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Teaching Methods and Didactic Materials Used During Music Lessons in History and Analysis of Set Works in Kenyan Secondary Schools

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Abstract

The Kenya Certificate of Secondary Education Examination (KCSE) in Music consists of Theory and Practical examinations. One of the subsections of the theory part is the history of composers and an analysis of selected works of African and Western music. It is common practice among Secondary School Music teachers to buy ready-made teaching and learning resources for teaching history and set works every year. In addition, Secondary School Music teachers often attend music workshops that deal with analysis of set works, and their heads of schools appear willing to sponsor their attendance at such workshops. Taken together, these actions might suggest that there are concerns about teaching music history and the analysis of set work. This study was conducted to find out what methods teachers use for teaching history and analysis of set works and to further determine what other material teachers are using in their courses. The study was conducted in seven (7) schools offering Music and presenting students for examination at KCSE in Siaya county, Kenya. Qualitative data were collected from six teachers through oral interview. It was not possible to carry out observations because pre-mock examinations were going on in the county. Data collected were as analyzed qualitatively and presented in prose form. Analysis reveals that these Music teachers use various books and resources in addition to ready-made resources (handouts) for teaching history and analysis of set works. The majority of the books are not authored in Kenya. The analysis also shows that teachers use various methods of teaching, such as lecture and discussion; however, drill and memorization are the main methods used in teaching history and analysis of set works. In most cases, learners are left to study on their own, and thus memorize the materials needed to pass the examination. The results of the study also revealed that there are no standard textbooks on the history of composers, so teachers tend to borrow materials from various sources. The study recommends that teachers employ the use of local resources in teaching Music, the adoption of learner-centered teaching methods, and the publication of materials on local composers.

Keywords
Kenya, secondary schools, history, set works, analysis

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There are various methods of teaching, defined here as ways of presenting instructional materials or conducting instructional activities, not only in Music but other subjects as well. Several studies have been done on teaching methods and resources for teaching Music however, they are not readily available in Kenya. A study done in Kenya that includes aspects of teaching methods and teaching resources in Music is that of Mbeche-Owino (2009), which discusses resources and methods used in teaching aurals. The author's findings showed that there were inadequate resources for teaching aurals in secondary schools in Kenya. In their absence, teachers used varied methods like identification of pitches and teaching theory followed by using pre-recorded music to illustrate the same. A study carried out by Mutuku (2005), although concentrating on the use of folk songs in teaching Western music concepts, reported a mixed reaction by respondents on the availability of text books for teaching Music. Of those queried, 1% indicated having enough textbooks, while 75% indicated having inadequate textbooks for teaching Music. The same study also reported that there were enough instruments for teaching African music, yet teachers made little use of them except for in the annual Kenya Music Festival (KMF). Persellin & Bateman (2009). in their comparative study on the effectiveness of two song-teaching methods: holistic vs. phrase-by-phrase, found no significant difference in learning a song either using these two methods, even though children sang the songs using the holistic method with fewer errors than with the phrase-by-phrase method. One of the objectives of a study by Auma (2002) on music aural performance in Kenyan secondary schools was to establish the instructional strategies employed in musical aural activities. However, the study failed to clearly show the strategies used and instead revealed the scarcity of resources for teaching Music, such, music instruments, text books and equipped music rooms. The study also found out that 33.3% of learners had difficulties understanding prescribed works and only 10 % had difficulties understanding Western Music History.

