jazz Orff group. Since the student's mother does not recognize a disability and Jason functions well, there is no individual education plan (IEP) or formal involvement of a special educator. Special educators do provide informal support to the teachers who have Jason in their classes in the school, however.

**JASON**

I first met Jason in the fall of 2005 at our university elementary laboratory school. His general music teacher and I collaborate closely and we were planning to start an after-school jazz Orff ensemble that we would co-direct. Jason was in the fourth grade at the time and was new to the school. He was observed in his music class holding his hands over his ears and rocking whenever instruments or recordings were played. The music teacher asked why he was covering his ears and he said the "music hurts my ears." She consulted the classroom teacher who said Jason had Asperger Syndrome but did not have an IEP because he functioned so well. He had normal intelligence, no behavior problems and was performing well in a typical classroom. He was not functioning well in the music classroom and we worried that the sound was painful for him. I had a pair of noise canceling headphones and we asked him to use them whenever the music hurt his ears. He wore them for the entire music class and it seemed to solve the problem. After several months we noticed that the battery was dead and that Jason didn't complain about the sound being irritating. We then changed him to lighter weight, smaller headphones that he wore for the most of the rest of the year.

In addition, he demonstrated repetitive behaviors such as rocking in a standing or sitting position when he became anxious. We noticed this occurred in social situations or when the room became more chaotic during activities such as dancing or composing. A beanbag chair was placed in a corner of the room and Jason was encouraged to go sit in it whenever he needed a break. He had to be reminded but seemed to find some relief from the over-stimulation of the classroom.

Sensory sensitivity is a common trait among some students with autism. Heward (2009) identifies such behaviors as hypersensitive or over-responsiveness to sensory stimulation. Children "may not be able to stand certain sounds, may dislike being touched or the feel of certain textures, and may refuse to eat foods with certain smells or tastes." (p. 263) Jason would often roll his pant legs up as high as he could and untie his shoes. This occurred more often when he was sitting; he seemed to be uncomfortable with his clothes and shoes. His music teacher suggested one time that everyone is the class remove their shoes before coming into the classroom to see if that might help Jason be more comfortable, but he didn't want to take his shoes off, he just liked them to feel looser.

Jason's only friend, Curt, was another student with Asperger Syndrome who had behavioral problems. They sat together and sometimes shared toys but usually did not talk much to each other. Curt's behavior problems worsened and his parents had to withdraw him from the school. This let Jason friendless.

As we discussed the after-school Orff ensemble, we wanted to encourage students who had social problems to join the group so we could use the musical group as a vehicle to improve social skills and confidence. Jason and another student with an emotional disability joined the group. The group rehearses once a week and Jason was always the first student there. He would greet us individually; "I'm here Mrs. Zawatski! I'm here Dr. McCord!" He also would say goodbye to us when he left. He liked to talk to us, sometimes at inappropriate times and usually about his interest in highway signs and the weather. He carried a photo album of pictures of highway signs people had given him and his mother

told us he spent hours studying maps and memorizing exits to various cities. Indeed, Jason proved to be an excellent advisor whenever we traveled anywhere in the United States about the best route to take!

> Mrs. Z: I have to tell you about what Jason did today. (This was in March and just before our spring vacation break) He asked what I was doing for spring break and I told him I was driving to Cleveland to hear my nephew perform with the Cleveland Symphony. He then advised me the best route to take. I asked him if he had ever gone to Cleveland before and he said no but he did know the best route to take. I wrote it all down and I am going to check it against my GPS directions and see if it really is the best route.
>
> It turned out that it was a better route than the GPS advised. On the way back Mrs. Zawatski used Jason's route instead.

I had hoped with some extra attention Jason would learn to interact with his peers as well as he did with Mrs. Zawatski and I. In the first year, we did not see him make any attempt to interact with any student in the group. The other students were kind to him and tried to include him but he would isolate himself. He was rocking constantly during the rehearsal and seemed to look for excuses to leave the classroom. He could only tolerate about ten minutes of rehearsal and then would tap our shoulders asking to leave to the bathroom or the vending machines. The beanbag chair wasn't working and he didn't want to wear the headphones either. We recruited an undergraduate music education student to supervise him and take him outside the classroom whenever he seemed to become agitated. This helped and he seemed to relax better knowing he could leave when he needed.

Gertrud Orff (Orff, 1980, 1989) wrote about the possibilities of using call and response improvisation as a way to engage autistic children with others. She developed Orff Music Therapy and a prescribed sequence for use with children with autism. Voigt (2002) implemented Orff Music Therapy with a three year old with severe autism. In the first session, the student would not make eye contact or engage in a variety of musical activities such as playing a drum, singing or dancing. By the seventeenth session, the child was engaged in call and response playing on the piano with the therapist making eye contact between musical episodes.

I wondered if this might be a way to socially engage Jason more with his peers. Since we were performing jazz, call and response improvisation would be a good strategy to use with Jason. I asked him if he thought he might like to improvise on an Orff instrument and he was hesitant at first until he watched the other students playing improvised solos. We worked with all students to develop confidence with improvisation. Removing bars from the instrument helped them to improvise in pentatonic or blues scales with relative ease. We used a lot of call and response to give students the opportunity to play phrases and then pause to think of what to play next. We encouraged them to pause and think and then play in the next four bars. Later, we added a response solo during the four measures of rests. Call and response helped to develop skills because students would listen to their partner and then take an idea and develop it. If Jason could do this, then it would be a big step toward him becoming more socially comfortable around his peers.

## YEAR 1 "I HOPE THEY LIKED MY SOLO"

Jason struggled to participate and learn his parts. We assigned him to play the hi-hat cymbals on counts two and four and as long as he focused he did fine but, he frequently lost his place and stopped playing. We assigned an undergraduate student to help him and to monitor when he seemed to become anxious. They would leave the room and walk down the quiet halls or go to the water fountain until Jason felt ready to return when he became anxious and had trouble focusing. On several pieces, we encouraged

any interested students to volunteer to play improvised call and response solos with a peer. The solos were typically four bars long on soprano xylophones with bars removed for a blues or pentatonic key. Jason soon volunteered to participate by playing an improvised solo. He would wait to play until we verbally told him when to begin improvising. His solos would always be quarter notes that went up and down the instrument and would often take up more time than his four measures. We didn't stop him because after a few times it was clear he had a need to finish going down the scale even if we cued in the next player. He needed to complete the descending pattern. This is typical for students with Asperger Syndrome, they can be perfectionist. Jason appeared to have no awareness of the other player, the tempo or phrase lengths of the call and response solos. As soon as he finished his solo he would turn and run to the back of the room and rock standing up.

Jason did enjoy improvising and especially enjoyed performing for an audience and receiving applause for his solos. We worked with all students to acknowledge the audience applause and Jason learned to take off his hat and bow after his solos as his way to acknowledge the applause.

Jason: Dr. McCord do you think I can play a solo again?
KM: Do you want to?

Jason: Yes I think so but I was really nervous. I think I forgot to take off my hat.
KM: Why do you think we ask all of you to bow and take off your hats after your solos?
Jason: I'm not sure.

KM: Let me ask you this, what do you think the audience means when they clap for you after your solo?
Jason: I hope it means they liked my solo!
KM: So if you take off your hat and bow what do you think it means to them?
He thought for a long time about this and said "I know when they clap for other kids it means they like their solos."

KM But what do you suppose they think you are saying back to them when you bow and take off your hat?

Jason was puzzled by my question. I wondered if this is part of his difficulty in understanding how to socially interact with others. He knows applause means the audience likes his or his peers' solos however, he doesn't make the connection that the bow and hat are ways he acknowledges the audience applause.

He frustrated Mrs. Zawatski with his anxiety and constant inappropriate questions:

Mrs. Zawatski: I can't deal with Jason today. I wish he would just learn to listen to the directions when I explain who is playing what instrument on what piece but he must ask me ten times what he plays and what piece we are playing on.

Even assigning the undergraduate student to monitor Jason didn't always help. He needed to hear the directions from Mrs. Zawatski herself and his anxiety would make it difficult to wait. During songs he would stand next to her and keep saying "Mrs. Zawatski, Mrs. Zawatski" until she acknowledged him. Mrs. Zawatski began to post a list of pieces including who played what instrument on each piece and posted these on the door to the classroom. Jason may have looked at them but he still had the need to ask her directly many times during a rehearsal about what instrument he played. His playing was not good either. He often played late or would forget to play at all. Even with easy parts it was difficult to keep him focused and he had trouble learning his parts. As I reflect back on this first year, I think he was so over-stimulated most of the time that he found it difficult to focus.

We would often discuss how to improve on solos with the entire ensemble and students would give feedback on each other's solos. Jason listened intently and began to show changes in his improvisations. He was still playing up and down the scale but would change the rhythm or play in thirds on occasion. He also gradually began to listen for when it was his time to play and no longer needed verbal directions from us to start or stop. He still wasn't acknowledging his partner by using ideas from their calls nor did he make any eye contact or comment on their solos. He was listening to other students' solos before and after his improvisations but was not able to musically converse with a partner. Jason could not remember to stay by the instrument and acknowledge the audience's applause, he would run to the back of the ensemble as soon as he finished and would sometimes later take off his hat.

**YEAR TWO "DO YOU LIKE HER SOLO?"**

In the second year, we held auditions and divided the group into an intermediate and an advanced group. Jason was very excited to play in the advanced group because the group had been selected to perform at the state music conference. Students in the advanced group needed to read music and show advanced skills at playing Orff instruments. We knew Jason was going to have a hard time making the group but he came in after school to practice and asked for suggestions on how to improve his playing. His audition went very well and he made the group on his own merit. He was thrilled.

Jason was looking forward to the concert and asked many times how many people would be there, how big the room would be and if we would have lunch at his favorite fast food restaurant after the concert. He needed less direction in the group and although he still couldn't stay in the room for an entire rehearsal, he would review the rehearsal schedule and pace himself so he could manage better on his own. He abandoned the hi-hat cymbals and learned the harder parts. He didn't play on all pieces but on about half of them and always volunteered to play solos.

Jason's solos progressed. He began to develop ideas that used a variety of rhythms and rests. He no longer played patterns that went up the scale and then back down. He was also occasionally making comments about other students' solos in our discussions and pointing out when the rest of the group played too loud or the tempo wasn't steady behind the solos. He began to acknowledge the audience after his solos by bowing and taking off his hat but I'm not sure he understood that Jason was taking his hat off as a way to thank the audience for applauding for him. He still wasn't musically connecting his solo to the solo that proceeded his own and he didn't make eye contact with his partner.

Occasionally, I would ask him what he thought about his peer's solo that he responded to:

KM: What did you think of Megan's solo just before yours today?
Jason: It was good.
KM: What did you like about it?
Jason: Umm, I'm not sure.
KM: Do you remember how she started and ended on the G?
Jason: Oh yeah!

I don't think Jason was listening to what was being played only that it was time for him to play. Sometimes he didn't know when to start and stop and wouldn't come in unless we told him and he still occasionally played past the time to stop. Other times it appeared he had an awareness of playing a four-measure response after a four-measure call was played by his partner.

As the concert approached, he became more anxious. We tried to focus him on his job of navigator for the bus driver and to determine the fast food restaurants that would be on the way home. We assigned a music education student to supervise him and to take him backstage if they noticed him becoming too anxious. Jason stayed on stage the entire time and played all of his parts well including his solos. He

helped guide the bus driver to lunch and then back to school providing chatter about different routes that could be taken if we encountered road construction. Jason seemed happy about his performance but mostly excited about the large audience:

Jason: Do you think there were a thousand people there?

Mrs. Zawatski: No I think only 750 can fit into the room we played in.

Jason: It seemed like a thousand people.

Mrs. Zawatski: How do you think our group did today?

Jason: I think we did really good, I liked that we were not as loud as we usually are.

Mrs. Zawatski: It helps to be in bigger room, the sound spreads out more.

Jason: It helped us because otherwise we would be too loud.

Mrs. Zawatski: I think you played a really good solo today Jason. The audience seemed to really like it.

Jason sits quietly for a while and then says, "It was good that we weren't as loud as usual."

Despite the excitement of performing in a new place in front of the largest audience he had ever performed for, I wonder if he may have been able to relax and stay on stage because the sound level was not as loud. It must make the experience more enjoyable for him. His sensitivity to sound is no longer as acute but it still obviously creates anxiety for him. The students do play loudly, especially the students on drum set. This might be a good reminder for all of us that we need to work on a wider range of dynamics and work to play softer. It might also have helped him to focus on the solos played by other students.

**YEAR THREE "I LIKE TO SEE WHAT COMES FROM MY HEAD"**

As Jason entered sixth grade, he demonstrated an ability to better manage his anxiety and over-stimulation. He brought books to read and found a quiet place outside of the rehearsal room to go to in-between his scheduled pieces. We carefully planned each rehearsal so he would have a break in the middle. We wrote the schedule on a white board in the classroom with times we would rehearse each piece. This way, Jason would know exactly when he needed to be in the room and for how long. We had to hold to our schedule or he would remind us that we were taking too long on a piece.

The group had been invited to perform at a national music teachers' conference in a neighboring state and it would require a four-hour bus trip and an overnight stay for an early morning performance. All of the students were very excited to perform and Jason was too. He was playing a more extended improvised solo on one of the featured pieces for improvisation. His improvising had progressed and he was now one of the more sophisticated soloists. Jason deserved a featured spot. He knew this was an important responsibility and he approached his improvisations with great seriousness. He also closely listened to what the other five-featured soloists would play and began to take ideas and techniques they used and develop them into his own style. For example, one of the better soloists tended to use harmony in her soloing and Jason seemed to like that and began to work out his own ideas. His solos also showed a more mature sense of jazz rhythm and a confidence with swing feel. Most of all he was now listening to his partner play and musically commenting on the improvisation he heard.

KM: What do you think about just before you play your solo?

Jason: I'm not sure; it just sort of comes to me after I hear Margaret play.

KM: So you never really have ideas in mind you want to play?

Jason: Usually not, I like to just see what comes from my head.

KM: When you play a really good solo, do you know it?

Jason: Well sometimes it is fun because Margaret and me feel like we are in a contest to see who can play the wildest solo. There are some days when hers is really wild and I don't think of music that crazy.

KM: What do you mean by crazy and wild music?

Jason: Just really fast music, hard rhythms too.
KM: Those are the kind of solos you like?
Jason: Yeah.

I believe Jason is now listening and interacting with his peer. He sees it as a contest and less of a musical conversation but there is an awareness of the other person and by having a contest he is present as one in a musical duo. I am thinking next year we should have him now initiate the solos with his partner. His confidence has improved so much he is ready to take the lead. The group was playing softer and more in control this year too. The students who played the drum set had matured too and could play with better control. This may have helped Jason to focus on his solo partner and the rest of the group. Jason was occasionally making eye contact with his partner and would stay at his instrument and acknowledge the audience when both he and his partner received applause. The other students in the group showed a new respect for him as a musician and his confidence grew yet, he still isolated himself socially. His mother and sister came with him on the trip and they sat together on the bus and roomed together in the hotel.

**FINAL CHORUS**

*Self-determination* is a skill special educators and other support staff seek to instill in students with disabilities (Friend & Bursuck, 2006). It is based on person-centered planning and encourages the student with the disability to advocate for themselves and their needs as a learner and community member. The skill focuses on these dimensions:

- *Community presence*. Identify the community settings that the student uses and the ones that would benefit him or her. The intent is to incorporate these settings into the educational planning process.
- *Choice*. Identify decisions made by the student and decisions made for the student. The goal of person-centered planning is to transfer as many choices to the student as possible.
- *Competence*. Identify skills that best assist the student to participate fully in the school and community and strategies that are most effective for teaching those skills.
- *Respect*. Clarify roles the student has in the school and local community. The goal is to strengthen and expand those roles and decrease or eliminate student characteristics that might cause the student to be perceived by others in a stereotypical way.
- *Community participation*. Specify people with whom the student spends time at school and in other settings. The goal is to identify individuals who can advocate for the student and to foster friendships with age-appropriate peers. (p. 43)

Jason was developing strong skills in self-determination and we learned each year how to better support him in achieving self-determination. He manages his own anxiety and has found a way to participate in a very meaningful and expressive way with a group of his peers through *improvisation*. He still has great difficulty having a verbal conversation with any of his peers, yet he is very comfortable having musical conversations that his peers value and appreciate. Jason will greet other students occasionally as he sees them enter the classroom.

It is impressive to remember that at one time he could not tolerate the sound of most instruments including most of the Orff instruments, but he is now very comfortable playing all of them. Having a place to go to that is calm and relatively quiet helps him to have a private hide-out when he begins to feel overwhelmed. With a structured rehearsal schedule, he is able to manage his anxiety by knowing exactly what will happen during the hour and a half rehearsal. Providing structure for students on the autism spectrum is necessary and the schedule on the white board reduced Jason's anxiety and helped the other students know that the rehearsal was organized; everyone appreciated the schedule.

Call and response improvisation was a way to engage Jason in meaningful ways by interacting musically with his peers. Musical conversations were much easier for him to achieve than verbal conversations. He now has an awareness of others and they have an awareness of him.

Music teachers can support social interactions between students by planning for opportunities for students to engage in call and response improvisation. Students with more severe communication disabilities respond well to a space with many types of instruments available and a music teacher or therapist who is patient and will wait for the student to play the instrument before responding by answering a musically related phrase. It may take many days to make a musical connection but when it occurs it is the first step to developing a genuine expressive means for children with social isolation problems to communicate their feelings to others.

KM: Jason you played such a nice solo today at the concert!

Jason: I liked it and you know what?

KM: What?

Jason: Alex said it was really good too!

Alex is a year younger that Jason and is one of the best musicians in the group. Jason was aware that a peer of his, and a peer who knew what he was talking about, thought he played well. Would Jason begin to talk to Alex now? Would a friendship emerge out of mutual respect for each other's musicianship? I long ago gave up on predicting Jason's future as it is so much easier to let him improvise his own.

**REFERENCES**


Batshaw, M. L., Pellegrino, L. & Roizen, N.J. (Ed.). (2007). *Children with disabilities* (6th ed.). Baltimore, MD: Paul H. Brookes Publishing Co.

Friend, M. Bursuck, W.D. (2006). *Including students with special needs, A practical guide for classroom teachers* (4th ed.). Boston: Pearson.

Heward, W.L. (2009) *Exceptional children an introduction to special education*. (9th ed.) Upper Saddle River, N,J.: Pearson Education, Inc.

Orff, G. (1980). *The orff music therapy* (M. Murray, Trans.). New York: Schott Music Corp. .

Orff, G. (1989). *Key concepts in the orff music therapy* (J. D. S. Salmon, Trans.). London: Schott Music Corp.

Voigt, M. (2002). Orff music therapy with multi-handicapped children. In T. W. J. DeBacker (Ed.), *Clinical applications of music therapy in developmental disability: Pediatrics and neurology*. London: Jessica Kingsley.

