Turn-taking

Nowadays, children are surrounded by music most of their waking time, streaming from radios, televisions, cell-phones, computers and toys.

---Yong,s., & Gillen, J., Towards a revised understanding of young children’s musical activities: Reflections from the day in the life project.

The results demonstrate that many children show an understanding of the responding computer and react with surprise and enthusiasm, and sometimes with disregard.

When there are two users of the system at the same time, they use both physical and verbal resources to coordinate their playing, and to achieve inter-subjectivity that allows them to develop a joint activity.

Plying together with someone also affords visual impressions, while playing alone with the system is exclusively auditory.

Some children obviously need help to discover the basic rules of both playing and of stopping to listen.

From our findings it could be questioned if the children have the feeling of motivation in playing with the keyboard and the software, particularly in the way it is build into the system. For some children, that could be a reason for what seems like lack of interaction with the system.

A child with limited experience of playing on a keyboard can hardly be expected to have appropriated a musical language that could be compared with a human language. Hence, even if the child is capable of turn-taking behavior with another person, he or she may not be able to do so, or may not want to do so, with musical technology as a partner.

---cecilia wallerstedt, pernilla Lagerlof, Exploring turn-taking in children’s interaction with a new music technology

Play by ear

The verbally reported thoughts indicated that participants used different strategies for encoding the melodies. Vernacular musicians applied a more sophisticated knowledge base to generate accurate expectations; formal musicians used less efficient strategies. Formal musicians devoted more conscious attention to physically producing the melodies on their instruments.

---Robot H. Woody and Andreas C. Lehmann, Student musicians’ ear-playing ability as a function of vernacular music experiences

Many young musicians develop their skills through involvement in peer-organized garage bands that perform the popular music of their generation.

---Campbell, 1995; Of garage bands and song-getting: the musical development of young rock musicians.

---Jaffurs, 2004, The impact of informal music learning practices in the classroom, or how I learned to teach from a garage band

The members of vernacular music groups make heavy use of listening-copying processes and improvisation as they collaborate with peers to reproduce the sounds of their favorite music and create original compositions by ear.

---Davis 2005, That thing you do, compositional processes of a rock band.

---Green 2001, How popular musicians learn: A way ahead for music education.

---McGillen&McMillan 2005, Engaging with adolescent musicians: lessons in song writing, cooperation and the power of original music.

A study by Luce (1965) was one of the first to identify empirically the positive relationship between ear playing and sight-reading in instrumental music students but offered little explanation of the connection.

In our study, we specifically addressed the two component processes of remembering (encoding) a model and then performing it. We sought to link ear-playing struggles to either inadequate memory of the music (goal image) or generation of physical actions to produce it on instruments (motor production).

The number of trials required in the singing and performing conditions for all musicians.

We believe that ear playing is an important, even foundational, musical skill that deserves greater research attentions, as well as greater curricular consideration in school music.

---Robot H. Woody and Andreas C. Lehmann, Student musicians’ ear-playing ability as a function of vernacular music experiences

Contemporary pedagogues advice playing by ear as an important skill for instrumentalists.

Conwary, 1997; Dalby, 1999; Grunow, 2005; Martin, 2005; Schleuter, 1997

---Conway, C. 1997, Why wait to start beginning band rehearsals?

---Dalby, 1999, Teaching audiation in instrumental classes.

---Grunow, R. F. 2005 Music Learning Theory: A catalyst for change in beginning instrumental music instruction.

---Martin, M. E. 2005 Music Learning Theory and beginning string instrument instruction.

---Schleuter, S.L. 1997, A sound approach to teaching instrumentalists: an application of content and learning sequences.

Music theory teachers have advocated playing by ear as a means of facilitating aural skills development.

Dickey (1991) reported significantly better performances among middle school band students who received nonverbal modeling instruction that included melodic playbacks compared to those who received traditional instruction focused on verbal directions. A test of aural discrimination revealed no difference between groups, and there was no test of music reading.

---Dickey, M.R. 1991, A comparison of verbal instruction and nonverbal teacher-student modeling in instrumental ensembles.

Instructional strategies for teaching melodies by ear included having students match notes played by the teacher on a piano, having students echo-play song phrases, and questioning students about melodic contour and pitch content in order to aid students in “figuring out the melody on their own as much as possible” (p. 170) without the students singing aloud or the teacher telling the students pitch-letter names or solfege. Before and after instruction, students performed a familiar song by ear and a short etude at sight in each of the three keys. The judges scored each performance only in terms of pitch accuracy, or “correct notes.”

---Musco, A.M. 2006, The effects of learning songs by ear in multiple keys on pitch accuracy and attitudes of band students.

A growing body of correlation data is available, and these data suggest that skills in playing by ear may be related to music aptitude (Bernhard, 2004; Delzell et all., 1999) and music reading (Luce, 1965; McPherson, 1993, 2005). Still, replication research is needed, particularly studies that would employ identical test measures and similar sample populations.