Despite the dearth of studies in this area, teaching methods in Kenya are many. In traditional African informal settings, music is learned through aural-oral processes, movement or dance, and other artistic aids (van Heerden, 2006). Methods of teaching music propagated by Kodaly, Suzuki, Dalcroze and Orff are known worldwide. The Orff Method is a way of teaching children about music that engages their mind and body through a mixture of singing, dancing, acting and the use of percussion instruments such as xylophones, metallophones, and glockenspiels. **(**Estrella, E. http://musiced.about.com/od/lessonplans/tp/orffmethod.htm. Retrieved February 2011) Lessons are presented with an element of "play," helping the children learn at their own level of understanding. However, this method may be relevant for the History of music and Analysis because it is meant for young children. The Kodaly Method's philosophy is that music education is most effective when started early and that everyone is capable of musical literacy. (Estrella, E. http://musiced.about.com/od/lessonplans/p/kodalymethod.htm. Retrieved February 2011) Singing is stressed as the foundation for musicianship, as is the use of folk and composed music of high artistic value. This method may be relevant to the study of history and analysis if materials/songs used in teaching are drawn from the culture of the learners. Teachers can use folk songs, for example, in teaching the identification of keys, scales, phrasing, and repetition. The Suzuki Method is an approach to music education that was introduced in Japan and later in the United States during the 1960s. Although this method was originally developed for the violin, it is now applicable to other instruments including the

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piano, flute and guitar. This method may not be relevant to the study since it is instrumental based. The Dalcroze method, also known as Dalcroze Eurhythmics, is another approach used by educators to teach musical concepts. This method, which connects music, movement, mind, and body was developed by Emile Jaques-Dalcroze and is good for lower levels of learning. (Estrella, E http://musiced.about.com/od/lessonplans/p/dalcroze.htm. Retrieved February 2011.) Other teaching methods/strategies are available to secondary school Music teachers, such as assessment, brainstorming, computer-assisted instruction, cooperative learning, debate, and drill and exercise. The current study seeks to determine which methods are used by teachers in teaching the History of music and Analysis of set works. Brief information on the Kenyan system of education and the structure of the Music curriculum is necessary at this point before detailing the methodology and data analysis.

Kenyan System of Education

The current Kenyan system of education is called 8-4-4. This means learners study for eight years in primary school before proceeding for four years of secondary education and four years of tertiary (University education) education. Classes in secondary schools are referred to as Forms—Form One, Form Two, Form Three and Form Four. The current aims and outcomes of Kenyan formal music education at the secondary level are based on the revised Curriculum of 2002.

The 2002 Secondary Music Curriculum

The 2002 curriculum has the following components:

- Basic skills, which consist of Rhythm (note values), Time Signature (simple time of 2/4, 3/4, 4/4, and compound time of 6/8), Bars and bar lines, accents, grouping of notes.
- Melody, covering aspects of pitch at various levels
- Harmon**y,** covering Triads and intervals and part harmony at various levels
- Aural, comprising rhythm, melody intervals and cadences
- History and Analysis**,** comprising the study and analysis of both African and Western music
- Practicals, which involve performance of scales, arpeggios, sight singing and performance on an African and a western instrument
- Project, which requires learners to collect and archive folk songs, participate in live music performances including choirs, and so on.

Content of History of Music and Analysis of Set Works

This section describes the History and Analysis of set works sections of the 2002 Music Curriculum. The syllabus introduces this section as early as Form One. Western Music covered in this area includes works by major composer from the Renaissance to the 20th Century. The History of African music components involve the study of music in society, such as: the role and function of music, occasions of musical performance, categories of music, general characteristics of African traditional music, effect of modernization on traditional music/s, African instruments and Traditional African musicians, types of performances (solo, ensemble), costume, décor, ornamentation, vocal techniques, and how music relate to other art forms and dance, and the training of musicians.

Analysis of Western music begins by learners studying shape, form and dynamics in Form One. In Form Two, analysis is specific to melodic analysis: AABA shape, ABCD shape, melodic curve, phrasing marks, dynamics, terms, and symbols. In Form Three, learners are restricted to melodic and harmonic analysis

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that covers binary form, ternary form, rondo form, theme and variation, perfect cadences, imperfect cadences, plagal cadences, interrupted cadence, and signs. In the final year, the syllabus introduces for the first time the study of prescribed composers, to include their life history, works, contributions and compositions, style and forms, and an analysis of set works. The analysis of set works is studied under the following subheadings: forms, key systems, terms and signs, rhythmic features, orchestration, styles and texture.