# A case study of music therapy for verbal reaction of a child with selective mutism

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**ABSTRACT**
*The researchers utilized a case study to examine the effect of music therapy interventions with an elementary-age student diagnosed with Selective Mutism. More specifically, the researchers explored the effect of music therapy on interpersonal skills and verbal behaviors of the participant, a 5th-grade girl, who had Selective Mutism. The client received a 40- to 50-minute music therapy session twice a week, with a total of 20 sessions. The music therapy sessions consisted of the following interventions: greeting song, relaxation, self-expression of emotions through music and art-based projects, and a closing song. The dependent variables for this study included: 1. the client's nonverbal and verbal interactions; 2. the client's preference for different music instruments; 3. the client's self-expression of emotions through improvisation; 4. the client's accuracy of musical concepts defined as rhythm, dynamics, and pitch; and 5. the client's transfer of nonverbal and verbal skills to a non-music classroom setting. The music therapy sessions were videotaped for behavior observation and qualitative analysis. Results of this case study revealed that the client exhibited an increase in the frequency of nonverbal interactions, self-expression through musical instruments, and accuracy of rhythm. Additionally, the client showed improvements in verbal expression in the non-music classroom setting.*

**Keywords**: Music therapy, Selective Mutism, Verbal reaction, Case study

## SELECTIVE MUTISM AND MUSIC THERAPY

Communication is a human instinct. Language is the cornerstone of all cultures (Lin & Liu, 1992). Children with selective mutism are unable to express moods or communicate with others through language, and it affects their academic achievement and interpersonal relationships (Tsai, 2000). Scholars discovered that selective mutism strongly relates to social anxiety, and anxiety relates to emotions (need reference). People with selective mutism can not interact with others, or express themselves because of severe aniety. Anxiety is the greatest challenge to a child with selective mutism (Yeganeh, Deborah, & Samuel, 2006).

According to the DSM-IV, selective mutism refers to the patient who only becomes silent in specific situations such as a school setting, but they can still speak in other situations (Kung, 2005). Their silence by no means indicates lacks the knowledge, but rather discomfort in communicating with others. selective mutism hinders one's learning and occupational achievement, and obstructs one's social communication with others. This barrier to communication can not be explained by one kind of communication disorders such as disfluency or stuttering, because it occurs in the course of other disorders such as Generalized Anxiety Disorder, Schizophrenia and Other Psychotic Disorders. In this paper, selective mutism refers to a client's inability to speak at school. The client did not talk to her teachers since entering kindergarten, and she is now in the 5$^{th}$ grade. The client rarely talked to her classmates, and the disorder has affected her academic achievement and interpersonal relationships at school.

The American Music Therapy Association (2005), defined music therapy as "the clinical and evidence-

based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program" (p.1). In this article, music therapy refers to the researcher's established protocol for the client with selective mutism. Dependent measures involved her interpersonal skills, and independent variables involved music elements such as pitch, tempo, dynamics, rhythm, sound, melodic pattern.

Generally speaking, music therapy is a plan to treat the body, the heart, the spirit, and the cognition with a case through organized musical element, music activity, and music experiences (Wang, 2004). In recent years, researchers have found that music therapy helps the interpersonal relationships of those who have selective mutism, by reducing their social anxieties (Amir, 2005; Jainer, Quasim, & Davis, 2002).

Quantitative research about selective mutism, is rare. Additionally, the literature indicates that symptoms of children with selective mutism mainly occur in school settings, especially in the elementary grades (Huang, 2005; Wang, 1999), The researchers wanted to determine whether music therapy is helpful in strengthening the verbal behaviors of a child with selective mutism. The definition of verbal behaviors in this research refers to verbal exchanges with teachers, classmates, or researchers, either prompted or spontaneous or personal expressions exhibited by playing instruments or singing.

## MUSIC TREATMENT AFFECTED TO SPECIAL NEEDS CHILDREN

Lin and Liu (1992) quoted Gertrud Orff, who initiated Orff Music Therapy, that if therapists could involve their emotions during treatment, the effects of music therapy could be fully reached. Liu (1994b) also claimed music therapy may stimulate multiple senses of the selective mutism children, enhancing their language expression, body relaxation and social function (Liu, 1994a).

Munro and Mount discovered in 1978 that when an individual cannot or did not know how to express negative feeling by verbal languages or non-verbal languages, music may strengthen his or her positive communications and nonverbal expressions (Li, Yeh, & Liu, 1993). Waston also indicated in 1979 that response of music may raise clients' willingness to participate in activities which in turn may help them improve their social functions, language, perceptions, and energy (Liao, 2003).

Music activities may help children to express verbally or non-verbally. Music may provide a way to help clients to express their desires (Lin & Liu, 1992; Liu, 1994a). Further more, music may motivate children to speak spontaneously, and enable them to use song lyrics as verbal exchanges in daily life. Practicing singing and playing instruments may also help clients experience of interactions with others (Lin, 19996).

Suzuki Chieko (2002) published a case study in which a 17-year-old boy with selective mutism received treatment for 12 years. The client was a male with mutism and cerebral palsy who began therapy at age of 17 until 29 years. Musical activities included voicing sounds, singing, playing instruments, composing songs, and listening to music. These interventions successfully eased the young man's defensive mechanisms and tension.

Liao (2003) observed an Orff Music therapist interacting with a child who had autism. Music Therapy was used to prompt the client to participate in social activities, to learn, to practice interpersonal skills, and to increase communication—both verbal and nonverbal. Amir (2005) also found that music therapy was successful in treating a 6-year-old girl who suffered from selective mutism. Improvisation was helpful in aiding the client to resolve important issues in her life.

## METHOD

### Participants

The participant was a 5th-grade girl who was assessed as Selective Mutism by a psychiatrist of China Medical University Hospital. The participant did not interact with others from kindergarten to the 5th grade in the school setting. Client's musical involvement was limited. She did not have extra music experiences beyond music classes at school. She was able to make simple tonal discriminations, finger a recorder, and make limited discriminations regarding pitch and dynamics. The therapists wanted to enhance gross motor and fine motor skills as well as her singing skills, She was only able to hum monotone syllables in front of teachers, and was also easily anxious when asked to sing or play instruments in front of others.

### Instruments

All sessions were videotaped and the client's behaviors analyzed for social and musical behavioral changes as well as for changes in communication and interaction with the researcher.

### Procedure

During the pilot study (March-December, 2007), the client's mother, the tutor, ex-tutor, music teacher, ex-counselor of the client were interviewed. Researchers also observed and recorded responses of the client to music lessons.

The music therapy intervention ran from April to June in 2008. The researchers took ecological view and utilized the techniques of Orff Music Therapy as the primary mode of music therapy intervention. The client received a 40- to 50-minute music therapy session twice a week, resulting in twenty total sessions. During the sessions, two observers were used to record and analyze the data. The researchers were also observed by clinical supervisors.

## RESULTS

The effectiveness of the treatment intervention was analyzed by evaluating the client's verbal behaviors in class situations. Observers used a researcher-created behavioral observation form. Reliability was established between the observers, In addition, classroom personnel were interviewed and case notes reviewed. Verbal behaviors, for the purposes of this study, referred to oral activities or singing in class, as well as nonverbal behaviors using instruments as communication.

During the initial stage of treatment, the client responded to the researcher by shaking and nodding her head, playing the same instrument in a passive manner or expressing. "Yes" and "No." Musical patterns were characterized by repetition and imitation.

> *"Cl expresses being less nervous by knocking Metallophone twice" (R4/25P212).*
> *"Cl chooses Do in Metallophone to represent Yes while Re No" (R0512P116).*

In the middle stage of treatment, the client began to spontaneously play rhythm instruments. Singing and speaking was characterized by playing progressively contrasting music. The client sang in a chorus with the researcher and played instruments.

> *"Cl chooses Schellenreif. Cl cooperated with the coach to end at different musical notes " (R5/30P107).*

> *"Co asked Cl current status by songs. Cl used Do in Metalophone to show the color she wanted was not here." (R0602P205).*

By the last stage of treatment, the client was speaking and singing, playing instruments, improvising in rondo form and expressed herself through rhythm instruments. Figure 1 illustrates increasing trend of communication through instruments. The client attempted to verbalize and speak spontaneously in front of the researcher during the final activity.

> *"Cl let co know she already completed the activity by playing egg-shaped shakers" (R6/27P104).*

> *"This time the Cl's breakthrough was practicing giving off sound and speaking in front of the Co" (Q20,02).*

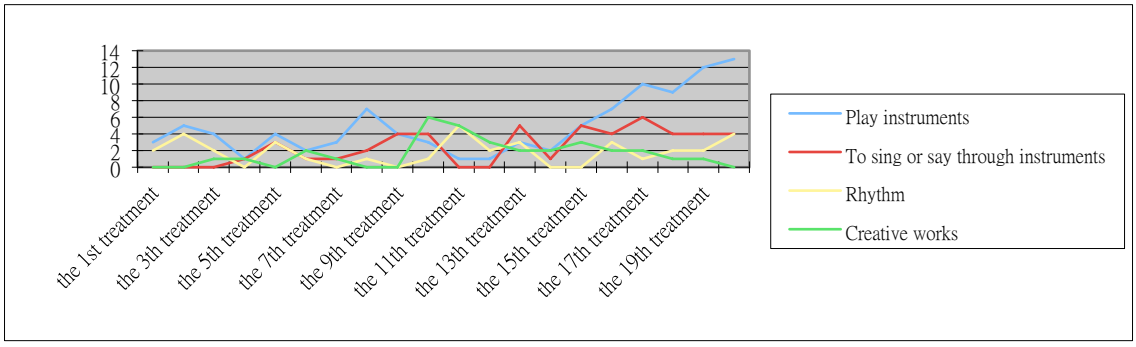


*Figure 1. The case's music performance transformation in the session*

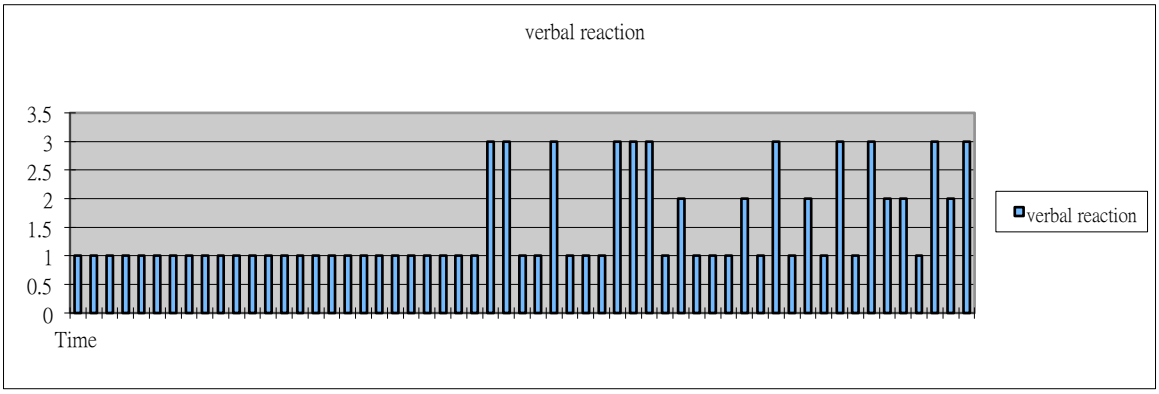


*Figure 2.* The case's verbal reaction transformation in the session

Figure 2 shows the client's behavioral transition of oral cooperation in the classroom between April 21, 2009 and June 20, 2009. The client had no verbal response during the initial period of treatment. Similarly, with treatment, *"the way she played instruments was the same as the way she showed verbal actions. She did not dare to make a sound" (R4/25P223).* Not until the eighth treatment (May 19, 2009) did she ask questions in class (11 times in total). During the treatment, *"Although Cl was not willing to speak or sing, she already knew another ways of communication with Co – music. She appeared to be less hesitant to participate when invited to play in an ensemble" (R0512P124).*

The client started to ask questions of classmates after the twelfth treatment on June 2nd (six times in total). During the fourteenth and the twentieth treatments (June 9th to June30th), the client's interaction

with the tutor and classmates was noticeably improved, peaking in the last two treatments. That is, more obvious verbal behaviors were exhibited after a substantial number of treatment sessions. The researchers also found after interviewing the coach that the client spontaneously commented to the coach or inquired about homework after the middle stage of treatment. In terms of classroom interactions, the client made huge progress from standing on the side and waiting for classmates' attention, to attempting to ask classmates questions in low a volume by tapping their shoulders.

> "Sometimes she walked towards me, saying in shaking voice that tutor, forgot to bring my homework." (T061120)

> "I saw her talking to her classmates with her head nodding" (T6/2509)

The client's verbal behaviors made great gains from the beginning to the end of treatment. These gains were accompanied by a corresponding decrease in the client's anxiety toward interpersonal relationships. Additionally, the combination of music therapy activities created by the tutor increased her interactions with classmates and consequently enabled the client to spontaneously seek assistance from others. Her interactions with the tutor usually occurred during the class while her interaction with the classmates occurred after class.

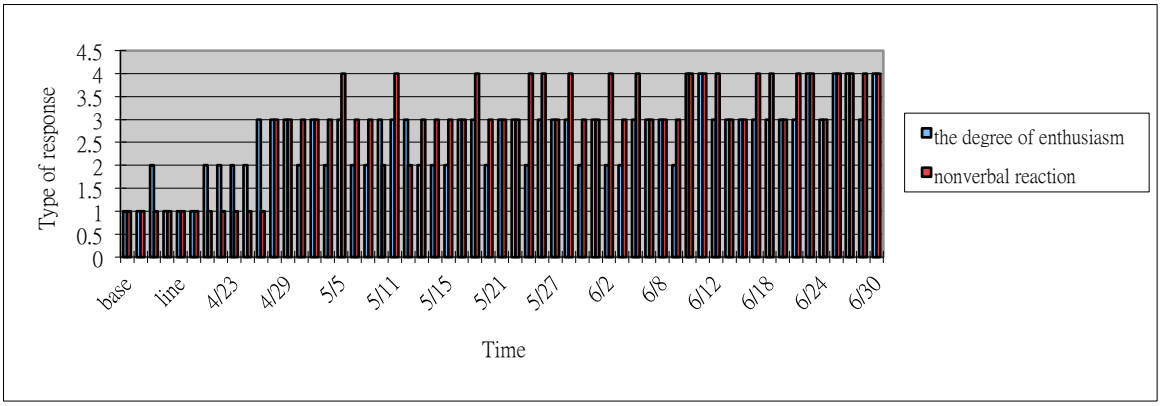


*Figure 3.* The case's transformation with interpersonal relationship.

## CONCLUSION

This paper presents a case study of a client with selective mutism and her verbal behaviors. With treatment, music therapy helped the client communicate through nonverbal language and express emotions through her music and work. The client's interaction with researchers evolved from passive following to active participation, including such moves as consoling others. Even more, the client wanted to grasp the researcher's attention.

With the treatment, the client was also able to make transfers to the class. From researchers' notes, self-created behavioral observation form, and feedback form, it appears music therapy created a positive impact on the client's class performance, specifically, reducing aggressiveness, increasing non-verbal cooperation, interactions with peers, and interactions with the researchers. Additionally, music therapy allowed the client to express herself, and prompted her motivation to achieve, decreased her anxiety, and enhanced her self-confidence.

Although the client spoke in front of the classmates and attended a public oral exam, the immediate effect of music therapy was not obvious until the last stage when frequency of the client's spontaneous expressions revealed her needs to the tutor, or when she orally responded in low volume to their classmates. Therapeutically speaking, practicing musical dynamics and playing instruments provided the client with increasing opportunities to express herself through music, helped her discover non-verbal means of communication, stimulated her verbal behaviors, and enabled the client to sing and communicate by playing instruments. In summation, this research reveals the positive influence of music therapy on a client's verbal behaviors, which ultimately improved her interpersonal relationships and her motivation to academically achieve.

**REFERENCE**


American Music Therapy Association. (2005). *American Music Therapy Association definition*. [Announcement]. Retrieved July 14, 2007, from the World Wide Web: http://www.musictherapy.org/faqs.html#WHAT_IS_MUSIC_THERAPY

Amir, D. (2005). Re-finding the voice - Music therapy with a girl who has selective mutism. [Abstract] *Nordic Journal of Music Therapy, 14*(1), 67-78.

Huang, S. C. (2005). The transformation process of the child-centered play therapy for a child with selective mutism: A process study. Unpublished masters dissertation, National Hsinchu University of Education, Hsinchu.

Jainer, A. K., Quasim, M., & Davis, M. (2002). Elective mutism: A case study. *International Journal of Psychiatry in Clinical Practice, 6*, 49-51.

Kung, F. C. (2005). *Diagnostic and statistical manual of mental disorders* (8td ed.). Taipei: Ho-Chi.

Li, H., Yeh, M. Y., & Liu, T. J. (1993). Effects of music therapy on improving psychotic symptoms and personal interactions of psychotic patients. *The Journal of Nursing Research, 1*(2), 145-157.

Liao, S. M. (2003).Exploring the characteristics of The Orff Music Therapy by observeing a music therapist and autistic children. Unpublished masteral dissertation. National Taipei University of Education, Taipei.

Lin, C. K. (1996). Music Therapy for Autistic Children. *Journal of Kaohsiung Culture and Education*, 58, 62-65.

Lin, K. M. & Liu, C. M. (1992). Music therapy with special education: Using behavior modification to help children with Communication Disorders. *A Series of Special Education, 10*. Hualien: National Hualien University.

Liu, K. H. (1994a). The theory and implementation of Music Therapy(4). Counseling & Guidance, 107, 24-27.

Liu, K. H. (1994b). The theory and implementation of Music Therapy(5). Counseling & Guidance, 108, 33-36.

Suzuki., C. (2002). Music therapy for a patient with Selective Mutism. **[Abstract].** *Japanese Bulletin of Arts Therapy, 33*(2), 25-30.

Tsai, I. C. (2000). Art Therapy Intervention with a Selective Mutism Child : A Case Study. Unpublished masteral dissertation. Taipei Municipal University of Education, Taopei.

Wang, S. C. (1999). Alternative Communication Disorders : Children with Selective Mutism. *Annual Journal of Early Childhhod Education, 11,* 69-82.

Wang, Y. C. (2004).Music therapy definition. In Y. H. Chen (Eds), *Music and Therapy (pp. 20-35)*. Taipei: Hsing-Ting-Shih.

Yeganeh, R., Deborah, C. B., & Samuel M.T.(2006). Selective mutism: More than anxiety? *Depression and Anxiety*, *23*, 117-123.

# Effective teaching strategies for learners diagnosed with ADD/ADHD

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**ABSTRACT**
*A natural answer to the question "Are you crazy to do active listening through dramatization in costumes with forty three ADD/ADHD learners" would be "Well, why not?" One could argue that these learners have as much right as any other so-called "normal" children to listen actively to music and have fun during a music lesson. The author had the privilege to teach active listening through dramatization and instrumental play to a mixed group of grade 1-7 learners at a remedial school for ADD/ADHD in Centurion, South Africa during 2009. Students at this school sometimes display behaviors that draw negative attention to themselves. This greatly inhibits their ability to be successful in the regular classroom. Students diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) display symptoms of inattention, distractibility, impulse control, and, at times, hyperactivity. They are very often disorganized, have difficulty with fine motor skills and find it hard to concentrate.*
*Children with ADD/ADHD do not all behave the same and will usually have different learning styles, just as their non-disabled peers. It is important that they need to be treated as individuals. They face many challenges in the classroom. Because they are so easily distracted they may miss important directions or instructions. They often act before they think like blurting out answers or questions when they are not directly addressed. They get frustrated very easily, which naturally leads to social problems. The most important things we as teachers can do to help children with ADD/ADHD are to be organized and structured in our methods. Careful planning of lessons on our part is essential. Good planning, consistency, organization, and patience are qualities and skills that will support all children, especially exceptional learners. Children with ADD/ADHD have different learning styles. It is important to acknowledge these differences and that teachers will teach with them in mind. The author shared her first-hand experience and teaching resources on active listening through storytelling, dramatization, movement and instrumental play with the delegates at the Commission for Special Needs Education in Beijing China from 27-30 July in a practical hands-on workshop.*
*Conclusion and implications for Music Education: Through this practical hands-on workshop where participants were dressed up in fantasy clothes, they learned how music,*
*Story-telling, dramatization and movement can be used as powerful educational tools to improve attention and reduce stress and anxiety. It was predicted that teachers should realize after they had experienced the methodology practically how learners with ADD/ADHD can benefit more readily from learning opportunities in the music classroom when these techniques are applied.*

**Keywords**
Attention Deficit Disorder; Attention Deficit Hyperactivity Disorder; music education; dramatization; instrumental play; Western Classical music.