---Bernhard, H.C. The effects of tonal training on the melodic ear playing and sight reading achievement of beginning wind instrumentalists

---Delzell, J.K, Rohwer, D.A. & Ballard, D.E. 1999, Effects of melodic pattern difficulty and performance experience on ability to play by ear.

---Luce, J.R. 1965, Sight-reading and ear-playing abilities as related to instrumental music students.

---McPherson, 1993, Factors and abilities influencing the development of visual, aural and creative performance skills in music and their educational implications

2005, From child to musician: Skill development during the beginning stages of learning an instrument.

Music therapy and stress

Webster’s New Collegiate Dictionary (1980) defines stress as both a stimulus: “a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation” (p. 1143).

Encouraging patients to use problem-focused coping strategies improves psychological and social adjustment. Support groups that focus on “optimizing the patient’s coping style, maintaining social contact with others, and developing additional problem-focused coping skills,” maybe conducive to long-term psychosocial adjustment (Keckeisen & Nyamathi, 1990, p. 30).

---Keckeisen, M.E., & Nyamathi, A.M. 1990, Coping and adjustment to illness in the acute myocardial infarction patient.

In music therapy sessions, J.W., a cardiac rehabilitation patient, enjoyed playing his own guitar in duet with the omni-chord, re-experiencing the self-expression, distraction, and leisure skill he had enjoyed prior to his heart surgery. He re-joined his community guitar group after recognizing that he could play the instrument comfortably for short periods of time. He found benefit from the social support of the group.

During the music therapy sessions, patients experience a variety of relaxation and imagery techniques.

Music therapy can play a part in this educational process, helping patients to learn, regain, and maintain a healthy lifestyle.

---Susan E. Mandel 1996, Music for wellness: Music therapy for stress management in a rehabilitation program

Since early times, music has played an essential part in human life. It was appreciated by ancient, primitive and advanced civilizations that realized its power. Music is universal as language, but it “speaks” louder than words. Since sounds never lie, music has a truthful authority. Music has intrigued philosophers and writers who tried to understand its effect on the human body and on human emotions.

---Nechama Yehuda 2011, Music and Stress

Music is an abstract symbolic language with no specific references or associations. Nevertheless, its intrinsic pattern and structure convey meaning to our brain (Miell et al. 2005). It can act as a powerful sensory stimulus, engaging the brain in retraining neural and behavioral functions that can be applied to non-musical context in everyday life, such as therapeutic needs.

---Miell, D., MacDonald, R.A.R., & Hargreaves, D.J. 2005, Musical communication.

Langer (1957) claims that music is the language of emotions. Music has always served different functions in private and social life: in feasts, weddings, funerals, hunting, war, entertainment and various religious and political ceremonies.

---Langer, S.K. 1957, Philosophy in a new key

Difficulties in dealing with emotional issues may lead to conflicts and failure in utilizing one’s cognitive and intellectual potential to the fullest (Maree and Eiselen 2004).

---Maree, J.G., & Eiselen, R.J. 2004, The emotional intelligence profile of academics in Amerger setting.

Overall picture is sometimes quite confusing, and research findings can be contradictory.

Understanding the psychological mechanism that underlies the listener’s emotional response to music might help us in understanding this issue. A relevant question that is commonly asked is whether music can induce genuine emotions (the emotive position) or if listeners just perceive emotions expressed by music (the cognitivist position) and how it can give rise to the listener’s responses. Lundqvist (2009) investigated whether music is able to induce genuine emotions in listeners. The combination of subjective experience as reported by the listener, together with facial expression and reactions of the autonomic nervous system, would suggest that music is indeed a potent elicitor of authentic emotions.

---Lundqvist, L.O. 2009, Emotional responses to music: experience, expression, and physiology.

While music can help one to cope with stress, it may also evoke stress, anxiety and intolerance.

The type of music presented was soothing, and in the majority of the studies, self-selected music was used. This included the patient’s own favorite music or music chosen from a selected list of musical genres.

Music improves the quality of life for patients receiving palliative care, enhancing a sense of comfort and relaxation. While music can help one to cope with stress, it may also evoke stress, anxiety and intolerance. Frith (2004) asks: Why does music make people so cross.

---Firth, S. 2004, Why does music make people so cross?

Continuous short term emotion detection

Emotions are time varying affective phenomena that are elicited as a result of stimuli.

Long-short-term-memory recurrent neural networks (LSTM-RNN) and continuously conditional random fields (CCRF) were utilized in detecting emotions automatically and continuously. We found the results from facial expressions to be superior to the results from EEG signals. However, our statistical analysis showed that EEG signals still carry complementary information in presence of facial expressions.

Felt emotions are ones that audience individually feel and can be personal.