Analysis of African music, on the other hand, begins at Form One by studying melodic structure-scales, ornaments, solo, chorus, Performance (ensemble, role of instruments, and interrelationship of the members of the ensemble). In Form Two Analysis of African Music covers types of melodies, scales of melodies, ornaments, and vocal and instrumental ensemble. At Form Three, Analysis of African music includes melodic structure, rhythmic structure, harmony and counterpoint, new instruments (guitar, accordion), and a repertoire of African choral music. In the final year of study Analysis of African Music, Prescribed Work includes form, ensembles, the role of various performers, and type of work.

The syllabus uses the terms —prescribed work" and —composers" for the first time in Form Four, even though the basic theory that enables learners to carry out analysis is built in to the curriculum from Form One. Set works for examination include:

- Set composers. Every year particular composers and their works (compositions) are selected for examination purposes
- Set pieces, both vocal and instrumental
- Prescribed western and African works. It is also common practice for the examination council to select compositions by western musicians for analysis and Kenyan folk songs or folk dance as prescribed African set work.

Method

The study was carried out in Siaya County, which is comprised of the Gem, Ugenya, Alego-Usonga, Bondo, and Rarieda constituencies. Music teachers in the county were contacted over the phone and the purpose of the study explained. Appointments were made to visit schools to conduct oral interviews with the teachers. It was initially arranged to collect data through observation and oral interviews. However, it was not possible to carry out observations since pre-mock examinations were on in the whole county. The researcher thus conducted interviews to collect data. The study was initially designed to be carried out in the Siaya district but was eventually carried in Siaya County instead, in accordance with the new administrative set-up in Kenya. This alteration raised the number of schools from 5 to 7. One teacher could not be interviewed due to scheduling issues. Thus, a total of six teachers were interviewed. Data collected was coded and analyzed qualitatively. The result of that analysis is presented below.

Results

Preliminary data shows that one of the six schools has three music teachers. The majority (four) of the teachers have a Diploma in music while the rest hold a Bachelor's degree. All the teachers interviewed agreed that the syllabus introduces history of music and analysis from Form One, however not all of them begin teaching the sub-sections at the same time. All teachers begin teaching history

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of music at Form One, but they vary on the time for introducing analysis. Teachers who begin teaching analysis at Form One introduce basic elements like identification of keys. One of the teachers commented that it depends on the innovativeness of the teacher to look for simple materials in order to introduce analysis at this level. Generally, the teaching of analysis and set works begin when teachers receive their informational circular from the Kenya Institute of Education (KIE). This circular contains the set works for analysis, selected composers for study, and a list of practical music pieces for various instruments. Teachers explained that KIE releases the circular two years in advance, and that they release the set-works list for Form Three and Form Two at the same time. Most teachers, therefore, teach analysis of set works and prescribed composers starting in the third term of Form Three. KIE designs materials for teaching set works, and each teacher is responsible for acquiring their own materials. Some teachers, however, get materials from the Western Music Teachers Association (WMTA). The WMTA receives information on the set pieces early so that they can prepare analyses of them as means of raising money. The association does the analysis for teachers, who buy and use them for teaching. The teachers explain that, in the majority of cases, —w start teaching prescribed works at Form Four using material prepared by the western teachers association."

The rest of results are presented in subsections as follows: Methods of teaching History, methods of teaching Analysis, books for teaching History, books for teaching Analysis, other resources for teaching History and Analysis, and finally challenges in teaching History and Analysis.

Method/s for Teaching History of Music

Methods listed for teaching history include:

- Lecture method
- Discussion
- Group work drawing instruments
- Giving notes to learners to read, which teachers later ask question on
- Listening to prescribed music of the period (one teacher added that sometimes the listening material is not available).
- Drawing instruments on charts for pupils to study

Methods for teaching analysis of set works

- Lecture method
- Discussion. —We have material to give them to read, then we discuss"
- Listening to tapes followed by discussion. Discussion is centered around music scores on keys, dynamics, and modulation.
- Question and answer method, whereby teachers photocopy material from books. The question and answer method is also used in score reading of prescribed works and after listening to the recorded music of the scores. One teacher however said that —ni reality, most of the times teachers do the analysis or somebody else does it (like the WMTA), the teachers buy the material, and give students to study and memorize."