## INTRODUCTION

Exposing young children to Western Classical music through dramatization, storytelling and instrumental play can be a very enriching, educating and enjoyable experience – even for children with Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder (ADD/ADHD). This research

study focused on the attitudes of primary school learners with ADD and ADHD towards Active listening to music through dramatization and instrumental play.
For the past sixteen years the author has been working as a travelling music teacher at 18 pre- and primary schools per week in Centurion and Pretoria presenting Active listening through dramatization and instrumental play to young children. The ages of these learners range from three to eight years (grade two). In 2009, the author and her assistant, Linda Schütz, had the privilege to implement this particular music program at the Centurion Remedial Academy (CRA), a school for learners with Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD). Centurion is a town in South Africa situated between Pretoria and Johannesburg.
The CRA is an independent, remedial school for children with learning disabilities, mainly ADD, ADHD and dyslexia. Both the author and her assistant were interested to find out through observations and questionnaires what effect music appreciation through dramatization and instrumental play would have on these learners.

## THEORETICAL BACKGROUND

This study was largely based on the research conducted by Nel in 2007 as well as on observations done at the CRA and literature on the characteristics of learners with ADD/ADHD.

## ATTENTION DEFICIT / HYPERACTIVITY DISORDER

Learners who suffer from an attention deficiency very often have a normal or even above average IQ score, i.e. an IQ score of 85 or above on a standardized test of intelligence. Yet these learners do not do exceptionally well at school because they find it very difficult to concentrate, acquire necessary information, and complete tasks or activities (U.S. Department of Education 2004; Meese 2001:27).
According to the Royal College of Psychiatrists (2005) many children are inattentive and restless, but the words “attention deficit” and “hyperactivity” are used to describe the problems of children who are severely hyperactive or have difficulty concentrating. The symptoms are exaggerated, compared to children of the same age, and have an effect on the child’s school and social life. American research shows that between 3 – 5% of learners has Attention Deficit or Attention deficit-hyperactivity disorder, with more boys than girls diagnosed. Recent research has shown that these figures are similar in South Africa (Louw & Louw 2007:260).
While the research was in progress at the CRA, some of the symptoms or characteristics of ADD/ADHD spelt out by the U.S. Department of Education (2004) became clear:

- Fidgeting with hands or feet or squirming in their seats while they were listening to the story;
- Difficulty remaining seated when they were required to do so;
- Blurting out answers to questions during storytelling sessions before the questions were completed;
- Difficulty sustaining attention and waiting for a turn during the group situations (dramatization and instrumental play);
- Difficulty following through on instructions and in organizing tasks;
- Difficulty in listening to others without being distracted or interrupting; and
- Wide ranges in mood swings.

The following ideas and strategies suggested by Carney (2007) that can be used to manage learners with ADD/ADHD in a classroom situation were taken into account during the implementation of the music program at the CRA:

### Provide structure through set schedules and routines

The music program that was implemented has a set structure that follows a specific routine. Every

second week the music lesson starts with a story, carefully worked out according to the elements and concepts that appear in a specific piece of music. After the story is told briefly to the learners, it is dramatized by them. The storytelling and dramatization at the CRA took place outside on a paved area. Every alternative week the dramatization lesson was followed up by instrumental play inside a classroom.

**Give step-by-step directions, providing the learners with the opportunity to be successful and reduce frustration**
After the story was told, clear directions and indications were given where the different characters had to position themselves and what they had to wear. The learners knew exactly what to do and therefore they could complete the activity successfully and mostly without frustration.

**Use frequent eye contact**
An effort was made to keep constant eye-contact with all the learners, especially when the story was told at the beginning of the dramatization lesson. Even during the instrumental play lessons the authors soon realized that she should never take her eyes off the learners and turn her back on them. The learners had to be watched all the time to enable them to focus.

**Set clear oral instructions and clear expectations so that learners know what is expected of them**
The instructions the learners received on how to act the pre-told story out for the dramatization or follow the graphic notation chart during the instrumental play sessions were given as briefly and clearly as possible. The learners knew exactly what was expected of them.

**Repeat directions and present them through several modalities, such as visual and aural cues**
Both the author and her assistant acted as role models during the dramatization lessons, acting the stories out with the learners to reinforce the initial directions that were given. Simple fantasy outfits and masks were used successfully for the dramatization to focus the learner's attention and enhance the lesson.

**Alter the environment to suit the learners**
As mentioned above the dramatization lessons were presented outside on a paved area. This was a set area that could not be altered. This area was sometimes wet when it rained and cold during winter. Although the instrumental lessons were presented in one of the larger classrooms, there was still not enough space for dramatization in this area. Although all the chairs were removed and stacked up to leave as much floor space as possible, the learners had to sit cramped in on the floor to play the instruments. This sometimes made them irritable and tension flared up from time to time. Although the setting was not always ideal for the specific activity, the learners still enjoyed it and were always willing to cooperate and make the best of the lesson.

**Develop cues for students who consistently lose focus or attention**
During the dramatization lesson all the cues that the learners needed to act out the story in sequence, were heard in the music. When the lesson was followed up with instrumental play in the following week, a graphic notation chart which displayed the story in pictures was used as a roadmap to give the necessary cues. This chart fixed their attention for the full length of the music.

**Give a lot of praise through positive reinforcement and build confidence**
The learners at the CRA were constantly praised for their efforts and achievements in the music class. The better they got to know the author and her assistant, the more daring and creative their dramatization efforts became. When the learners realized that they were allowed to be themselves and actually have

fun during the lesson, (within the borders of quite strict discipline) they were prepared to give their full cooperation. This feeling of mutual trust and confidence was not only felt by the learners, but also by the author and her assistant. This made them look forward to the music lessons each week.
The author fully agrees with the U.S. Department of Education (2004:2) that it is very important to understand the characteristics of children, including those with disabilities when successful instructional strategies and practices are planned. This knowledge and practices are usually the same for all types of learners, whether they have ADD/ADHD or not.

**AIM OF THE STUDY**

The aim of the study was to determine the attitude of primary school learners with ADD and ADHD towards Western Classical music after they have been exposed to it in a fun, meaningful way to establish:

- The value of the different aspects used in the music appreciation lessons;
- Whether musical dramatization and instrumental play received a positive reaction from the learners;
- Whether the use of fantasy costumes played a role in the enjoyment of the dramatization lessons;
- Whether Western Classical music can be received positively by primary school learners; and
- If learners with ADD/ADHD enjoyed themselves during the music lessons.

**RESEARCH QUESTIONS AND SUB-QUESTIONS**

The main research question was: What is the attitude of primary school learners with Attention-Deficit/Hyperactivity Disorder towards Active listening to Western Classical music through dramatization and instrumental play?
The sub-questions were:

- What is music appreciation through dramatization?
- What has been written about music and learners with ADD and ADHD?
- Can dramatization and instrumental play be used to create a positive attitude towards Western Classical music?

**TARGET GROUP**

The CRA consists of 42 learners from grade one to grade seven. All the learners took part in the music lessons at the same time, in one lesson. Thus, the age of the target group ranged from roughly seven to thirteen years (primary school years). Because of the difference in age some of the learners were on a lower level of development than others and needed a bit more assistance.

**METHODOLOGY**

The study made use of both quantitative and qualitative methods of data collection and data analysis, as it included both observations and questionnaires. The study also included a review of literature, which was secondary to the observations and questionnaires. The intent of the literature review was to provide an account of what has been published on the various topics discussed by other researchers and scholars (Taylor 1999).

**Observations**

Observations at the CRA took place from February to November 2009. They were conducted once a week during the music appreciation lessons with the purpose to answer the main research question, namely: What is the attitude of learners towards music appreciation through dramatization and instrumental play? The observations were guided by a set of questions to establish the attitude of the

learners towards the music appreciation program, how the learners received it, and whether they enjoyed the classical music that was for the lessons.

**Questionnaire**
A questionnaire was designed to investigate both the dramatization, as well as the instrumental play sections were administered to the learners. For both the observations and the questionnaires, the permission of the headmistress, teachers and the learners was first obtained.

**Literature study**
Data were collected through a literature study in terms of music appreciation through dramatization and instrumental play, and learners with ADD/ADHD. The study included a search on each aspect of the music appreciation program, namely dramatization, movement, play and storytelling, active listening, instrumental play, as well as the characteristics of cooperative learning.

## VALUE OF THE STUDY

Music education provides a means of self-expression, understanding for other people, as well as fostering a life-long interest in the arts, and should not be withheld from anyone, especially not from children with ADD/ADHD. Furthermore, the structure of the proposed music appreciation lessons helps the learners to experience a feeling of success and encouragement, which will boost their self-esteem. The program ensures the holistic development of the young child because learners experience opportunities for cognitive, physical, emotional as well as social development through it.

## DELIMITATIONS

This study only focused on one target group, namely the learners at Centurion Remedial Academy, and was thus not a comparative study. Although the music appreciation program was implemented other schools, the age groups of the learners, as well as the number of learners in the different groups, differed vastly, and were thus not compared. It can rather be described as a case study. The State Educational Technology Directors Association (SETDA) (2008) refers to such a study as "an in-depth exploration of a particular context, such as a classroom or group of individuals that involves the collection of extensive qualitative data usually via interview, observation, and document analysis."

## FINDINGS

In answering the research question, the author turned to the sub-questions, and discussed the different aspects used in the music appreciation lessons, namely: active listening, movement, play, instrumental play, and dramatization. The literature review proved that these elements could effectively be used in a music lesson, and to develop appreciation for Western Classical music. These aspects where looked at in relation to learners with ADD or ADHD. Together the physical, cognitive, social and emotional development of the learners was enhanced.

Many of the strategies that are suggested to help manage learners with ADD/ADHD in a classroom were employed in the music appreciation program presented at Centurion Remedial Academy, namely providing structure, organization, eye contact and body presence, praise, clear expectations, and simple, repeated instructions. As the lessons always follow the same structure, with every dramatization lesson the same and every instrumental play lesson the same, the learners knew what to expect each week and were not caught unaware or off-guard. This structure also helped the learners follow the instructions easily, as they are usually very similar, for example, divide into groups of eight, or put the instruments back in their bags. It was important to make constant eye contact with the learners and communicate

non-verbally, as talking or shouting disrupts the music. Providing praise encouraged and motivated the learners.

This research has revealed that dramatization and instrumental play are beneficial to learners with ADD/ADHD. Teachers and parents should consider incorporating the program into teaching practices, as long as it takes place on an appropriate level to encourage the learners and foster appreciation. It is also important that, if possible, a program like this should be implemented with enough space for the learners. While the younger learners do not mind sitting on the floor, most of the older learners do mind, as it is uncomfortable, especially for longer periods of time. The layout at Centurion Remedial Academy was not ideal for the learners as they were easily distracted and destructive when they were in such close contact with other learners. Nadeau (1999) confirms that learners with ADD/ADHD are easily distracted, and exhibit attention-demanding behaviour, and have low frustration tolerance.

Through this program, the learners at Centurion Remedial Academy were able to learn more about Western Classical music, thus increasing their appreciation and understanding for it. The learners were also given an ideal setting to express themselves, interact with their peers, and develop a sense of achievement and success, building self-esteem. All of this happened in a fun, playful manner.

## CONCLUSION

While this study focused upon a school for Special Needs Education, the information can be used effectively in schools for learners with no disability. Further studies could be conducted in how active listening to Western Classical music through dramatization, instrumental play and costumes can be used to teach and encourage learners with more severe learning and psychological disabilities and enhance their music lessons.

## ACKNOWLEDGMENTS

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## REFERENCES

Carney, S. (2007). *Classroom Interventions for ADD: Top Ten Strategies to Manage Attention Deficit Disorder in Kids*. Retrieved from http://at-risk-youth-support.suite101.com/article.cfm/classroom_intervention_for_add

Louw, D. & Louw, A. (2007). *Child and Adolescent Development*. Bloemfontein: University of the Free State.

Meese, R. L. (2001). *Teaching Learners with Mild Disabilities: Integrating Research and Practice*. 2nd edition. Belmont: Wadsworth/ Thompson Learning.

Nadeau, B. (1999). *Attention Deficit Hyperactivity Disorder (ADHD): Goals and Methodologies.* Retrieved from http://people.uwec.edu/rasarla/reseach/ADD/index.htm

Nel, Z. (2007). *Implementing a Western Classical music programme for teacher training through integrated arts in Early Childhood Development*. Retrieved from http://upetd.up.ac.za/thesis/available/etd-07312007-081226/

Royal College of Psychiatrists. (2005). *Attention-deficit hyperactivity disorder and hyperkinetic disorder: for parents and teachers*. Retrieved from http://www.saprivateschools.co.za/Info/ADHD.html

State Educational Technology Directors Association (SETDA). (2008). Case Study, *Scientifically Based Research Glossary*. Retrieved from http://www.setda.org/web/guest/glossary

Taylor, D. (1999). The Literature Review: A Few Tips On Conducting It, *University of Toronto*. Retrieved from http://www.writing.utoronto.ca/

U.S. Department of Education. (2004). *Teaching Children with Attention Deficit Hyperactivity Disorder: Instructional Strategies and Practices.* Retrieved from http://www.Idonline.org/article/8798

# Students with complex specialeducational needs can't wait

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**ABSTRACT**

*This paper has been developed for the published proceedings of the Commission on Music in Special Education, Music Therapy and Music Medicine, International Society of Music Education, Beijing China, July-August 2010. The paper has been prepared from the author's presentations made to the Commission on Music in Special Education, Music Therapy and Music Medicine (International Society of Music Education) in Kuala Lumpur, Malaysia, July 2006; in Bologna, Italy, July 2008; and in Beijing, China, July-August 2010. The author has assumed license to retitle the paper.*

*The author has had significant experience within and across the public education sector (i.e., primary schooling, education and training of students with complex special educational needs, and early childhood development) within and across all political persuasions in the State of Victoria in developing, implementing, assessing and reporting of differential classroom programs; as teacher educator (e.g., design and implementation of intervention programs; leadership, advocacy and training); and research, editing, writing and publishing activity.*

*The paper is response to national, state and local public curriculum, assessment and reporting policy initiatives for those with complex special educational needs. The paper presents a discussion of the impact and local implementation of these policy initiatives for such students. The focus of this paper is to develop an understanding of the extraordinary complexities that encompass public curriculum, assessment and reporting policy initiatives affecting students with complex special educational needs. For most people, an understanding of these extraordinary complexities may reduce fear, unease and distrust. The phenomenon would seem logical.*

*I debate the economic efficiency, political expediency and social and cultural effectiveness of recent public curriculum, assessment and reporting policy initiatives in Australia and Victoria within the context of the international educational landscape that have presented many a challenge and opportunity.*

**Key words:** inclusivity, marginalized, disadvantaged, disability, impairment, complex special educational needs, social and cultural theory, equal opportunity, diversity, human rights, public curriculum, assessment and reporting policy initiative.

The Issue: Notions of Inclusivity

On a recent flight sector from Shanghai to Beijing, I read a local Chinese newspaper (in English). An article titled "Protecting society's most vulnerable" caught my attention.

> 'How can we make sure that poor, sick and marginalised people don't get left behind in the process of economic development … what needs to be done to protect these disadvantaged vulnerable groups … questions were on top of the agenda when Chinese and European counterparts met in Chengdu … precise and definitions of [these] groups vary … poverty and discrimination exist in both [countries]' (McColl, 2010)

The author of this article apparently works for *Doctors of the World*, an international not-for-profit medical humanitarian organisation. Out of a desire to bring help victims of the Biafra (Nigerian province) war of independence in 1969, medical practitioners joined the Red Cross. No longer able to stay silent in the face of the human rights violations that were apparently witnessed, a number opposed maintaining the silence and neutrality required by the Red Cross. An international medical humanitarian association with more scope to speak up and to act was created. Doctors Without Borders (1971), then rebadged as Doctors of the World in 1980, activated medical missions throughout the world (e.g., interventions in Vietnam in the 1970s; El Salvador in 1981; Rwanda in 1994; Kosovo, Timor-Leste and Chechnya in 1999; Indonesia and Sri Lanka after the tsunami in late December 2004; ongoing provision of access to healthcare for undocumented migrants).

The mandate for this organisation is to provide care to the most vulnerable populations and report on their situation. A European Charter of Humanitarian Aid known as the Cracow Charter was adopted in 1990. An International Secretariat was created in 1995 with a view to coordinating delegations' actions throughout the world. Advisory status to the United Nations Economic and Social Council was granted in 1996.

There have always been children with disabilities and impairments, but there has not always been education for those with complex special needs. Children living with disabilities and impairments have been viewed through various lenses throughout history (Ball, 1971; Kauffman, 1976; Lane, 1976). Social and cultural theory suggests that contemporary society and culture is extremely diverse (Derrida, 1978; Lyotard, 1984). Gill (1999) and Seelman (2000) described a paradigm of thinking about disability and impairment that shifts the location of problems with disability and impairment from the individual to environmental responses to disability and impairment that evolved from the legacy of these scholars, activists with disabilities and impairments and their non-disabled allies. The paradigm frames disability and impairment from the perspective of a social and cultural minority group that is defined as a dimension of human difference and not as a defect. The goal for people with disabilities and impairments is not to eradicate their disability or impairment but to celebrate their distinctiveness, pursue an equal place in society and acknowledge that their differentness is not defective but valued.

Social and cultural theory has challenged very powerful, economically efficient and politically expedient values with social and cultural values centered on equal opportunity and diversity. This theory has called for those who advocate social and cultural values to emerge with voices that have produced very positive effects. These notions have had a profound influence on social and cultural attitudes toward people with disabilities and impairments.

Notions of inclusivity have become thoroughly grounded in historical traditions and contexts of a variety of key ethical ideas, traditions and major writers (e.g., legal and political developments in the education of all students irrespective of disability or impairment in our society today; key aspects of the history and development of the international and national discourse (i.e., the origins and motivations of related covenants in Britain, United States, Canada and Europe); and the evolution of the applied and multi-disciplinary nature that make happen notions of inclusivity). Key ethical ideas include the sustainability of the notion of education for all. In my view, education professionals, by nature of their status, inherit a heavy responsibility to engage in the ongoing debate about the notions of inclusivity in the light of basic ethical positions. Traditions and major writers in the field of education for all generate insights and understandings of the relationship between values, practices and human rights.

Notions of inclusivity have become grounded in tensions between rights, responsibilities and limits of legal and juristic approaches to the education of all students. Practical implications of these notions, by definition, have focused on a culture of ethical standards within a human rights framework and the role played by education, dialogue, the media and policy advocacy. In my view, education professionals

inherit a heavy responsibility to engage in the development and implementation of guidelines for administering good practice and good judgment that embeds a culture of inclusivity into the public, corporate and community (not-for-profit) sector and wider community.