Books for teaching history

- Foundation music, by KIE
- History of western music, by D. Grout
- KIE Books, Form One to Form Four
- Harvard dictionary of music
- Foundations books for Form One to Four, by Jomo Kenyattta Foundation
- East African instruments, by Graham Hyslop
- Folk music of Kenya, by Zenoga zake
- Music of Africa, by Kabwena Nketia
- Music appreciation, by Roger Kamien

Books for teaching analysis

- KIE Books, Form One to Form Four

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- Foundations books for Form One to Four, by Jomo Kenyattta Foundation
- Music appreciation, by Roger Kamien
- Basic Music Knowledge, by Annie Warburton
- Classical Analysis, by Annie Warburton
- Prescribed composers come in a booklet by KIE for Forms One Two, Three and Four

Other teaching resources apart from books

- Analysis material made by the Western Music Teachers Association
- KCSE past papers for teaching analysis
- Tapes from KIE, and from Western Music Teachers Association,
- Audio CDs
- Computer (One teacher composes melodies for analysis using Music software and plays back for learners). One or two teachers use computer to play CDs for learners
- Charts showing western orchestral instruments
- clips from daily news papers
- Resource persons
- —Isometimes run back to the Maseno University library to read and get materials for teaching," one of the teachers said.
- —My university notes on Form and Analysis," one teacher said.
- Keyboard

Challenges in the teaching of history of music and analysis of set works

- Music is usually not taught in primary schools, and what teaching is done is only for festival purposes; hence, starting music at Form One is challenging. Starting so late makes learning difficult, especially learning analysis, which may be why some students chose not to study Music
- Recorded music is lacking for History, which makes it difficult for learners to comprehend.
- The timetable is congested with so many subjects, so securing enough time for each sub-section of music is difficult.
- Lack of enough books
- Lack of a center where learners can watch live performances of the works being analyzed. Not seeing live performance makes studying analysis abstract and difficult to comprehend.
- The syllabus is not specific on which composers should be studied in Form One, Two, Three or Four. Thus, most teachers wait to be given prescribed composers by KIE, and then begin teaching History and Analysis.
- African history is not studied at all. The history of African composers is not taught because the syllabus does not specifically list any African composers. In addition, there are inadequate books and published research on African composers
- The syllabus limits potential African music offerings to those from Kenya
- Most of the school administrators have the notion that teaching Music is very expensive. Consequently, they do not support the subject
- The career trajectory for studying Music is not well defined, so students are hesitant to study it
- Non-music teachers discourage students from taking Music because they see limited career opportunities. This makes talented, bright students shy away from selecting Music as one of their subjects of study
- Teaching materials are had to come by
- KIE does not provide instructional books, yet it provides the syllabus
- Schools often lack music rooms with facilities for teaching Music

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- The few available textbooks are too technical for students
- The technical terms used in the setting of analysis of set works and composers make it difficult for students to grasp. For example —melodic capabilities which *Orutu* (a single string Luo fiddle) has over *Nyatiti (*eight string lyre among the Luo) . . ."
- Male learners in particular tend to discontinue studying Music at Form Three when they learn that they will be assessed performing live during the practical examinations
- Lack of audiovisual teaching resources like tapes and CDs on western music
- The many sections of Music (Practical, aural, theory) make it look so challenging that bright students shy away from the subject.

Discussion

As can be read from the data presented above, the methods used for teaching the History of music are heavily teacher-centered; teachers use the lecture method, providing students with notes to read beforehand (homework), and with drawings of the instruments on charts. The discussion method is typically not interactive, but rather answering questions on the homework. Learners therefore are left with no option but to memorize the material contents to enable them pass the examination, but they may not be grasping the meaning of the materials. This arrangement results in a superficial knowledge Music History. This finding supports research that shows that students admitted to study Music at Universities have difficulty understanding the basics of music theory (Mutuku, 2012). The methods used in teaching Analysis are no different, regardless of whether the method fits the material. Discussion is more appropriate when learners can make meaning of what they discuss and debate on. The teaching materials compiled by the WMTA are abstract, and may have been compiled without considering the learner's level of Music knowledge. It may be profitable for teachers to try other methods of teaching these subject. For example, the African Musical Arts approach involves participatory learning using local resources like folk songs and stories for teaching concepts that can be applied in analysis of works. A teacher can use storytelling to teach about the set composers and either sing or play a song by the composer.