The United Nations General Assembly proclaimed the year 1981 *International Year of Disabled Persons* in December 1976. An Advisory Committee for the *International Year of Disabled Persons* was established in 1977. In December 1980, the theme of the *International Year of Disabled Persons* was expanded to '… full participation and equality …'. *The World Program of Action Concerning Disabled Persons* was adopted by the United Nations General Assembly in December 1982. In order to provide a time frame during which Governments and organisations could implement the activities recommended in *The World Program of Action Concerning Disabled Persons*, the General Assembly proclaimed 1983-1992 the *United Nations Decade of Disabled Persons*.

Many education systems throughout the world have accepted responsibility for the education of all students irrespective of disability or impairment in recent decades. Notions of inclusive education, integration, normalisation and least restrictive environment for people with disabilities and impairments were espoused by Wolfensberger (1972) and Wolfensberger and Zauha (1973) as far back as the early 1970s. Policy initiatives in response to these notions in special education sectors in many world education authorities have led to more inclusive educational systems and improved practice in recent decades. Yell (1998) provided an overview of many of these policy initiatives.

For example, in the USA, policy initiatives include the *Education of All Handicapped Children Act* (Public Law 94-142) (Education of All Handicapped Children Act, 1975), *Towards Equity*: *Education of the Deaf* (Commission on Education of the Deaf 1988), *Procedures Governing Programs and Services for Children with Special Needs* (North Carolina Department of Public Instruction 1993) and *Individuals with Disabilities Education Act* (IDEA) (Individuals with Disabilities Education Act, 1997).

Visser and Upton (1995) provided insights into the broader impact of policy initiatives in the English education system (Warnock, 1978).

Australian education has historically had a substantial concern with the education of students with disabilities and impairments albeit that notions of inclusivity are grounded in rhetoric used to promote as well as thwart the introduction of related Acts and Charters of Rights in Australia (e.g., Victorian Charter of Human Rights and Responsibilities (2006) and its historical antecedents, and a long history of failed attempts to introduce a Bill of Rights in Australia).

On the weekend of 19 and 20 April 2008, more than 1000 Australians and some 95 volunteer scribes convened in response to an invitation from the then Prime Minister, the Honourable Kevin Rudd, and Member of Parliament to come to Parliament House in Canberra. Participants continued the conversation started at a Youth Summit held at Parliament House in Canberra on 12 and 13 April 2008 and at more than 500 school summits across the country. The *2020 Summit* was a gathering for the purpose of discussing the agenda for the nation. Co-chairs were responsible for 10 major policy agenda stream challenges facing Australia. The challenge was to help shape a long-term strategy for the nation's future, to tackle the long-term challenges confronting Australia. People came from diverse backgrounds. Some were eminent in a specialised field. Most were ordinary Australians. Among them were farmers, scientists, health professionals, artists and actors, community leaders and lawyers. Common to all of them was a genuine interest in and commitment to shaping the future of the nation.

The *Strengthening Communities*, *Supporting Families and Social Inclusion* policy agenda stream examined the challenges facing Australian families and communities in the context of enormous social and cultural change. The group was asked to consider the following key policy agenda issues:

- Community and family life can give people the support, resilience and outlook they need to play a full part in Australia's future. What can we do to enable local communities to provide social networks and support to every member?
- What are the root causes and consequences of social exclusion? What roles can different sectors play in tackling them?
- What measures can we take to ensure that people feel safe in their homes and communities?
- What roles do the government, business and community sectors play in helping families care for older Australians, children and people with a disability?
- How do we ensure that all Australians have access to housing that is affordable, secure, safe and accessible?
- What can be done to help new Australians settle and participate in the community?
- Some localities experience chronic disadvantage. What needs to be done to ensure that communities have the appropriate physical and social infrastructure to foster health and wellbeing?

Participants discussed three key policy agenda questions:

- What are the key characteristics of Australia in 2020 that support communities, families, social inclusion?
- What are the key challenges we face in reaching these goals by 2020?
- What are the key questions we need to ask?

An ambition (vision) statement was agreed to on the final day of the summit:

- By 2020, Australia is known throughout the world for its diverse, compassionate, fair and respectful society
- By 2020, every Australian is valued by and participating in society; has meaningful access to education, health, housing, work, justice, care and life opportunities; has a safe, healthy and supported childhood that allows them to fulfil their potential; and feels a sense of belonging
- By 2020, Australian society embraces and celebrates Indigenous people; focuses on long-term prevention and is experiencing the benefits of a return on social investment; and regards social inclusion as equal and integral to a buoyant economy and a healthy environment

The *Australia 2020 Summit*: *The Final Report* was commended as a record of a vibrant, engaging and uniquely Australian discussion and a living document to provide an impetus for further discussion, conversation and action on our longer-term policy challenges (Department of the Prime Minister and Cabinet (May 2008). Canberra).

Long (1988, 1994) and Ashman (1988) provided insights into the broader impact of policy initiatives in Australian public education systems. In the State of Victoria, policy and program initiatives include Collins (1984), Cullen and Brown (1992), Cullen and Brown (1993), Department of Education, Employment and Training Victoria (2000), Lake (2001) and Department of Education, Employment and Training Victoria (2003). Equal opportunity and diversity has meant increased support for many more students with disabilities and impairments in mainstream primary school and secondary college settings where appropriate, and in specialist school settings.

Social and cultural theory appears to offer a discourse with which to liberate and empower pedagogy: the art and science of thinking and learning (Aronowitz & Giroux, 1991; Giroux & McLaren, 1989; Giroux, 1988, 1990). These views have allowed such people to emerge with a voice in the shaping of curriculum, assessment and reporting practices for students with disabilities and impairments. For

example, adopting Derrida's approach, special educators can attempt to deconstruct the role of language that is used to influence public policy initiatives and take the side of those with disability or impairment.

**Public Curriculum, Assessment and Reporting Policy Initiatives: Students with Complex Special Educational Needs Too?**

Categories of potential research questions concerning trends and issues affecting students with complex special educational needs are numerous. The focus of this paper is to develop an understanding of the extraordinary complexities that encompass public curriculum, assessment and reporting policy initiatives affecting students with complex special educational needs. Several significant national public curriculum, assessment and reporting policy initiatives have recently been developed and implemented in the context of the Australian educational landscape.

*The National Curriculum*: *April 2008*. State, Territory and the Commonwealth Governments of all political persuasions have debated the merits of a national curriculum for at least the last thirty years. On 14th April 2008, the Honourable Julia Gillard, and Member of Parliament, then Minister for Education, Employment and Workplace Relations; Minister for Social Inclusion and Deputy Prime Minister announced '... today, the Rudd Labor Government ... [announces] a plan ... [to see] a national curriculum being delivered within three years ...' (Gillard, J., 2008).

An Act to establish the Australian Curriculum, Assessment and Reporting Authority (ACARA) within the Department of Education, Employment and Workplace Relations (DEEWR) was assented to on 8th December, 2008. ACARA is responsible for:

- a national curriculum from Kindergarten to Year 12 in specified learning areas
- a national assessment program aligned to the national curriculum that measures students' progress
- a national data collection and reporting program that supports analysis, evaluation, research and resource allocation; and accountability and reporting on schools and broader national achievement

*The Melbourne Declaration*: *December 2008*. The 1989 Hobart Declaration and the 1999 Adelaide Declaration committed the State, Territory and Commonwealth Education Ministers to work together to ensure high-quality schooling for *all* young Australians. *The Melbourne Declaration*: *Goals for Young Australians* acknowledged major changes in the world that are placing new demands on Australian education.

> ... in the 21st century, Australia's capacity to provide a high quality of life for all will depend on the ability to compete in the global economy on knowledge and innovation ... education equips young people with the knowledge, understanding, skills and values to take advantage of opportunity and to face the challenges of this era with confidence ... (Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), December 2008. *The Melbourne Declaration*: *Goals for Young Australians*. Melbourne. p. 4)

The *Melbourne Declaration* (2008) went on to declare that:

> ... improving educational outcomes for all young Australians is central to the nation's social and economic prosperity and will position young people to live fulfilling, productive and responsible lives ... young Australians are therefore placed at the centre of the *Melbourne Declaration on Educational Goals* ... (Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), December 2008, p. 7)

Two goals were declared. Achieving these educational goals was viewed as the collective responsibility of governments, school sectors and individual schools, parents and carers, young Australians, families, other education and training providers, business and the broader community. First, [that] Australian schooling promoted equity and excellence. This meant that all Australian governments and school sectors must provide all students:

> ... with access to high-quality schooling that is free from discrimination based on gender, language, sexual orientation, pregnancy, culture, ethnicity, religion, health or disability, socioeconomic background or geographic location ... [that reduces] the effect of other sources of disadvantage, such as disability, homelessness, refugee status and remoteness ... and [promotes] personalised learning that aims to fulfil the diverse capabilities of each young Australian ... (Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), December 2008, p. 7)

Second, all young Australians [would] become (a) successful learners; (b) confident and creative individuals; and (c) active and informed citizens.

All Australian governments committed to working with all school sectors and the broader community to achieve the educational goals for young Australians. This commitment would be supported by action in:

- developing stronger partnerships between students, parents, carers and families, the broader community, business, schools and other education and training providers
- supporting quality teaching and school leadership
- strengthening early childhood education (i.e., the period from birth through to eight years that sets the foundation for every child's social, physical, emotional and cognitive development)
- enhancing middle years development
- supporting senior years of schooling and youth transitions
- promoting world-class national curriculum and rigorous and comprehensive reporting and assessment for, as and of student learning that reflects the curriculum drawing on a combination of the professional judgement of teachers and national testing (e.g., NAPLAN)
- improving educational outcomes for Indigenous youth and disadvantaged young Australians, especially those from low socioeconomic backgrounds
- strengthening accountability and transparency for schools and their students, families and parents, the community and governments

*An Early Years Learning Framework for Australia*: *2009*. *Belonging*, *Being and Becoming*: *The Early Years Learning Framework for Australia* is Australia's first national Early Years Learning Framework. The aim of the Framework is to extend and enrich children's learning from birth to five years through to the transition to school. The Council of Australian Governments (COAG) developed the Framework to assist educators to provide young children with opportunities to maximise their potential and develop a foundation for future success in learning (Department of Education, Employment and Workplace Relations, 2009). Broadly, the Framework supported the second goal of the *Melbourne Declaration on Education*: *Goals for Young Australians* (Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), December 2008) in that all young Australians [would] become (a) successful learners; (b) confident and creative individuals; and (c) active and informed citizens.

Fundamental to the Framework is the view that children's lives are characterised by *belonging*, *being* and *becoming*. From before birth, children are connected to family, community, culture and place. Earliest development and learning takes place through these relationships, particularly within families, who are children's first and most influential educators. As children participate in everyday life, they develop interests and construct their own identities and understandings of the world.

The Framework conveyed the highest expectations for all children's learning from birth to five years through to transition to school. These expectations were expressed in five Learning Outcome Descriptors (i.e., children have a strong sense of identity; children are connected with and contribute to their world; children have a strong sense of wellbeing; children are confident and involved learners; children are effective communicators) accompanied by an extensive inventory of examples that illustrate ways that students demonstrate achievement in each learning outcome descriptor.

**The Continuing Challenges and Opportunities into the New Decade**

Participants of the *Strengthening Communities*, *Supporting Families and Social Inclusion* policy agenda stream at the Australia 2020 Summit (April 2008) agreed on an ambition (vision) statement on the final day of the summit: 'By 2020, *every Australian* is valued by and participating in society ... [and] ... has *meaningful access to education ...*' that, by definition, includes those with complex special educational needs (Department of the Prime Minister and Cabinet, May 2008). A culture of inclusivity appears to have become embedded into the final report of the Australia 2020 Summit.

The Australian Curriculum, Assessment and Reporting Authority (ACARA) is mandated as responsible for the development and implementation of public curriculum, assessment and reporting policy initiatives from Year Kindergarten to Year 12 in specified learning domains, that, by definition, includes those with complex special educational needs. Notions of differential curriculum, reporting and assessment embedded into exemplary classroom practice appear to be fully supported. However, please mind the gap!

Generative thinking may be thought of as development of thinking processes in the psychomotor, social, cognitive and linguistic domains (e.g., Armstrong, 2000; Gardner, 1993(a), 2000). One may observe significantly uneven outcomes in students with complex special educational needs, particularly those with severe, profound and multiple special educational needs. Development of thinking in students appears to vary greatly depending on the particular category of disability or impairment and the task. Development of thinking may not only vary greatly from one category of disability or impairment to another, but also within each category of disability or impairment, depending on the severity of the condition as well as the particular task.

The largest proportion of research has focused on students with an intellectual disability. Students with an intellectual disability will fall below their chronological peers in many motor, social, cognitive and communication-language tasks. A student's intellectual age may be a better predictor of development than chronological age. However, students with complex special educational needs appear to demonstrate development of skills in a similar sequence as their non-disabled peers throughout their years of schooling, albeit at an uneven and/or lower rate.

Those with severe, profound and multiple special educational needs are unlikely to achieve at or beyond key level or stage 1 of this Australian public curriculum, assessment and reporting policy initiative. Furthermore, approaches to teaching practice may vary greatly among settings. Teachers may work with students across a full range of ability, including those aged five to sixteen years with severe and profound special educational needs who are unlikely to achieve at or beyond key level or stage 1 of an Australian public curriculum, assessment and reporting policy initiative (Farrell, 2006).

In my view, the development and implementation of the ambitious public curriculum, assessment and reporting policy initiatives in Australia is in the greater national interest. At the time of writing, work is but embryonic. The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), December 2008 (*The Melbourne Declaration*, 2008) policy initiative appears to have embedded notions of inclusivity. The stated aim of the *Belonging*, *Being and Becoming*: *The Early Years Learning Framework for Australia* policy initiative appears to have embedded notions of

inclusivity. Notions of differential curriculum, reporting and assessment embedded into exemplary classroom practice appear to be aligned with these policy positions. Learning Outcome Descriptors may need to be uncoupled from the Stages of Learning that notions of inclusivity become firmly embedded into curriculum, assessment and reporting policy initiatives developed and implemented by ACARA.

**REFERENCES**


Armstrong, T. (2000). *Multiple Intelligences in the Classroom*. 2nd edition. Alexandria VA: Association for Supervision and Curriculum Development

Aronowitz, S. & Giroux, H. A. (1991). *Postmodern education*: *Politics*, *culture*, *and social criticism*. Minneapolis: University of Minnesota Press.

Ashman, A. F. (Ed.). (1988). Integration 25 years on. *The Exceptional Child* (Monograph Number 1). Brisbane, Queensland: University of Queensland, Australia.

Ball, T. S. (1971). *Itard*, *Seguin and Kephart - sensory education - A learning interpretation*. Columbus, OH: Charles E. Merrill.

Collins, M. K. (1984). *Integration in Victorian education*: *Report of the ministerial review of educational services for the disabled*. Melbourne, Australia: Education Department of Victoria.

Cullen, R. & Brown, N. (1992). *Integration and special education in Victorian schools*: *A Program Effectiveness Review*. Education Department of Victoria, Melbourne.

Cullen, R. & Brown, N. (1993). *Cullen-Brown implementation advisory committee*: *Report*. Education Department of Victoria, Melbourne.

Department of Education, Employment and Training Victoria. (2000). *Public education*: *The next generation.* Retrieved from http://www.sofweb.vic.edu.au/publiced/pdfs/PubEd.pdf

Department of Education, Employment and Training Victoria. (2003). *Blueprint for government schools*: *Future directions in the Victorian government* system. Retrieved from http://www.sofweb.vic.edu.au

Department of Education, Employment and Workplace Relations (2009). *Belonging*, *Being and Becoming*: *The Early Years Learning Framework for Australia*. Canberra

Department of the Prime Minister and Cabinet (May 2008). *Australia 2020 Summit*: *The Final Report*. Canberra

*Education of all handicapped children act.* (Public Law 94-142). (1975). Retrieved from www.scn.org/~bk269/94-142.html

Farrell, H. J. (2006). *The impact and local implementation of standards-based curriculum policy frameworks and music education programs for students with disabilities and impairments in Victoria*: A *qualitative evaluation.* Unpublished doctoral dissertation. The University of Melbourne.

Gardner, H. (1993a). *Frames of Mind*: *The Theory of Multiple Intelligences*. 2nd (10th anniversary) edition. London: Fontana Press

Gardner, H. (2000). *Intelligence Reframed*: *Multiple Intelligences for the 21st Century*. New York: Basic Books

Gillard, J. (2008). *Delivering Australia's First National Curriculum*. Retrieved from http://mediacentre.dewr.gov.au/mediacentre/Gillard/releases/deliveringaustraliasfirstnationalcurriculum.htm

Giroux, H. A. & McLaren, P. (1989). *Teachers as intellectuals*: *Toward a critical pedagogy of learning.* Granby, MA: Bergin & Garvey

Giroux, H. A. (1988). *Schooling and the struggle for public life*: *Critical pedagogy in the modern age.* Minneapolis: University of Minnesota Press

Giroux, H. A. (1990). *Curriculum discourse as postmodernist critical practice*. Geelong, Victoria: Deakin University

*Individuals with disabilities education act* (I.D.E.A). (1997). Retrieved from http://www.ed.gov/offices/OSERS/IDEA

Kauffman, J. M. (1976). Nineteenth century views of children's behaviour disorders. *Journal of Special Education*, *10*, 335-349

Lake, J. (2001). *Better services*, *Better outcomes in Victorian Government Schools*: *A Review of Educational Services for Students with Special Educational Needs*. Melbourne, Australia: Department of Education, Employment and Training

Lane, H. (1976). *The wild boy of aveyron*. Boston, MA: Harvard University Press

Long, P. C. (editor) (1988). *The Continuing Challenge*: *Special Education and Effective Integration*. Melbourne: Selected papers from the Australian Association of Special Education XII National Conference

Long, P. C. (editor) (1994). *Quality outcomes for all learners*. Melbourne: Selected papers from the Australian Association of Special Education XVII National Conference

Lyotard, J. (1984). *The postmodern condition*: *A report on knowledge*. Translation of *La condition postmoderne* by Geoff Bennington and Brian Massumi. Minneapolis: University of Minnesota Press

Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) (1999). *Adelaide Declaration on National Goals for Schooling in the Twenty-First Century*. Government Printing Office, Canberra

Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) (December 2008). *The Melbourne Declaration*: *Goals for Young Australians*. Melbourne

North Carolina Department of Public Instruction. (1993). *Procedures governing programs and services for children with special needs.* Raleigh, NC.

Visser, J. & Upton, G. (editors). (1993). *Special education in Britain after Warnock*. London: David Fulton Publishers

Warnock, H. M. (chair). (1978). *Special educational needs*: *Report of the committee of enquiry into the education of handicapped children and young people.* London: H.M.S.O.