In the world of technology, teachers can also make learning of History and Analysis more accessible by allowing learners to compose simple melodies that the then teacher notates to guide learners in identifying specific elements such as repetition, keys, rhythm, and modulation. This approach allows learners to discover so much on their own. In order to use technology in this way, most teachers will need to learn how to compose using computers so they can guide their learners. The question is whether all schools are equipped with computers and whether the teachers themselves are literate with computer programs for music.

There are basically four primary books for teaching Music History and Analysis. These are the books by KIE, the books by Jomo Kenyatta Foundation, the book by Kamien, and the two books by Warburton. The History of Western music by Grout is very technical, even for learners at the University level, however it is used because the majority of the Music syllabus content is Western. What is described in the syllabus as History of African music should actually be entitled something like —music in society." As such, this topic should include local musicians and their music. To bolster teaching in this field, music educators, researchers, and ethnomusicologists need to combine forces and develop teaching materials on African music history and composers (Agak, 2001). Inadequate teaching and learning

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resources aside, it cannot go without saying that teachers need to be innovative and creative. This point is made by House (1958), who states that teachers should be flexible enough to look for new methods and techniques that will impact on their work.

Additional changes should be made in the syllabus and examinations associated with the study of music. Music is not taught at primary level as a result of the curriculum reforms of 2002 that merged the Creative Arts into one subject. The Creative Arts teacher is supposed to be knowledgeable in all Creative Arts, however, the teacher will emphasize subjects where they are best skilled. Further, time allocated for Creative Arts is often used to teach other subjects such as Mathematics, English and Sciences (Atieno, 2012). These problems contribute to a secondary music curriculum overloaded with a content that cannot be completed in the four years. KIE is aware Music is not taught at Primary level; they should thus adjust the syllabus to reflect this gap in learning. The Kenya National Examination Council (KNEC) should do the same by setting examinations that are at levels appropriate for the student's learning. The two institutions should also use experts to design a curriculum whose content of study is specific and whose coverage is reasonable. Finally, negative attitudes from school administrators and others about Music can be overcome if the Music teacher stand his/her ground, educate the ignorant on what music is, is innovative, resourcefully highlights the many career opportunities in music, and makes Music education interesting.

Conclusion

There are a few books in addition to the handouts from the WMTA that teachers use for teaching Music. There is, therefore, a need for more textbooks with a content that reflect local history. Beyond textbooks, however, teachers may need to be innovative and use other teaching methods that are more learner-centered and less teacher-centered. Further it would be better for continuity of learning if the teaching of Music began at the Primary level. Such a change will ensure proper basic knowledge of Music by the time learners join tertiary institutions.

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Pre-Teens‟ Musical Preferences: Effects of Language Presentation and Cultural Identification

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Abstract

Participants in Grades 4, 5, and 6 listened to 10 instrumental and vocal selections from various styles, rated their preference, and indicated the reason for their decision. Half of the participants (*n* = 227) circled reasons from a menu of choices; half gave a free response (*n* = 229). There were interesting patterns of response to counterbalanced selections performed in English versus Spanish (Shakira and Frankie J.), and in English versus an Asian language (Taeyang – Korean and Wonder Girls – Mandarin). For those who liked these selections, rationale based on the —words/lyrics" varied by song; there was no noticeable pattern related to cultural identification and hearing the song in English versus another language. However, for those who disliked these songs, the lyrics figured more consistently. Those with a higher level of Spanish/Hispanic/Latino cultural identification were more likely to mark –lyrics" as the reason for their dislike if they heard the song in Spanish rather than English. The same pattern was found for only one of the Asian selections. Respondents with a lower level of Spanish/Hispanic/Latino cultural identification also were more likely to indicate the lyrics as the reason for their dislike if the selection was heard in Spanish, and the same result was found for one Asian selection but not the other. The consistent reference to lyrics for disliking across the three selections, but not the fourth, may reveal effects specific to perceived style. For free response surveys, the largest percentages of listeners gave answers that were metaphorical in nature, gave little information beyond a global –liked it/hated it" response, or indicated —style" or –lyrics" as their justification. Overall, there was consistency in the frequency of specific analytic responses between the two forms regarding specific elements of music.