Wolfensberger, W. & Zauha, H. (editors) (1973). *Citizen advocacy and protective services for the impaired and handicapped.* Toronto, Canada: National Institute on Mental Retardation

Wolfensberger, W. (1972). *The principle of normalization in human services*. Toronto, Canada: National Institute on Mental Retardation

# Rewiring the brain fusing psychology and music education

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**ABSTRACT**

*The following research, and the reasons for it, is based on the premise that pitch and tempo accuracies are a priori to the quality level of performance, and the response that the human makes to musical stimuli. The purpose of this study was to investigate whether young adult musicians (ages 20 and above), could significantly improve their musical skills (acuity judgments, viz. discernments of pitch and tempo accuracies). The premise of this paper is that the training of the therapist/teacher is a priori because clients/students in any setting, deserve the connoisseurs as their models. This quality of the therapy/teacher is a logical concern for ISME's pre-conference seminar on Music in Special Education, Music Therapy and Music Medicine.*

*This research was intent on helping the young adult classes in Psychology of Music to establish improved long-term abilities to judge pitches and tempi. A total of 228 students participated in this continuing study included in 18 consecutive semesters. The young adults (ages 20 and up) showed that: 1) 66% demonstrated significant improvement in their pitch identifications (their JND's were improved by an average of 12 or more cents; 2) 24% did show a modicum of improvement (5 to 11 cents). In tempi identifications the students' improvements were noticeable but not significant.*

**Keywords**

Rewiring, music education, brain, plasticity, cognitive eupraxia, musical brain

## INTRODUCTION

"Your brain changes every day. Plasticity refers to the brain's capacity to change…the brain never loses its power to transform itself on the basis of experience…you must engage in repetitive exercise that set up the relevant circuits and sharpen their expression. This holds true whatever your goal and whatever degree of mastery you seek" (Restak, 2003, pp. 7-13). How do we process and store musical stimuli? The brain is sometimes hailed as the most complex object in the universe. Recent investigations by neuroscientists have detailed how the process of psychoacoustics (transforming the physical sound waves into electro-chemical stimuli) does result in establishing particular memory systems, and does become localized in separate parts of the brain. An example of how musical training influences brain circuitry and enhances emotions: Consider the auditory cortex, which is located slightly above the ears. Operationally the auditory cortex occupies a privileged place midway between the frontal lobes-just behind the forehead-and the deeper dwelling limbic system components. Thanks to the two-way connections between the auditory cortex and frontal lobe, we can intellectually appreciate, compare, and judge a musical performance-and respond to the emotional resonance that accompanies all great musical compositions.

For purposes of this study, music education includes the cultural as well as the so-called basics in the musical experiences. Over the 20th century, there have been transitions and developments of various learning theories. Researchers have continued to validate and expand on the ideas of how music

ministers to the human in fulfilling three important needs of the human, viz. spiritual, emotional, and intellectual (Parker, 1984). Our research builds both on previous pedagogical paradigms based on the work of previous researchers relating to continued improvements of musical behaviors, and employing the recent reports from neuroscientists as to how the brain responds to musical stimuli especially in learning the basic music skills.

What is psychology? One definition is that it is the science of mental life, both of its phenomena and their conditions. Chief among other definitions is that psychology is an empirical science dealing with mental activities and objective behavior. Also, languages are ways of ordering words, political systems are ways of ordering society, and musical systems are ways of ordering sounds (Starr, 1992, p. 6). For the purposes of this research, music therapy is considered a psychological discipline that works therapeutically as a mental function.

**AIMS**

The following research, and the reasons for it, is based on the premise that pitch and tempo accuracies are a *priori* to the quality level of performance, and the response that the human makes to musical stimuli. The purpose of this study was to investigate whether young adult musicians (ages 20 and above) could significantly improve their musical skills (acuity judgments), viz., discernments of pitch and tempi identification.

**MAIN CONTRIBUTION**

Research in the disciplines of psychology, music therapy, and music education (music is of the mind-psychological) has contributed lately in how the brain responds to converted sound waves and from which music emerges in the mind of the listener. The acquisition of these perceptive abilities would, therefore depend on the individual's ability to learn, i.e. the ability to change h/her musical behavior, through innovations, eliminations, modifications-which are aspects of learning.

**IMPLICATIONS**

Historically, music students have had several classes of music theory (sight singing, "ear" training, e.g.) with less than desirable results. Traditional pedagogy has generally centered on training the physical aspects of music making. Neuroscientists (through the technologies of fMRI, PET, EEG and others) have detailed the process of how particular memory systems are established and how they become localized in separate parts of the brain. Music educators need to inculcate these findings into their pedagogical techniques-emphasizing the psychological principles of learning-"training the brain"-e.g. emphasizing cognitive eupraxia principles. Music is a mental activity. The brain is the organ of the mind. The brain never loses the power to transform itself on the basis of experience. Pedagogues, therefore, need to think of the human brain as a lifetime work that retains plasticity—capacity for change each time that something new is experienced/learned.

**RELATED LITERATURE**

New research shows that aging brains are far more vigorous, far more resilient, and more fertile than previously thought. Our brains have an innate capacity for change no matter how old we are. In fact, where sheer mental agility is concerned, our brain capacity may keep expanding for as long as we live. Accepting the premise that learning music is a lifelong activity, the developing of one of the seven multiple intelligences (Music), with which everyone is born, is a lifetime endeavor (Gardner, 1982). Selected "one liners" from Hodges' writings (1996a and 1996b) follow:

A *musical brain* is the birthright of all human beings.

*Modern imaging techniques,* such as fMRI, PET, SQUID, ERP, and EEG measures the brain's activities to responses to music providing information about location and function.

*Neuromotor* aspects are that musical performance activates motor control areas in the brain to such a high degree that musicians may be considered to be small-muscle athletes.

The *Musical Brain* operates at birth. The fact is that babies respond to music immediately (and, in fact, in the womb three months before birth).

The *Musical Brain* is highly resilient. Music persists in people who are blind, deaf, emotionally disturbed, profoundly retarded, or afflicted with any number of disabilities or diseases.

The *concept* of use-dependent adaptation is in the areas of the brain that are constantly stimulated and that are required for successful task performance changes in responses. Children who begin musical studies at an early age will later show an enlarged corpus callosum, reflecting the need for co-ordination and for information sharing between the two hemispheres. They will also have a larger cerebellum, reflecting the need to synthesize motor, sensory, and cognitive information and to coordinate responses. As trained musicians they will show increased grey matter, reflecting motor learning and the ability to translate musical notation into motor output.

**PROBLEM**

The development of musical skills has been researched in many domains. However, there are few reports wherein the concentration of music educators, music therapists, and music psychologists have, in their classrooms, systematically concentrated on developing the mind (training the brain) a *priori*. This study employed methods of eupraxia (mental rehearsing/referencing), i.e., cognitive processing rather than writing answers impulsively. Researchers tell us that the human's brain retains "learning plasticity" through one's lifetime—that new neural pathways are being established continually. The short term memories, through repetitions, become long-term encoded memories. Thus, in the case of improving pitch judgments (JND's) are improved and in the case of tempo judgments accuracies are improved.

**METHOD**

Over 18 previous semesters, a total of 228 students (ages 20 and over) were in the researchers' respective Psychology of Music classes. On the first class day of each semester, the students were each given a tuning fork (A-440 Hz) and asked to use it several times daily to instill the "A" as their reference tone. Also, they were instructed to use their watch daily to calculate tempi when they were in their various musical settings where they could check the music's indicated tempo (or with metronomes) as they made their estimates. At the beginning of each class a randomly selected tempo (48 m.m. to 144 m.m.—increments of 12) sounded for 16 seconds. The subjects were instructed to pause for 8 seconds after each of the stimuli was finished before recording their answer in each case. The idea to pause for 8 seconds before responding was to cognitize—to allow for referencing, or new neural pathways to be formed, and then referenced. Correct answers were given and discussed as an immediate feedback exercise each day.

**RESULTS**

Pitch Identification:

1) 66% demonstrated significant improvement (their JND's improved by 12 or more).
2) 24% showed a modicum of improvement (their JND's improved by only 5, a few up to ll)

**Tempo Identification:**
The subjects' improvements were noticeable, but not significant.

## CONCLUSIONS/DISCUSSION

The results of this study reveal the need for more effective pedagogical techniques to be used in teaching music skills that can, and will be based on understanding and employing research reports entailing the results of the neurosciences merging with psychology and which will be extended into the disciplines of music education and music therapy. Cognitive eupraxia is an instant, intensely focused mental activity practiced prior to action that enables highest levels of performance. Information furnished by neuroscientists utilizing brain imaging techniques (fMRI, PET, SQUID, EEG, IRP, and MEG) report that mental rehearsal activates the brain's functions which result in musical responses (learning). Thus, the foregoing supports utilizing cognitive eupraxia techniques to continually be "rewiring the brain" of the learners, i.e., establishing new neural pathways for the most efficient learning and retaining and or retraining music skills.

## REFERENCES


Aldridge, D. (2005). *Music therapy and neurological rehabilitation.* London: Jessica Kingsley Publishers.

Begley, S. (2005). *Train your brain. Change your brain.* New York: Ballantine Books.

Coffman, D. D. (1990). Effect of mental practice, physical practice, and knowledge of results on piano performance. *Journal of Research in Music Education,* 38, 187-208.

Deleige, L. & Sloboda, J. (Eds.) (1997). *Perception and cognition of music.* East Sussex, UK: Psychology Press Ltd. Publishers.

Gardner, H. (1993). *Creating minds.* New York: Basic Books.

Gardner, H. (1982). *Art, mind, and brain.* New York: Basic Books.

Hodges, D. H. (Ed.) (1996a). Neurological research: A review of the literature. In D. H. Hodges (Ed.) *Handbook of music psychology* (2nd ed.). San Antonio, TX: IMR Press.

Hodges, D. H. (Ed.) (1996b) *Handbook of music psychology (*2nd ed.). San Antonio, TX: IMR Press.

Langner, G., & Ochse, M. (2005). The neural basis of pitch and harmony in the auditory system. *Musicale Scientiae.* Special Issue, 2004-2006, 184-208.

Null, G. (2005). *Mind power.* New York: Penguin Group.

Parker, O. G. (1984). Toward a theory of values. *Educational Research Journal. 9(2)*

Restak, R. R. (2003). *The new brain.* New York: Rodale Books.

Synder, B. (2000). *Music and memory.* Cambridge: The MI Press.

Storr, A. (1992). *Music and the mind.* St. Louis, MO: MMB.

# Exercises for the care of the voice for those working in medical, paramedical, education and related professions

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**ABSTRACT**
*Many people require good voice condition in daily work tasks. Proper care of the voice organs for many professionals is thus essential. The present paper deals with techniques that support good condition of the voice. These techniques include relaxation of tired vocal cords, articulation, modulation and intonation of speech pattern; muscles, skeletal and respiratory system; posture; and stress management.*

**Keywords**
Voice condition, phonation and resonation exercises, relaxation exercises, voice rehabilitation.

## INTRODUCTION

Medical, paramedical, education and related professionals that may include teachers, therapists, doctors and nurses require a voice in good condition in daily work. According to Lejska and his colleagues [2004], medical phoniatrician specialists' voice load was, on average about 17.5 hours a week, approximating the voice exertion of a primary school teacher. Good vocal quality supports mutually satisfying communication.

An experienced and trained professional communicates with non-verbal communication [e.g. facial expression, gestures, change in articulation, modulation and intonation in the voice]. Information is provided about the mental state of a patient, client or student [e.g. a stressful or unnatural environment, dramatic, crisis intervention or difficult life situations] [Vodáčková, 2002].

Healthy, not impaired voice organs and a good voice technique are, however, not a permanent guarantee of one's voice withstanding any unlimited load. Special rehabilitation and re-education exercises can be used for the relaxation of tired vocal cords and all the voice apparatus, as well as for the induction or regeneration of voice resonance [Frostová, 2007, p. 418].

## THE POSTURE

Before starting the voice exercises, good posture should be reached. If the spine has the usual curvature, the standing posture looks like this: the pelvis is slightly tilted forward and the head is held upright [as if somebody pulled you at your hair to the ceiling]. The shoulders are pressed downward, the back is straightened and the chest vaulted [but not stuck out with too much force]: these are the prerequisites for the natural upright posture which supports correct breathing and a freely sounding voice. The correct posture is best checked in front of the mirror.

## BREATHING EXERCISES

For work with the voice, the most suitable and physiologically correct type of breathing [from the point of view of rehabilitation, rhetoric or singing development] is the mixed type of breathing [rib-and-diaphragm, deep], interconnecting the thoracic and the abdominal types of breathing with one or the other type prevailing. However, many individuals use the upper type of breathing [clavicular, shallow], which does not facilitate good breath economy. The breath into the upper part of chest only fills the lung

apexes, causing the larynx to be pushed up from its natural low position. The consequence is excessive muscle strain, especially in the neck muscles, but also in the humeral muscle, all of which affects the delicate mechanism of voice formation and leads to voice problems or even voice disorders. Shallow breathing influences phonation. The voice can be weak, not sonorous, and becomes tired very quickly. Word endings are "swallowed", sentences are shortened, understandability is impaired and logical structure of sentences may be broken. In order to relax your tired vocal cords and all your voice organs, you might perform the voice exercises.

PHONATION AND RESONANCE EXERCISES

The majority of voice disorders is manifesting excessive pressing on the isthmus between the vocal cords which mostly causes hard vocal onsets. In order to induce good vocal technique and restore the resonance of voice, we choose phonation and resonance exercises using the voiced nasal consonant "m" [humming] or the voiced nasal "ŋ".

Pout the lips and breathe out by means of a weak, long "f". Support the breathing out with the abdominal muscles: the abdominal wall pulled in when breathing out and bulged out a bit when breathing in. Hold the breath for 3 seconds. Choose a comfortable pitch in the voice, which may be lower in the morning. Press the sides of your nose together and hum a prolonged "m" as quietly as possible. Strengthen the vocal cords by singing a minor second [e.g. refer to figure 1]. Clasp the nose, lead with the palm till your arm is stretched forward, making a small arc when the pitch of the voice goes up. Changes in the pitch of the tone may be only approximate, it is the relaxation that is more important.

Throughout the exercise, it is important to keep the spine upright. Do the exercise very calmly and slowly. The sensation in your throat should be pleasant and the outer muscles of the neck relaxed. Use the mirror to check the way you do the exercise.

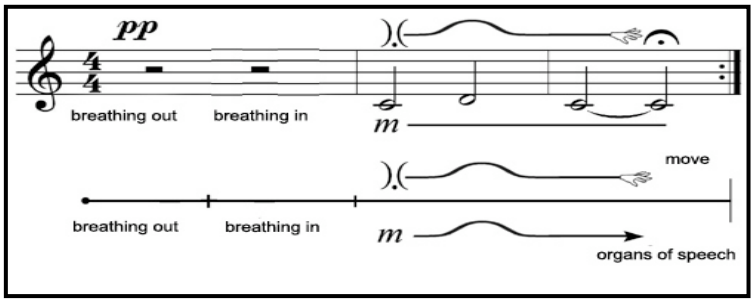


*Figure 1*. Phonation and resonance exercise.

The following relaxation exercise will enable you to re-establish the natural vocal range, which will favourably affect your speech modulation. This exercise can also be used as part of a morning vocal warm-up. It is important for the recovery the vocal condition at the end of an acute respiration disease such as influenza.

Choose a comfortable vocal pitch, start humming "m" softly and silently and perform an easy slide [called glissando in music] into a lower vocal pitch. Add a short clasp of your nose at the beginning of every slide. Imagine that you are sending the "m" into your palm, which is going down in shorter or longer arches. Start with smaller spans towards the low pitch; gradually pitch your voice higher and higher and, after you have relaxed totally, perform the slide using your whole vocal range. Connect the

tones in strict legato [tie them] and accent them gently. Be sure that your upper lip is firm. Involve your cheek muscles and the muscles around your eyes in this exercise too, imagining an inner smile and joy. Do not smile with your mouth. Lips should be pouted at all time. In the rehabilitation of functional voice disorders, the performance of long slides is a matter of regular training. It may take weeks before the muscles are relaxed and the vocal range recovered in proportion to the seriousness of the damage or disorder.

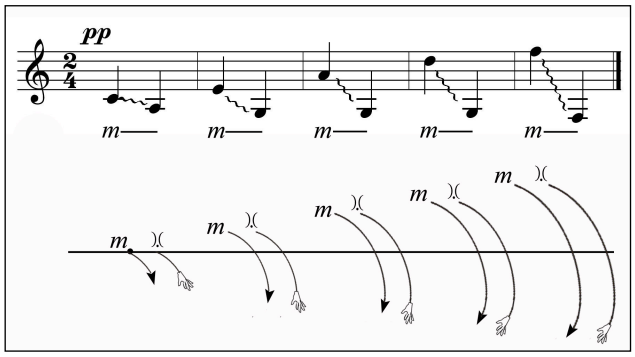


*Figure 2*. Exercises for re-establish one's vocal range

**Combined relaxation exercises [relieving muscle tension]**

Vocal disorders are often characterized by tension in the facial muscles and neck. Long-term application of relaxation exercises lowers tension significantly and thus makes it possible to start the natural programme of revitalization. Controlled relaxation should make the increased muscle tension even higher, sustain it for a short time and plunge from this into relaxation, which deepens with every repetition. You should perceive this relaxed condition as a pleasant state.

The objective of the following exercise is to relieve stiff and immobile joints and muscle contractures. Muscles that tend to shorten over time become slightly lengthened. This mainly concerns the muscles of the neck, but also the whole body. Relaxation positively affects voice production.

The starting position is standing. Shift weight to the tiptoes and turn the head to right shoulder. Do not tilt your head back. Place the chin back. Breathe in peacefully, hold the breath and start to turn the head slowly and continuously towards the opposite shoulder. Approximately half way between your shoulder and breastbone [see Figure 3], start humming "m". When you reach the point that is symmetrical to where you started the phonation, stop the phonation, and breathe out the rest of air, and go on turning your head till your chin comes above your left shoulder. Breathe in and slowly turn the head back to the right shoulder. Repeat this exercise several times for each side.

Lips should be pouted slightly throughout the exercise, and the jaw should be relaxed. Choose a comfortable pitch in the voice for the humming and keep as soft as possible. Clasp the nose, move the palm forward until the arm is stretched. Move the palm in the same direction as the head. Follow the palm with the eyes. Do not move the trunk and shoulders. While phoning "m", direct the gaze of the eyes to toward the palm. Start the exercise on the right side, clasp the nose with your left hand and vice versa.


*Figure 3*. Combined relaxation exercises.

CONCLUSION

Applying these exercises regularly helps to sustain or improve vocal condition. Symptoms of voice fatigue can become habitual. Good vocal technique requires great effort. In the course of time, attempted sounds in softer dynamic ranges may fail. Sometimes, sounds, syllables or words drop out, which leads to pressure being put on the voice.

Practise in the given exercises brings about head resonance, greater voice sonority, relaxed vocal cords, easier voice formation, longer voice performance and improved articulation. The exercises also develop overall relaxation.

Focusing on the correct technique of speech of the individual exercises, induces general tone up and improves mental health. Self-discipline and self-esteem are stabilized and basic of responsible voice care have been established.

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REFERENCES

Frostová, J. (2007). A rehabilitation system and recommended exercises for teachers with voice disorders. In Řehulka, E. (ed.) *School and health for the 21st century* (2) (pp. 417-426). Brno: Masaryk University.

Lejska, M., Bártková, E., Havlík, R., Weberová, P. (2004). Hlasová námaha lékaře foniatra. In *Sborník abstraktů, 2. česko-slovenský foniatrický kongres*. (p.18). Plzeň: Darovanský dvůr.

Vodáčková, D. et. al. (2002). *Krizová intervence.* Praha: Portál.

# The effect of participation in an intergenerational music program on participants' cross-age attitudes and children's attitudes toward aging

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**ABSTRACT**

The purpose of the study was to examine the effect of participation in intergenerational music activities on participants' cross-age attitudes and children's attitudes toward aging. Seniors at an assisted living facility (N = 13) and children in a 4th grade class (N = 16) at a neighboring school participated in intergenerational music activities over the course of six weeks. Activities included structured conversations, singing, listening to music, playing music, and moving to music. All participants were pre- and posttested on the AGED Inventory, a questionnaire designed to assess cross-age attitudes. In addition, child participants were asked to write an essay pre- and post intervention entitled, "What It's Like to be Old." Pre- and post-intervention essays were analyzed using the Linguistic Inquiry and Word Count (LIWC) for positive and negative themes on aging, and the total number of positive and negative words. Results on child participants' essays indicated: (1) a significant increase in positive words and no significant difference in negative words pre to post-intervention, (2) significantly more positive than negative words on the post-intervention essay, (3) a reduction in negative themes and an increase in positive themes pre to post-intervention. Analysis of notes taken by child participants during structured conversations indicated a steady increase in the number of written responses each week, indicating perhaps their increased comfort in conversing with senior participants over time. Analysis of the AGED Inventory indicated: (1) no significant difference in child participants' perceptions of older women, (2) a significant increase in their positive perceptions of older men regarding their "vitality," and a significant increase in their negative perceptions of older men regarding their "goodness" and "maturity." Analysis of the AGED Inventory indicated no significant difference in senior participants' perceptions of young girls, and a significant increase in their positive perceptions of young boys regarding their "maturity." These results indicate children's perceptions of older persons may be more susceptible to influence via intergenerational interventions than adults' perceptions of children.

**INTRODUCTION**

Ageism, like any other "ism," can be detrimental to society and the interpersonal relationships within it. The relationship between childhood and adulthood is analogous to a one-way mirror. Older persons can look back in time to their youth; however, children cannot look into the future and see themselves as "old." Indeed, most children find it very difficult to even imagine themselves as an older person. Most older adults remember their youth with affection and nostalgia; and to the contrary, most young people look upon life's later years as less than "golden." Stereotyping can influence the interpersonal relationships between members of differing age groups. Stereotyping is shown by behaving toward members of a specified class according to its members assumed characteristics and not in accord with an individual's own characteristics (Baron & Byrne, 1987). Age attribution is a form of stereotyping and is often explicit in explanations offered for the behaviors of both older adults and youth. Chronological age actually has very little relevance in explaining behaviors (Butler, 1980); however, cultural expectations, and hence terms such as "age-appropriate," have much to offer as possible explanations for certain behaviors.

Intergenerational relations are part of the culture in many countries where it is customary for family members of various generations to live together or to live in close proximity to each other. In such

cultures, the grandparent-grandchild relationship forms a strong and meaningful bond. However, in geographically large countries, such as the United States where great distances often separate families, it is necessary to plan for and organize activities that bring the generations together. Without frequent exposure to older persons or lack of familiarity with persons older than their parents, some youth are quick to adopt stereotypes regarding aging and older persons. Children who have a positive and close relationship with their grandparents are less likely to have negative stereotypes of senior adults or fear growing older (The Ohio Department on Aging, 2008).

Much of the related research demonstrates that meaningful interactions betweens older adults and youth can combat age-stereotypes. One strategy for combating "ageism" is through intergenerational programming. Intergenerational programming refers to organized interactions between youth of various ages and senior adults. Intergenerational programs, by their cross-age nature, address issues of family across the life cycle. Music can aptly serve as a facilitating activity for the integration of the two generations. Music is widely appealing to all age groups, is flexible enough to accommodate a wide range of abilities, and is versatile enough to accommodate a wide range of style preferences.

There are many benefits that both younger and older generations receive from participating in intergenerational programs. Both generations experience purposeful interactions, and as a result discover how to relate to one another. The interactions between both generations can also result in cross-age friendships and companionship. As a result of participation in intergenerational programs, younger generations have improved their school attendance, aging attitudes, and attitudes towards community service (Abrams & Giles, 1999; Crites, 1989; Karasik & Wallingford, 2007; Peacock & O'Quinn, 2006; Stremmel, Travis, Kelly-Harrison, & Hensley, 1994; VanderVen, 1999; Zeldin, Larson, Camino, & O'Connor, 2005). Older adults have benefited from participation in intergenerational programs by having an increased sense of well-being, decreased isolation, and increased feelings of usefulness (Abrams & Giles, 1999; Crites, 1989; Kaplin & Larkin, 2004; Lindquist, 1986; Saltz, 1989; VanderVen, 1999).

Research in music-based intergenerational programs has been conducted with older adults who live in residential facilities as well as those who reside in the community; and younger participants including infants, elementary-age children, high school adolescents, and college-age young adults. Intergenerational choirs, bands, and orchestras have been created that utilize the music of both generations. Other intergenerational groups have employed traditional musical activities such as instrument playing, moving to music, singing, as well as academic and social skills training through music. Research in music-based intergenerational programs and in the larger body of intergenerational research, have shared similar purposes. Researchers have examined the effect of intergenerational music groups on cross-age attitudes, cross-age interactions, and older adults' psychosocial well-being (Bowers, 1998; Darrow, Johnson, & Ollenberger, 1994; Frego, 1995; St. John, 2008).

Several researchers have examined the effect of participation in a music-based intergenerational program on cross-age attitudes (Bowers, 1998; Darrow, Johnson, & Ollenberger, 1994; Leitner, 1981). An early study conducted by Darrow, Johnson, and Ollenberger (1994) combined older adults' and high-school adolescents in an intergenerational choir. A pretest-posttest design was used to assess cross-age attitudes of older adults and adolescents. Community-dwelling older adults and high school students joined an intergenerational choir for two semesters (fall and spring). The choir met for weekly rehearsals throughout the fall and spring semesters. Additionally the older adults and high school students participated in various social activities and gave 22 performances throughout both semesters. The repertoire for the choir included music that was familiar to both generations such as patriotic songs and show tunes, as well as the preferred music of each generation, which may have been unfamiliar to the other generation. Results showed that older male participants' attitudes towards teen males became more positive. Older male and female participants' attitudes towards teen females also became more positive,

but did not reach significance. Results also showed that the high school students' attitudes towards older males and females improved after participation in the intergenerational choir. Additionally, high school students' attitudes towards older adult males showed more improvement than attitudes towards older females.

A later study in which college students and seniors were paired, Bowers (1998) used a pretest-posttest design to assess cross-age attitudes of older adults and young adults. College students from a Women's Glee Club participated in a two-semester Adopt-A-Choir program, and a local senior choir served as the adopted choir. The intergenerational choir gave two performances, one each semester. The weekly rehearsals included singing and structured activities such as conversations and games. The structured activities were utilized to foster positive interactions between the two generations. Repertoire for the intergenerational choir included music that was familiar to each generation. Big Band music was selected as familiar music to older adults and contemporary gospel music was selected as familiar music to the college-age students. Cross-age attitudes towards were measured using the *AGED* inventory. Results showed that older adult participants' attitudes towards young adults improved after their involvement in the intergenerational choir. Similarly college-age young adults' attitudes towards older adults improved after participation in the intergenerational choir.

Several researchers have been interested in examining the potential for attitudinal change with younger students. Leitner (1981) conducted a study with elementary-age children and older adults in a pretest-posttest control design. Children interacted with older adults who attended an adult day care facility for six weekly sessions. Activities in the intergenerational sessions included singing, instrument playing, and music games. A researcher developed assessment was used to measure cross-age attitudes of older adults' and children. Older adults' attitudes towards children became more positive for older persons who participated in the intergenerational program compared to older individuals who did not have intergenerational contact, but this increase did not reach significance. Results also showed that children's attitudes towards older adults improved after the intergenerational program.

Other researchers, Bales, Eklund, and Siffin (2000) were also interested in using music activities to affect attitudinal change. They combined 4$^{th}$ graders and older adults from the community in an intergenerational choir. A pretest-posttest design was used to measure children's attitudes towards older adults. Children were asked to identify three words to describe older adults. These words were then categorized as positive, negative, physical descriptor, or other. Children and older adults were assigned a cross-age pen pal and exchanged letters for eight weeks prior to the intergenerational choir program. The intergenerational choir rehearsals occurred weekly for a month. Rehearsals included structured activities and conversations followed by singing. Results showed that children's descriptions of older adults contained an increase in the number of positive words and a decrease in the number of negative words used to describe older adults after their participation an intergenerational choir.

The mixed results of these music-based studies are similar to those found in the larger body of intergenerational research. Similar factors such as the differences in attitudinal measures and the multidimensionality of attitudes may also influence the results of cross-age attitudinal research in music-based intergenerational programs. Some of the studies utilized formal measures where others employed informal measures. These measures in turn may produce different results. Perhaps due to the complexity and multidimensionality of attitudes it is unrealistic to expect older and younger generations to view the other generation, male or female, positively on all aspects of attitudes. Another factor that may influence attitudinal results is the cross-age attitudes of participants before joining the intergenerational music programs. Sometimes both the younger and the older generation already hold a positive view towards the other generation. If this is true, then it is difficult to detect a significant improvement in their attitudes due to the ceiling effect.

Researchers have examined changes in cross-age interactions and cross-age attitudes as a result of participation in an intergenerational program; however, only two music-based intergenerational studies have included elementary-age children and older adults (Bales, Ecklund, & Siffin, 2000; Leitner, 1981). Due to the inconsistencies in the results of these studies and to the informal measures of assessment used, further investigation seems warranted. The purpose of this study then was to examine the effect of participation in an intergenerational music program on cross-age attitudes and children's attitudes towards aging. The research questions were:

1. Is there a difference in children's attitude towards aging after participation in an intergenerational music program?
2. Is there a difference in child participants' level of comfort interacting with non-familial older adults after participating in an intergenerational music program?
3. Is there a difference in child participants' attitudes towards older adults, and older adult participants' attitudes toward children after participation in an intergenerational music program?

## METHOD

### Participants

Participants (N = 29) consisted of a convenience sample of child participants (n = 16) and older adult participants (n = 13) was obtained from a fourth-grade class at a parochial school (age 9 years), and a retirement living facility in North Florida. The age range of seniors was 76 to 97 years with a mean age of 84 years. The school served students from grades K through 12, and the retirement living facility was comprised of residents who lived in either the independent or assisted living housing. The school and retirement facility were chosen because of their close proximity to one another. The only criterion for participation in the study was that older adults be able to complete the pretest and posttest measures.

### Setting

All intergenerational music therapy sessions took place in the activity room at the retirement living facility. Child participants were interspersed among the older adult participants with some activities occurring in large groups, and others activities in child and older adult participant dyads. The participants sat in a large arc facing the music therapists. Pretest and posttest measures for children were completed in a classroom as a group at the elementary school. Pretest and posttest measures for the older adults were completed in the activity room at the retirement living facility. Older adults were assessed individually due to their varying cognitive abilities and the length and variety of the pretest and posttest measures used by the researchers in this study.

### Independent Variable

The independent variable in this study was the 6-week intergenerational music program. Child and older adult participants attended 30-minute music intergenerational sessions. Each session included singing, structured conversations, instrument playing, and moving to music activities to engage child and older adult participants.

*Singing.* This activity was completed in a large group setting. During the singing intervention child and older adult participants sang both familiar and unfamiliar songs. Songs used during this intervention were appropriate for both generations and were selected based on themes drawn from the lyrics. These themes were used to create a question of the week. Weekly questions were used to structure conversations between the child and older adult participants.

*Structured Conversations.* Child and older adult participants interacted in dyads during the structured conversations. Themes from the songs used in the singing interventions were employed to stimulate conversations between child and older adult participants. Conversations were prompted by a question of the day. Child and older adult participants identified similarities and differences in their responses to the weekly questions. Child participants recorded responses from the structured conversations in notebooks provided during the sessions. For example, one song used during the first week was *Everybody Loves Saturday Night,* and the question of the day was "What activities do you like to do on Saturday Night?"

*Instrument Playing.* Instrument playing activities occurred in a large group setting. Melodic and rhythm instruments used during these interventions included hand drums, rhythm sticks, shakers, boomwhackers, and tone chimes. Rhythm and melodic instruments were used to teach child and older adult participants to play simple melodic and rhythmic accompaniment patterns to familiar and newly-learned songs.

*Moving to Music.* Moving to music interventions were completed in child and older adult participant dyads. Movements during this intervention included simple non-locomotor movements of the trunk (bending and swaying), upper extremities (push/pull, up/down, and side-to-side), and lower extremities (kick, side-to-side, forward/back step, and front-cross). A series of non-locomotor movements was combined to create dances that were completed by child and older adult participant dyads. All movements were completed in a seated or standing position. The movement activities were structured to facilitate opportunities for appropriate touch between the generations. As older adults age they often experience a decrease in touch resulting in "skin hunger" (Vortherms, 1991). Therefore, providing touch in this program was deemed important and opportunities for touch were created during the movement activities.

**Dependent Measures**

Three dependent measures were used for the present study. The *Age Group Evaluation and Description* (*AGED*) Inventory (Knox, Gekoski, & Kelly, 1995) was administered pre and post intervention to assess older adult participants' attitudes towards children, and child participants' attitudes toward older adults. The AGED Inventory uses 28 bi-polar adjectives rated on a 7-point Likert-type scale. The *AGED* inventory assesses the three components of attitudes across four subscales; two of which are evaluative in nature, goodness and positiveness, and two of which are descriptive, vitality and maturity (See Table 3 and Table 4). One pair of adjectives was removed from the assessment measure as it was deemed to be an inappropriate measure for young children (sexy/sexless). Scores for each pair of adjectives range from 1 to 7 with 1 being the most negative and 7 being the most positive. Scores of the adjectives are added together for a total score for each subscale. A low score of 7 would indicate a negative attitude toward children for that subscale, and a high score of 49 would represent a positive attitude toward children for that subscale. Scores of the four subscales are added together for a total attitude score.

As the second dependent measure, child participants were asked to write a pre and post intervention essay entitled, "What its like to be old." The content of their essays were assessed using *The Linguistic Inquiry and Word Count* (LIWC) (Pennebaker, Chung, Ireland, Gonzalex, & Booth, 2007). The LIWC is a text analysis software program designed to calculate the degree to which people use different categories of words for the purpose of studying the various emotional, cognitive, and structural components present in individuals' verbal and written samples. The software calculates the percentage of words in a text that fall into various categories. It also compares these percentages to typical percentages found in formal and personal text writing. A content analysis of the essays was conducted to determine positive and negative themes regarding aging.

The third dependent measure was a frequency count of entries in the child participants' notebooks.

Entries were responses to questions posed during the structured conversation portion of each session. Questions were posed to the group, and child participants recorded responses for their dyad. Entries were tallied for each dyad and recorded after each session.

## RESULTS

In order to address research question number one, "Is there a difference in children's attitude towards aging after participation in an intergenerational music program?" child participants were asked to write an essay, "What's it Like to be Old" pre and post intervention. A word content analysis was completed on the pre and post essays using *The Linguistic Inquiry and Word Count* (LIWC) (Pennebaker, Chung, Ireland, Gonzalex, & Booth, 2007). Results on child participants' essays indicated: (1) a significant increase in positive words and no significant difference in negative words pre to post-intervention, and (2) significantly more positive than negative words on the post-intervention essay. See Tables 1 and 2. Essays were also analyzed for positive and negative themes. Examples of negative themes regarding aging were: impaired mobility, decreased activity, need assistance, etc. Examples of positive themes regarding aging were: ability to spend time with family, being helpful, loving, and wise, etc. Results indicated an increase in positive themes and a significant decrease in negative themes pre to post intervention. See Table 3. These data indicate that child participants had a more positive attitude toward aging post intervention.

To address research question two, "Is there a difference in child participants' level of comfort interacting with non-familial older adults after participating in an intergenerational music program?" frequency counts of the entries in the child participants' notebooks were tallied and graphed over the six weeks. Entries were responses to questions posed during the structured conversation portion of each session. See Figure 1. These data indicate a steady increase in entries each week with the exception of week 3 when only 5 older adults were presents due to the administration of flu shots at the assisted living facility. These data indicate increased conversation between child and older adult participants with each successive week.

To address research question three, "Is there a difference in child participants' attitudes towards older adults, and older adult participants' attitudes toward children after participation in an intergenerational music program?" the AGED Inventory, which assesses cross-age attitudes was administered pre and post intervention. Analysis of the AGED Inventory indicated: (1) no significant difference in child participants' perceptions of older women, (2) a significant increase in their positive perceptions of older men regarding their "vitality," and a significant increase in their negative perceptions of older men regarding their "goodness" and "maturity." Analysis of the AGED Inventory indicated no significant difference in senior participants' perceptions of young girls, and a significant increase in their positive perceptions of young boys regarding their "maturity." See Tables 5-8. These results indicate children's perceptions of older persons may be more susceptible to influence via intergenerational interventions than adults' perceptions of children.

## DISCUSSION

The purpose of this study was to examine the effect of participation in an intergenerational music program on cross-age attitudes and children's attitudes towards aging. The results of this study indicate that child participants' viewed seniors more positively, were more positive and less negative in their descriptions of what it is like to "be old," and were more comfortable with non-familial older adults after participation of the intergenerational program. Never-the-less, they were not oblivious to the effects of aging on the physical and cognitive abilities of older adults; and hence, still held negative views on aging after completion of the intervention.

As in past research, the intervention affected more change in child participants' attitudes toward men than toward women. Though analysis of the essays revealed no distinction between child participants' views on men and women, analysis of the AGED Inventory data revealed no change their attitudes toward women. These data may be due to a general predisposition regarding older women. Children are likely to have had more interactions with older women than with men, considering the life expectancy rates for men and women, and the fact that grandmothers tend to be more involved with grandchildren and grandfathers. Posttest results on the AGED Inventory revealed that post intervention, child participants held a significantly more positive attitude men regarding their "vitality." However, analysis of the AGED Inventory data also revealed that post intervention, child participants' viewed men more negatively regarding "goodness" and "maturity." Child views regarding senior men's maturity may at least be explained by the childlike ways men interacted with the children during the music activities—responding to questions with silly answers, etc. In addition, there were fewer men than women participating; therefore, child participants' perceptions may have been more influenced by strong personalities.

During structured conversations, dyads of seniors and child participants were posed questions pertaining to the song for the day. For example, for the song *Yakety Yak*, participants were posed the question, "What are or were your chores around the house?" Entries in each dyad's notebook were the responses to these questions. With each succeeding week, entries increased in numbers, with the exception of week three when the flu shot was administered at the facility and few seniors were present. These data would indicate that conversations were more in depth as the weeks progressed. Anecdotal data seems to corroborate this supposition. The first few weeks, child participants were characterized as timid by the old adult participants and staff; however, as the weeks ensued, child participants became more talkative and affectionate toward the old adults, often greeting them with hugs. After completion of the study, some of the children chose to continue visiting their "grandfriends," bringing cookies, valentines, and reading with them. Other children at the school who were not involved in the study voiced a desire to participant, and some even became involved with the older adults at the facility through their siblings who were involved in the study.

As in previous research (Darrow, Johnson, & Ollenberger, 1994), the results seem to indicate that children's perceptions of older persons may be more susceptible to influence via intergenerational interventions than adults' perceptions of children. Analysis of the AGED Inventory indicated no significant difference in senior participants' perceptions of young girls, and a significant increase in their positive perceptions of young boys regarding their "maturity." These data may be due to older adults already positive view of young girls, and their general impressions of young boys as more impulsive than girls. While older adult participants' attitudes toward children in general may have been altered little, their attitudes toward the intergenerational program and the children involved were positive, as evidence by their attendance, which was strictly voluntary, and statements made during the intervention and to staff afterwards. Many of older adults kept photos of the children up in their rooms, and made queries regarding the next intergenerational program.