Keywords
music preference, children, language, culture, popular, listening, styles

Music teachers are interested in how their students apprehend music and what appeals to them. As Teo, Hargreaves, and Lee state (2008, p. 20), –an appreciation of students‟ music preferences allows teachers to select materials most likely to stimulate these students‟ interest in music". Popular music often includes lyrics, and since popular music becomes the favored music of children as they develop through the elementary school years into middle school (Brittin, 2000; Flowers, 1980; Fung, Lee, & Chung, 2000; Geringer & Guerra, 2002; Hargreaves, Comber, & Colley, 1995), it would seem important to understand how students respond to text in the music.

As globalization and multiculturalism have increased, we have seen more studies on effects of culture on music preferences (Brittin, 1996; Darrow, Haack, & Kuribayashi, 1987; Fung, Lee, & Chung, 2000; Geringer & Guerra,

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2002; Griesler, 1990; LeBlanc et al, 2000/2001; Morrison & Lew, 2001; Morrison & Yeh, 1999; Nakazawa, 1988; Pembrook, 1997; Teo et al, 2008; Sakai, 2011). Some studies pinpointing the effects of cultural heritage within a single country have investigated effects of race/ethnicity (Abril, 2002, 2007; McCrary, 2000, 2003; Morrison, 1998; Killian, 1990) and migrational patterns (Sakai, 2011). Language is of interest; adolescents appear to prefer vocal to instrumental pop music when sung in a familiar language (Finnas, 1989; Shehan, 1985) but when the style of the music is unfamiliar, children prefer instrumental to vocal music (Fung, 1994, 1996; LeBlanc, 1981).

Indeed, language has been tested directly by Abril and Flowers (2007), who presented three versions of the same song (instrumental, English text, and Spanish text). Middle school U.S. students who spoke Spanish and English responded differently than students who spoke just English. Mostly, bilingual students were of Mexican heritage and monolingual students were Appalachian or African-American background. Bilingual students preferred and identified with the Spanish version, and monolingual students preferred the instrumental version (followed by English and then Spanish). The results were most interesting in that they contradicted Abril's earlier data (2002), where students with Cuban heritage put more value on performances heard in English than in Spanish.

Some researchers (Morrison & Yeh, 1999) have asked participants to comment on why they made preference choices; others who have explored listeners' verbalizations about what they hear have concentrated on listeners' focus of attention (Flowers, 2000; Geringer & Madsen, 1995/1996). Certainly we must be a bit cautious with children's verbalizations about music (Flowers, 2000); they might not have the vocabulary to accurately express their perceptions or might feel hesitant to write out answers. However, the ability to analyze and discuss one's musical choices is included in the national standards in the U.S., and so it seems important to explore how young listeners' justify their choices.

This study is designed to pinpoint pre-adolescent students' responses to four vocal selections, manipulated to include English, Spanish, and Asian languages. Responses will include preferences and the specific rationale students give for their preferences, utilizing forced-choice and free-response response modes. Is it a correct assumption that students will prefer hearing music in languages associated with their own culture, and will they justify their decision by focusing on the lyrics?

Method

A CD was prepared including 10 instrumental and vocal selections representing a range of styles (see Table 2); some excerpts were chosen to hint at world music influences. Participants were U.S. metropolitan 4^{th}-6^{th} graders. Half the students used a free-response form, indicating preference via 6-point Likert-type scales and answering the question "Why?" (n = 229). The others (n = 227) used the rating scale and circled a reason for their rating, choices included: Beat/rhythm, melody, tempo, words/lyrics, style, instruments, artist, and other (with room for clarification).