It is important to note that the older adult participants in this study were both well elderly and those with both physical and cognitive impairments. Giving children the opportunity to interact with such older adults helps to dispel the myths that characterize all older persons as being in poor health, lonely, and failing in mental and physical health. Only a small percentage, approximately five percent, of the elderly population are dependent and in need of care. The findings would indicate that child participants were cognizant of the fact that individuals often age differently, though many, if not most, are still capable of appropriate social and musical interactions.

The findings of this study are promising. It seems possible that intergenerational programming can serve as a viable means of communication between generations. Because the extended family is less

intact today, many young people do not know their grandparents; and because of the mobility of today's society, older persons often become estranged from their children and grandchildren. The surrogate relationships that frequently develop through intergenerational activities can fulfill a need for family contact and dissuade isolation. Musical activities can be easily adapted to facilitate such relationships.

Participation in intergenerational music organizations can also be an educational experience as well as a social experience. Participation by older persons allows them to learn or relearn musical skills. Retirement often provides the time to maintain or develop musical performance skills and to schedule regular practice time. Making music with older persons also allows young people to grow musically. They can expand their musical repertoire and become acquainted with the music of another era. Intergenerational music activities can provide an opportunity for personal and musical growth, establishing meaningful relationships, dismissing stereotypes or prejudice, and modifying negative attitudes. It seems possible that music, along with the experience of age and the enthusiasm of youth, can help to bridge the generation gap.

**REFERENCES**


Abrams, J., & Giles, H. (1999). Epilogue: Intergenerational contact as intergroup communication. *Child and Youth Services, 20*, 203–217.

Bales, S. S., Eklund, S., J., & Siffin, C. F. (2000). Children's perceptions of elders before and after a school-based intergenerational program. *Educational Gerontology, 26,* 677-689.

Baron R., & Byrne, D. (1987). *Social psychology: Understanding human interaction*. Boston, MA: Allyn and Bacon, Inc.

Bowers, J. (1998). Effects of an intergenerational choir for community-based seniors and college students on age-related attitudes. *Journal of Music Therapy, 35*, 2-18.

Butler, R. N. (1980). Ageism: A forward. *Journal of Social Issues, 36*, 8-11.

Crites, M. (1989). Child development and intergenerational programming. *Journal of Children in Contemporary Society, 20*(3-4), 33-43.

Darrow, A. A., Johnson, C. M., & Ollenberger, T. (1994). The effect of participation in an intergenerational choir on teens' and older persons' cross-age attitudes. *Journal of Music Therapy, 31*, 119-134.

Frego, R. J. D. (1995). Uniting the generations with music programs. *Music Educators Journal, 81*(6), 17-19, 55.

Kaplan, M., & Larkin, E. (2004). Launching intergenerational programs in early childhood settings: A comparison of explicit intervention with an emergent approach. *Early Childhood Journal, 31*(3), 157-163.

Karasik, R. J., & Wallingford, M. S. (2007). Finding community: Developing and maintaining effective intergenerational service-learning partnerships. *Educational Gerontology, 33*(9), 775-793.

Knox, V. J., Gekoski, W. L., & Kelly, L. E. (1995). The age group evaluation and description (AGED) inventory: A new instrument for assessing stereotypes of and attitudes toward age groups. *International Journal of Aging & Human Development, 40*(1), 31-55.

Leitner, M. J. (1981). The effects of intergenerational music activities on senior day care participants and elementary school children. *Dissertation Abstracts International,* 42, 8A.

Lindquist, B. B. (1986). They need us, we need them: A study of the benefits of intergenerational contact. *Activities, Adaptation & Aging. Special Issue: Therapeutic activities with the impaired elderly, 8*(3-4), 83-94.

Ohio Department on Aging (2008). *Intergenerational programming*. Retrieved July 4, 2008 from http://ohioline.osu.edu/ss-fact/0142.html.

Peacock, J. R., & O'Quin, J. A. (2006). Higher education and foster grandparent programs: Exploring mutual benefits. *Educational Gerontology. Special Issue: Elderly volunteerism, 32*(5), 367-378.

Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). *Linguistic Inquiry and Word Count* (LIWC). Austin, TX: LIWC, Inc.

Saltz, R. (1989). Research evaluation of a foster grandparent program. *Intergenerational Programs,* 205-217.

Stremmel, A. J., Travis, S. S., Kelly-Harrison, P., & Hensley, A. D. (1994). The perceived benefits and problems associated with intergenerational exchanges in day care settings. *The Gerontologist,34*(4), 513-519.

St. John, P. A. (2008). *From swinging on a star to childhood chants: Infants and seniors create intergenerational counterpoint.* Proceedings of Early Childhood Music Education at the Commission13th International Seminar of International Society for Music Education Rome, Italy.

VanderVen, K. (1999). Intergenerational theory: The missing element in today's intergenerational programs. *Child & Youth Services, 20*(1-2), 33-47.

Vortherms RC (1991). Clinically improving communication through touch. *J Gerontol Nurs.17* (5), 6-10.

Zeldin, S., Larson, R., Camino, L., & O'Connor, C. (2005). Intergenerational relationships and partnerships in community programs: Purpose, practice, and directions for research. *Journal of Community Psychology. Special Issue: Youth-Adult Relationships in Community Programs: Diverse Perspectives on Good Practices, 33*(1), 1-10.

Table 1. Linguistic Inquiry and Word Count for Children's Perception of Aging: Pre-Test to Post-Test

| Category | *t* | *df* | *p* |
|---|---|---|---|
| Positive Words | -3.32 | 15 | .005* |
| Negative Words | 1.79 | 15 | .09 |

Note. *Indicates significant change in positive direction.

Table 2. Linguistic Inquiry and Word Count for Children's Perception of Aging: Positive vs. Negative Emotions

| Category | *t* | *df* | *p* |
|---|---|---|---|
| Pre test | .55 | 15 | .59 |
| Post test | 3.92 | 15 | .001* |

Note. *Indicates significant change in positive direction.

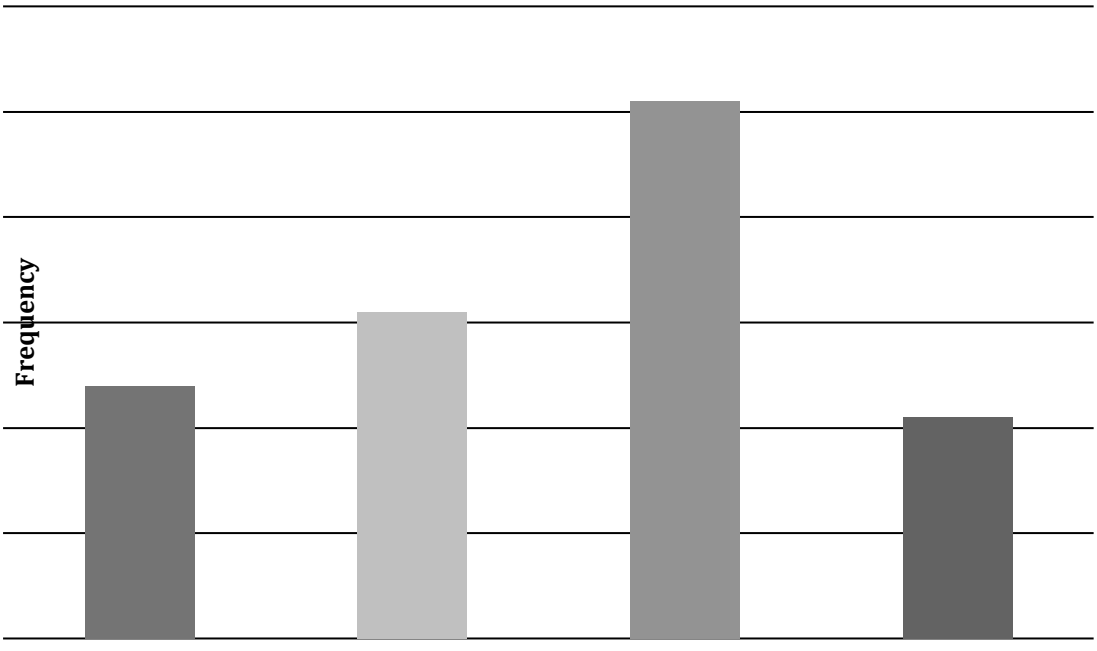


*Figure 1*. Child Participants' Essays Pre to Post Intervention: Top 5 Positive and Negative Themes

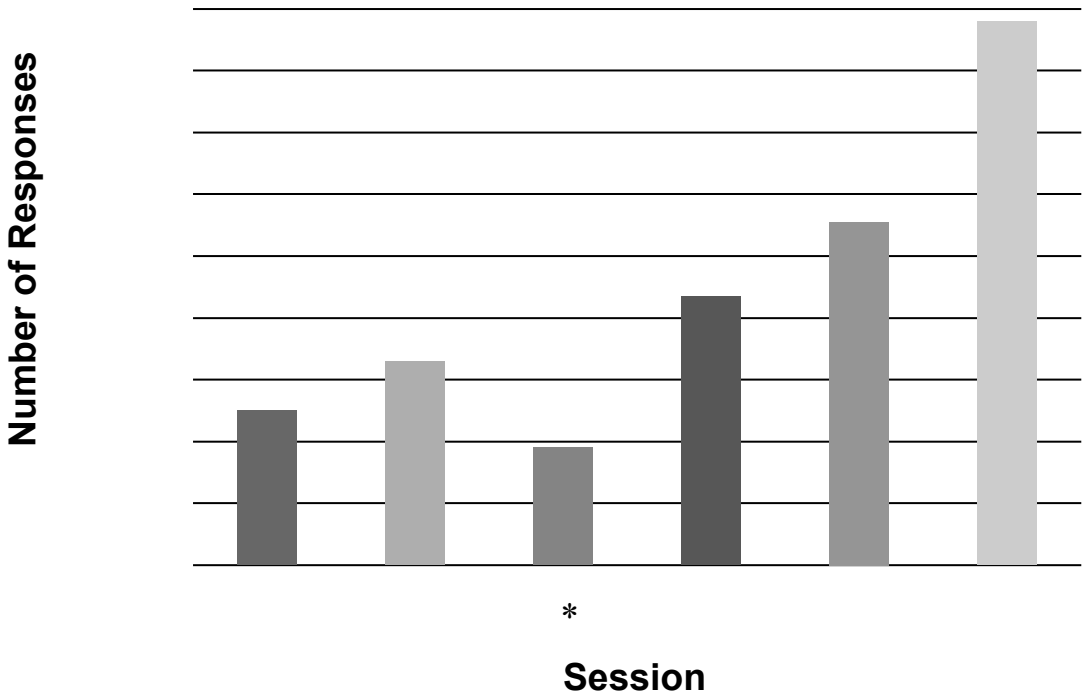


*Figure 2*. Number of Responses per Older Adult/Child Pair during Sharing across Sessions.

***** Indicates fewer than five older adult participants in session due to facility schedule for flu shots.

Table 5. *Change in Children's Perceptions of Older Women as Measured by The Age Group Evaluation and Description (AGED) Inventory.*

| Cateogry | *t* | *df* | *p* |
|---|---|---|---|
| Goodness | 1.30 | 15 | .21 |
| Positiveness | -.49 | 15 | .63 |
| Vitality | -.69 | 15 | .50 |
| Maturity | 1.25 | 15 | .23 |
| Overall | .40 | 15 | .69 |

Table 6. *Change in Children's Perceptions of Older Men as Measured by The Age Group Evaluation and Description (AGED) Inventory*.

| Cateogry | *t* | *df* | *p* |
|---|---|---|---|
| Goodness | 3.56 | 15 | .003** |
| Positiveness | .82 | 15 | .43 |
| Vitality | -3.85 | 15 | .002* |
| Maturity | 2.37 | 15 | .03** |
| Overall | 2.05 | 15 | .06 |

Note. *Indicates significant change in positive direction. **Indicates significant change in negative direction

Table 7. *Change in Older Adult's Perceptions of Young Girls as Measured by The Age Group Evaluation and Description (AGED) Inventory.*

| Cateogry | *t* | *df* | *p* |
|---|---|---|---|
| Goodness | -.58 | 12 | .57 |
| Positiveness | -1.77 | 12 | .10 |
| Vitality | -1.27 | 12 | .23 |
| Maturity | -1.76 | 12 | .10 |
| Overall | -1.37 | 12 | .20 |

Table 8. *Change in Older Adult's Perceptions of Young Boys as Measured by The Age Group Evaluation and Description (AGED) Inventory.*

| Cateogry | *t* | *df* | *p* |
|---|---|---|---|
| Goodness | -1.04 | 12 | .32 |
| Positiveness | -.55 | 12 | .59 |
| Vitality | -1.10 | 12 | .29 |
| Maturity | -2.76 | 12 | .02* |
| Overall | -1.73 | 12 | .12 |

Note. *Indicates significant change in positive direction.

# WORKSHOPS

# The performance wellness seminar: An integrative music therapy approach to preventing performance-related disorders in college age musicians

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## ABSTRACT

*This paper describes a 15-week Performance Wellness Training course specially designed for college-age music students. The course was developed from a 12-week group music therapy intervention that was proven to be effective in significantly reducing musicians' state/trait anxiety and increasing performance mastery in two research studies. Performance Wellness provides young musicians with clinically-proven tools to help them in preventing and/or coping with performance-related disorders, including over-use injuries, stage fright, and self-destructive behaviors. Techniques are also provided to assist students in achieving performance mastery including creative arts therapy for aesthetic/emotional development, communication skills, and assertiveness training.*

## INTRODUCTION

A number of recent studies have revealed the almost epidemic proportions of performance-related disorders experienced by college-age music students in the United States (Barton, et. al., 2008). These disorders include over-use injuries, chronic pain, debilitating stage fright, depression, and substance abuse. Qualitative research suggests that there are three main reasons why young musicians succumb to these disorders (Montello, 1992). First of all, for many students, musical performance is a highly stressful activity that leaves no room for error. Music students are constantly being evaluated and many feel that if they do not play perfectly, they will be rejected and/or humiliated. For these students, performance itself becomes a major threat that can lead to debilitating anxiety (stage fright). Most students are unfamiliar with the psychophysiology of the performance anxiety reaction (i.e. the "fight-or-flight" response) that can leave them at the mercy of their seemingly uncontrollable fear-based thoughts, feelings, and bodily sensations.

Another factor underlying the incidence of performance-related disorders in college-age musicians involves the act of leaving home. For many students, entering college or conservatory is often the first time that they have left home for a significant period of time. Most students are accustomed to relying on parents and/or caretakers for time management, nutritional guidance, consistent love, and nurturance. The majority of students have received little or no coaching on how to take care of themselves away from home, and thus feel lost and fearful when they find themselves in a stressful and unfamiliar environment.

The third reason involves the often-overwhelming demands of conservatory life – assignments, practice, rehearsals, juries, auditions, competitions, and roommate/inter-personal issues. These demands, along with normal adolescent developmental issues, can take their toll on the physical and mental health of young musicians, particularly when they lack coping skills for dealing with stressful situations.

In order to stay healthy and maximize their potential as individuals and performers, music students can benefit from learning tools to increase self-awareness and expression, and for managing stress. The wellness model provides an appropriate format for this kind of training. Wellness is defined as an active,

lifelong process of fostering health and wholeness through becoming awareness of the inter-relatedness of body, mind, spirit, and community. It involves the willingness to take responsibility for one's own health and healing and to be pro-active in creating a balanced and fulfilling life. Since the act of performing music requires that the music student exert refined control over the body, mind, and emotions, while at the same time communicating with an audience, it is recommended that a performance wellness program be included as an essential component in the training of college-age musicians.

The psychoneuroimmunological research conducted by Coons, Montello, and Perez (1995) revealed that musicians who have high ratings for confidence and low levels for denial of stress-related feelings experience enhanced immunity after a mildly stressful performance, as compared to those with low confidence and high denial who had decreases in immunity post-performance. These findings suggest that personality factors – which can be altered and/or enhanced by the Performance Wellness curriculum described below play a role in how music students perceive and cope with performance-related stress, both from mental and physical health perspectives.

**The Performance Wellness (PW) Seminar (Montello, 2001)**

The Three-Level Certificate Training Program in Performance Wellness offers musicians, music students, educators and health professionals a clinically-proven systematic approach to diagnosing, treating, and preventing performance-related disorders (i.e. stage fright, mind-body illnesses/ injuries, and addictions) on stage, at the podium, in the classroom, boardroom, and treatment room. Using a powerful synthesis of research, theory, and techniques from the disciplines of music therapy, behavioral medicine and yoga science, the training offers participants a deeper understanding of the implications of stress in performance, as well as practical tools for allowing the body-mind to become a resilient "instrument" in the face of stressful situations.

The uniqueness of this approach involves the activation of Essential Musical Intelligence- the innate defined as the ability to use music and sound as self-reflecting, transformational tools to instantly change maladaptive thoughts and feelings through bypassing the limitations of the conscious mind and moving directly to the emotional brain centers where memories, feelings, and desires are stored and activated. The "feel good" quality of the musical engagement, which can activate the release of neurotransmitters like dopamine, endorphins, and serotonin, seems to help participants in making healthy choices more consistently. The latter can, with time, change negative habits and beliefs and solidify a more positive and forward moving life focus.

The PW treatment approach was tested with extremely anxious musicians in two experimental studies conducted at New York University (Montello, Coons, & Kantor, 1990). Research findings indicate that the group music therapy intervention not only significantly reduced musicians' anxiety and increased confidence, as compared to participants in a wait list control group, but also significantly increased performance quality. In developing the Performance Wellness Seminar for college-age musicians, Montello used the theoretical and clinical framework from the above-mentioned approach, along with wellness techniques that were specifically prevention-oriented. Included also were a number of other effective tools from the disciplines of behavioral medicine, art and drama therapy, neuropsychology, and yoga science. The main components of the Performance Wellness curriculum, along with its applicability to college-age musicians, is outlined and described below. For best results, music students are encouraged to integrate the wellness tools offered in each class into their daily practice routines. As every musician knows, practice makes perfect.

**Performance Wellness Seminar for college-age musicians.**

**Breath awareness**. Students first learn about the psychophysiology of the "fight-or-flight" reaction associated with stage fright. They learn that they can exert a measure of control over the bodily symptoms associated with sympathetic nervous system activation (arousal) through intentional breathing. The breath is the link between the mind and body. Music students are taught how to breathe diaphragmatically and to use the breath to activate the "relaxation response" (parasympathetic nervous system activation) when overly aroused in performance situations. A number of other yogic breathing exercises are effective for coping with performance stress/stage fright. Two-to-one breathing doubles the length of the exhalation during the breath cycle (i.e. breathing in for 3 counts and out for 6). In this way, slow and deep abdominal breathing helps to ground and center the student when he or she is experiencing acute anxiety. Alternate nostril breathing helps to balance the right and left hemispheres of the brain (along with the parasympathetic and sympathetic arms of the autonomic nervous system) and is used to increase mental clarity and creativity.

**Relaxation techniques**. Two clinically-tested techniques have proven to be effective in facilitating relaxation, pain reduction, mind-body integration and coherence in stressed musicians. Progressive relaxation trains the musician to systematically tense and relax the major muscles groups throughout the body. Students learn to discriminate between tense and relaxed muscles and are encouraged to instantly "relax and let go" when they find they are holding tension in a particular body part. Autogenic training incorporates visualization and self-hypnosis in teaching music students how to control autonomic functioning such as heart rate, breathing, and blood flow. Students learn that they have ultimate control over their own body-mind. This significantly reduces the fear of being overwhelmed by the symptoms of performance anxiety and allows them to stay calm in the midst of stressful situations.

**Joints and glands exercises.** This set of simple yoga-based stretching exercises increases circulation to all parts of the body and help to improve overall flexibility (Ballentine, 1977). By releasing accumulated tensions from students' joints and glands, the exercises help restore a natural vitality to the body and mind and prevent injuries.

**Cognitive restructuring**. Music students learn that maladaptive thinking is one of the root causes of performance anxiety. In this technique, students learn to become the observer of their thoughts and to root out negative, destructive thought patterns. Once they become aware of a negative thought such as "I'm not good enough," they are asked to evaluate the thought to see if it is indeed true and health-giving. When they realize that negative thoughts are usually based on past associations and memories and not rational or applicable to their lives today, they are asked to change the thought to one that is more adaptive and rational ("I accept and honor myself in all performance situations"). With practice, students learn to become the master of their own minds and to change maladaptive thoughts "in the moment" before they have a chance of negatively affecting behavior.

**Mindfulness meditation**. Meditation is a focusing technique that helps musicians to strengthen the witnessing aspect of the mind. The student learns to become the observer of the modifications of the mind and in time settles into a state of "no-thought" which can lead to higher levels of creativity and vibrant health. Regular practice of meditation can facilitate the state of "flow" that is highly desirable for musical performers.

**Imagery training**. Students learn how to use their imaginations to produce relaxing images and thoughts with the goal of reducing and controlling mental anxiety. Once they have developed their

ability to create pleasant mental images, the students are encouraged to visualize themselves in a series of successful performance situations. Visualization helps to transform anticipatory performance anxiety and can also be used to allay related feelings of dread and powerlessness. Imagery techniques can also be used by students for coping with pain associated with over-use injuries.

**Music Therapy for musicians**. Research shows that music therapy techniques can be especially beneficial in treating and preventing performance-related disorders in musicians (Montello, Coons & Kantor, 1990). Musical improvisation, in particular, has been used to reawaken the original joy of "playing" music in stressed musicians. Improvisation helps musicians to connect with the essential elements and meaning of music (melody, rhythm, texture, form, etc.); facilitates inner listening; fosters spontaneity and self-expression; develops intuition and imagination; activates "essential musical intelligence" – the innate ability to use music as a source of healing for self and other; and keeps the musician focused in the present moment.

The following are music therapy techniques that have been found to increase self-awareness and expression, and decrease performance-related disorders:

*Musical Self-Statements.* The student is instructed to choose an instrument for improvisation to which he or she is particularly drawn from an array of easy to play instruments. Once chosen, the student is asked to still his mind through focused breathing and to wait for a bodily impulse to move from inside out through his instrument. The student relaxes and allows the musical impulse to move him into creative expression. The music stops as directed by the inner impulse.

The purpose of this exercise is to shift the student from thinking about music while playing (which distances the player from the musical, body-based impulse) to spontaneously expressing music "from the heart" without thinking. Here the musician learns to trust himself, his body/mind connection, and the creative process, thereby releasing the internalized "threat" associated with musical performance.

*Musical Charades.* Music students can develop emotional intelligence through exploring the spectrum of emotions through improvisational games such as "musical charades." In this technique, students form small groups (3-4 members each) and one member randomly selects a folded piece of paper from a hat. Inscribed on the slip of paper is a title of an emotionally-laden scenario that the students are invited to portray musically for the rest of the class (i.e. "Belonging;" "She's Gone"). The small group members discuss their interpretations of the scenario and decide how to convey its emotional tone and meaning through improvised music and pantomime. Students may use their own instruments or choose from a variety of instruments for improvisation (drums, recorders, xylophones, Tibetan bell bowls, etc.) provided for them. Once the musical scenario is performed, the remaining class members are asked to use their emotional intelligence in ascertaining the exact title. Along with emotional awareness, this music therapy technique helps students to develop a deeper aesthetic sensibility, spontaneity, sensitivity to group dynamics, and joy and levity in musical performance.

*Group musical improvisation* helps students to experience and understand the diverse roles and relationships that form within the musical context. While improvising together, musicians are encouraged to explore the typical roles that they play in groups and to also try new roles, particularly those that are threatening or off-putting. Here students learn to trust in their innate musical intelligence, creativity, and authority, and, with time, become more able to trust fellow musicians. Group improvisation helps to harmonize the polarization of authority and subordination and empowers musicians to be more assertive and risk-taking.

Renowned psychoanalyst D.W. Winnicott (1971) wrote that it is only in being creative that the individual discovers the self. Most college age music students are still considered "adolescents" and must continue the process of self-discovery while at conservatory on the road to becoming fully functioning adults. In summary, music therapy capitalizes on the "playful" approach to musical expression and helps stressed music students to connect with and honor the beauty inherent in their unique musical voices.

Disarming the "inner critic" through combined art and music therapy processes. For those students with debilitating stage fright, it is important to understand how internalized negative voices from past traumatic performance experiences can sabotage the good feelings and self-confidence that enhance musical expression. During a guided meditation offered during the ninth class of the PW curriculum, students are asked to allow these unresolved negative criticisms and related feelings and images to emerge, and to release them through spontaneous drawing. The student thus creatively externalizes the beliefs/images related to the "inner critic" (i.e. "I'm not good enough.") that get in the way of the "flow" experience and, at the same time, gain some distance from it. The student is then encouraged to take back the power that was granted to the internalized critic through improvising its "music" on an instrument of her choice. She is then asked to improvise the sound of her own "music" when she feels incapacitated by the "inner critic" on a different instrument. There is obviously a qualitative difference between these two musical statements (yet both are *alive* in the same person). With a class member playing the role of the self-state that she is least identified with and the student playing the other, the partners engage in an improvised musical dialogue to find a balance point between the two extreme polarities. By the end of the improvisation, both players are usually transformed and the music expressed is deeply harmonic, balanced, and powerful. After the student has reclaimed split-off feelings relegated to the former "inner critic," she is then asked to perform a piece of music from this now unencumbered place. Most students experience a significant reduction in fear during this performance that quite often transfers over to future real-life performance situations.

**Transforming "Polarized Perfectionism."**

Many music students base their self-worth on how their musical performances are evaluated by teachers, peers, and audience members, etc. In this way, they become obsessed with playing perfectly, lest they receive negative feedback and lose face. These students spend too many hours practicing and limit their social engagements to only those that will enhance their musical careers. They often become depressed if they play poorly and are not at the top of their class. The following are characteristics of "polarized perfectionists" as described in the "Performance Wellness Manual" (Montello, 2005):

·Need for outside approval; low self-esteem
Polarized thinking – one is either a winner or loser
·Difficulty with showing vulnerability
·Narcissistically wounded
·Lack of emotional intelligence

Symptoms of "polarized perfectionism" as described in the same manual are as follows:

·Isolation
·Rigidity
·External locus of control
·Compulsive behavior
·Extremes of emotion
·Emptiness

·Identity issues
·Extreme judgment/competitiveness
·Focusing on product vs. process

In order to overcome "polarized perfectionism," students are encouraged to engage in the following activities during the course of their week:

·Allow 30 minutes per day to do nothing; waste time
·Take time daily to improvise on their primary or other cherished instrument
·Form or join a music improvisation group
·Do meditative activities that facilitate an internal focus that arouses feelings of happiness and contentment
·Create a bridge from the inner life to the outer through daily journaling

**Assertiveness training**. Many creative individuals have difficulty communicating their feelings and needs to others. Students first learn the four styles of communicating: passive, aggressive, passive-aggressive, and assertive. They are then taught to discriminate between the different styles, and are offered a number of role-playing opportunities to practice assertive behavior in "real life" situations. Additionally, students learn empathic listening techniques, along with a variety of ways to say "no" effectively. The qualitative research of Montello (1992) suggests that many anxious musicians tend to be compliant in relational situations and find it difficult to stand up for themselves and say "no" when appropriate.) Finally, students are taught how to give constructive criticism and to cope with negative feedback.

**Behavioral rehearsal.** Students are asked to volunteer to perform for the class with the purpose of integrating relevant techniques from the PW curriculum into a "live" performance. During this class, students focus on the "art" of performance versus playing music in rehearsal or in practice rooms. Students go through all the steps to giving a masterful performance including the following:

·Proper performance attitude – reverence for the composer and audience; desire to give their best
·Deep and even breathing
·Clear intentionality; positive thinking
    ·Taking time to connect with audience before starting to play
    ·Hearing the first couple of phrases of the piece in their mind before starting to play
·Activating the "giving-and-receiving feedback loop" between performer and audience
    ·Hearing the music from deep within and playing from this place of flow
    ·At close of performance, receiving the audiences' reactions with equanimity
    ·Self-care post performance (i.e. whatever healthy behavior that allows the performer to stay joyfully centered in the here-and-now)

Assignments for the Performance Wellness Seminar include a mid-term exam that focuses on theory and techniques learned from readings and in-class experientials; a final research paper focusing on a more in-depth exploration of a topic covered in class (i.e. music improvisation; assertiveness training); and weekly home-practice charts where students rate changes in stress symptoms before and after practicing assigned exercises.

## REFERENCES

Ballentine, R. M. (1977). *Joints and Glands Exercises*. Honesdale: Himalayan Institute Press.

Coons, E.E., Montello, L. & Perez, J. (1995). Confidence and Denial Factors Affect Musicians Postperformance Immune Response. *International Journal of Arts Medicine,* 4(1).

Montello, L (2005). *The Performance Wellness Manual*. Honesdale: Innovations Press.

Montello, L. (2002). *Essential Musical Intelligence*. Wheaton: Quest Books,

Montello, L. (2003). "Protect This Child" In S. Hartley (Ed.) *Psychodynamic Music Therapy: Case Studies*. Barcelona Press.

Montello, L. (1999). The Perils of Perfectionism, *Allegro,* pp. 13-15.

Montello, L. (1992). Issues of Music Medicine From the Perspective of a Music Therapist, In H. Lees (Ed.) *MusicEducation:Sharing Musics of the World.* London: ISME.

Montello, L. (1992). "Exploring the causes and treatment of musical performance stress: A process-oriented group music therapy approach" In R. Spintge & R. Droh (Eds.) *Music Medicine,* Saint Louis: MMB Music, Inc.

Montello, L., Coons, E.E., & Kantor, J. (1990). The Use of Group Music Therapy as a Treatment for Musical Performance Stress. Medical Problems of Performing Artists, 5 (1).

Winnicott, D.W. (1971). *Playing & Reality*. London: Tavistock.

# An easy to master breathing method for patients with respiratory diseases (Let's learn abdominal breathing using well-known music)

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## ABSTRACT
We often hear senior citizens complain that as they get older they cannot go up steps or slopes. In the case of senior citizens with respiratory diseases, their everyday life is beyond their control because they get out of breath.
To cope with the problem, it is important for them to understand how much air they can breathe in order to pace themselves. Now, I am helping them to master a method of abdominal breathing, based on "three principles" of "asthma music (abdominal breathing learned with music)", using familiar music and tools at hand.

**Three Principles to Learn Abdominal Breathing:**
The three principles are as follows. Principle one is continuous breathing out for as long as possible. Principle two is relaxing the abdominal muscles quickly just after finishing breathing out. Principle three is starting with breathing out every time. I have thought up many variations based on these principles, and I am carrying out sessions. With this method of breathing, the patients with a narrow respiratory tract or senior citizens can master abdominal breathing without difficulty, breathing in the amount of air that each person is capable of. They enjoy taking part in the practice and can repeat it easily at home. As a result, they have come to know the amount of air that they can breathe and are able to spend their everyday life smoothly at their own pace. Our session participants monitor themselves each time using a "Respiro-trainer", and a sphygmomanometer before and after each session. This time I would like to introduce you to an easy to master method of abdominal breathing.

**Keywords:** respiratory diseases, senior citizens, how to master the methods of breathing.

## INTRODUCTION
Now, in every country throughout the world the number of senior citizens is increasing year by year. Senior citizens themselves think that they have to spend every day in good condition, and that they do not want the people around them to have to take care of them. This situation may be the same in every country. Even the healthy senior citizens seem to have experiences of feeling reluctant to move their body or of having difficulty breathing. Not only the patients with respiratory diseases, but most senior citizens often have phlegm, or feel difficulty in moving. They cannot spend their everyday life comfortably because of difficulty breathing. One of the causes of difficulty in breathing is that they get out of breath. To cope with the problem, it is important for them to understand how much air they can breathe in order to pace themselves. Now I am helping them to master a method of abdominal breathing, based on "three principles" of "asthma music (abdominal breathing learned with music)", using familiar music and tools at hand. Today I am going to introduce this method along with showing some data.

### Subjects
The subjects are fourteen to sixteen women from in their 60's to 95 years old living in the same area, couples, people living alone, and a couple with a child (all in their 60’s - 70’s) all of whom are aged

people. They have high blood pressure, diabetes, lower back pain, bronchial asthma and other ailments and are, taking medicine every day. But they spend everyday without troubles.

**Purpose**

We want them to spend healthy comfortable everyday lives at their own pace, without bothering other people, or without being in a panic from knowing the amount of air they need to breathe. Aged people are apt to spend their time only at home, so we want them to take a walk, talk with each other at a meeting place in their community, so they can communicate, make friends with others, and get good information. The practice takes place twice a month for about 90 minutes each time at a meeting place in their community about 15 minutes walk from their home.

**Breathing**

There are two kinds of breathing: thoracic respiration and abdominal breathing. Abdominal breathing can conduct air in and out of the lungs smoothly, and prevent over expansion of the lungs, so it can ease labored breathing. When we breathe air out, abdominal muscles are tightened, the abdomen becomes concave, and the abdomen pressure rises. The diaphragm is pushed up making a dome, and it contracts the thoracic cavity, so we can exhale. On the contrary, when we breathe air in, abdominal muscles are loosened. The diaphragm which was pushed up like a dome comes down to a horizontal level, and the chest swells, so air comes into the thoracic cavity. Abdominal breathing is "a strong method of breathing we can practice consciously" making our muscles contract both for breathing out and breathing in.

**Abdominal Breathing**

When we feel difficulty in breathing and the airways are narrow, abdominal breathing allows us to breathe in and out fully, overcoming any resistance in the airways. We can change the air in our lungs more smoothly, and reduce the difficulty in breathing. Usually we perform thoracic respiration. So when we feel difficulty in breathing, even if we try to practice abdominal breathing at that instant, we can do nothing but thoracic respiration. To reduce the difficulty in breathing, it is necessary to practice the right way of breathing positively and repeatedly every day, so that we can perform abdominal breathing automatically anytime.

**How to Master Abdominal Breathing**

In 1975, the late Dr. Tateno thought up "three principles to master abdominal breathing". They are a set of methods which can be mastered through repetition just by doing it by ourselves. It is an important basis and also a method "to master abdominal breathing" pleasantly, easily, and properly, for anyone, whenever, and wherever.

**Three Important Principles to Master Abdominal Breathing**

Principle one. We continue to breathe for out as long as possible, and thoracic respiration finishes. Then, abdominal breathing starts automatically by itself. Principle two. After breathing out for as long as possible, we relax the abdominal muscles. Then, the stomach swells by itself and abdominal breathing in starts. Principle three. If we start the training with breathing in before breathing out, we come to start breathing in as thoracic respiration. Even if we can do abdominal breathing after that, the chest swells and the shoulders rise up, strange abdominal breathing starts, and we cannot do the proper breathing training. So it is important to start with breathing out without fail.

**The Ten Training Methods of Abdominal Breathing thought up from the Three Principles**

These training methods were first made for asthma patients, and we are training aged people with these methods after some modification. The first method is The Fermata Singing. We sing the last phrase of a

song for as long as possible without stopping the voice. We practice singing familiar songs everyone knows. (The songs are very old but many people sing them even now.) The second method is The One-breath Singing. We sing each phrase without stopping as long as breath continues.
We practice singing familiar songs everyone knows. The third method is The Asthma Symphony Played with Pitch Pipes. We practice blowing a pitch pipe Dr. Tateno and I originally developed and confirm the abdominal movement. Or, we sometimes try to blow the pitch pipe playing along with CD's. The fourth method is The Asthma Symphony Played with Choir Horns or Recorders. We try to blow one note of a recorder playing with music. Each of us blows one note of a choir horn and make one song in all. Tunes are "Little Star" and the like, short and simple songs.

The fifth method is Exercise. There are eleven exercises in total, which can be divided into three categories. There are four exercises where we confirm abdominal breathing by blowing on a pitch pipe. There are five exercises performed by moving to a rhythmical beat. And there are two exercises, which are performed while breathing deeply and controlling the breath. The sixth method is The One-breath recitation. We read aloud our favorite book or newspaper for as long as possible without punctuation. By doing so, our abdomen becomes concave when there is no air remaining, and it swells when we speak out. Then we come to be able to practice abdominal breathing automatically.

The seventh method is The Fermata Recitation. We read aloud our favorite book or newspaper, and speak out the last syllable of each paragraph for as long as possible. Then it goes the same way as the sixth method. The eighth method is The Asthma Recreation. We practice abdominal breathing playing with others, applying The Fermata Singing and The One-breath Singing. We folk dance and move our bodies, singing old children's songs to the music. We utilize hand games and make use of them as exercises for the mind. The ninth method is Breath Training in Daily Life. We utilize The Fermata Singing and The One-breath Singing for practice in everyday life. The tenth method is Calling. We try to feel our breathing out while speaking slowly and loudly for greetings and so on. "When we breathe in and out a large amount of air, it is breathing. But when we breathe in and out a small amount of air, it is also breathing.

**The Effect of the Sessions**

Before and after each session, we measure peak flow values, blood pressure, and pulse rates. This time I will show you the summary of the data for 16 people over 2 years (48 times).

**Conclusion**

Let's master abdominal breathing and let's spend comfortable days in good health. Abdominal breathing brings about no side effects. We can practice it anytime. It costs nothing. We want the patients with respiratory diseases and aged people to keep healthy and have confidence in themselves every day. When we have something to do with those people living at a slow tempo, we come to feel the need to make efforts to help them live in society free from worry. If we can do that, then, they can be independent and live out their lives healthily.

## Past Seminars for the Commission of Music in Special education, Music therapy, and Music Medicine

| | |
|---|---|
| Tallin, Estonia | 1990 |
| Bad Honnef, Germany | 1992 |
| Boulder, Colorado, USA | 1994 |
| Rennes, France | 1996 |
| Cape Town, South Africa | 1998 |
| Regina Canada | 2000 |
| Jyvaskyla, Finland | 2002 |
| Vitoria, Spain | 2004 |
| Serdang, Selangor D.E., Malaysia | 2006 |
| Bologna, Italy | 2008 |

## Past Proceedings for the Commission of Music in Special Education, Music therapy, and Music Medicine

***The First Research Seminar of the ISME Commission on Music Therapy and Music in Special Education***
(Pratt & Moog, 1989)

***Music Therapy and Music in Special Education: The International State of the Art, Volume I***
(Pratt & Hesser, 1989)

***Music Therapy and Music in Special Education: The International State of the Art Volume II*** (Pratt, 1989a)

***Musica Movet***
(Laufer & Piel, 1994)

***Music as a Medium: Applications and Interventions***
(Laufer & Montgomery, 1998)

***Music as a Human Resource: Drafts and Developments***
(Laufer, Chesky, & Ellis, 2000)

***Resonances with Music in Education, Therapy, and Medicine***
(Laufer & Montgomery, 2002)

***Selected papers from the 2006-2008 International Seminars of the Commission on Music in Special Education, Music Therapy, and Music Medicine***
Schraer-Joiner & McCord, 2010

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