All 30-second excerpts were approximately the same tempo. Four were manipulated; these were performed in English or another language, featuring the same performer, tempo, instrumentation, and style. In CD Version 1, Selection #2 was performed in Spanish and #7 in English; in CD Version 2, Selection #2 was in English and #7 in Spanish. CD Version 1 included songs in Korean (#8) and English (#10), while Version 2 featured Selection #8 in English and #10 in Mandarin. Each class was randomly assigned CD Version 1 or 2.

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After listening, respondents gave demographic information, including their identification with selected cultures and number of languages spoken. The researcher developed a way to solicit cultural identification to allow the most students possible to participate. Students indicated on rating scales their level of identification with Spanish/ Hispanic/ Latino culture (hereafter shortened to —Hispanic" in line with district terminology), Asian culture, and Middle Eastern culture. This was explained orally as —show how much you identify with this culture…. Meaning you are from that culture or how much you relate to that culture, or are interested in that culture… for example, if you strongly identify with Hispanic culture or you consider yourself Hispanic, then mark a "6" for Hispanic; if you are not Hispanic or do not identify with that culture, then mark a "1", or the number in between that seems right…". Students were prompted to write down other cultures/ subcultures with which they identified.

Responses were analyzed for frequency, and free responses were coded (Morrison and Yeh, 1999). Reliability of the coding (agreements/agreements plus disagreements) was $r = .86$.

Results

The forced-choice responses for four targeted vocal selections were analyzed regarding cultural identification (see Table 1). Songs were counterbalanced for English versus Spanish/Asian lyrics. For those who liked these selections, there were no clear patterns regarding cultural identification and focusing on lyrics as the rationale. For example, those with a lower Hispanic identification (48% of population) tended to emphasize lyrics as their rationale more when hearing the song in Spanish versus English for Shakira, but not for Frankie J. The Asian examples also had contrasting results; those with a higher Asian identification (33% of pool) who liked Taeyang listed lyrics more frequently when hearing it in English, but not so for Wonder Girls.

What about those who disliked these selections (gave a 1, 2, or 3)? For both Shakira and Frankie J., a majority of those with higher Hispanic identification indicated lyrics as their rationale for dislike when heard in Spanish, a strikingly higher percentage than those hearing it in English. This was seen for Taeyang, although we should caution that only one subject with high Asian identification heard the Korean version and indicated dislike. The Wonder Girls showed an entirely different pattern; a minority of high-Asian identifiers (who disliked the selection) indicated lyrics as the reason.

Those with a lower level of Hispanic or Asian identification, who disliked the selections, showed an observable pattern for three of the four selections. For Shakira, Frankie J., and Taeyang, a larger percentage mentioned lyrics as the reason for their lower rating when not in English. Again, the Wonder Girls was the exception; only 52% of those with low-Asian identification mentioned lyrics when hearing the song in Mandarin, whereas 64% mentioned lyrics as the reason when hearing it in English.

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Table 1. Percentage of Respondents Circling –Words/Lyrics" as Reason for Preference

Level of Cultural Identification (Spanish or Asian)		Liked It -Heard Spanish/ Asian	Liked It- Heard English	Disliked It – Heard Spanish/ Asian	Disliked It – Heard English
Shakira (Spanish)	High ID	31%	34%	64%	21%
	Low ID	56%	26%	58%	45%
Frankie J. (Spanish)	High ID	51%	50%	72%	9%
	Low ID	48%	55%	69%	50%
Taeyang (Asian)	High ID	45%	64%	100%	67%
	Low ID	33%	12%	60%	33%
Wonder G (Asian)	High ID	51%	47%	14%	44%
	Low ID	44%	40%	52%	64%

Overall, respondents tended to like three of the four targeted selections. Two to three times as many respondents liked Frankie J., Taeyang, and Wonder Girls as did not like them. Responses for Shakira were split equally; half gave this excerpt a 4, 5, or 6.

Responses included free-choice or circling from a menu of choices (with the option to add their own reason). For free-response, the reasons tended to be metaphorical, judgmental in an overall way, or to dwell on style or lyrics; fewer mentioned any other analytical elements (less than 10% of the time). Across the 10 selections, one-fifth to one-third of responses were judgmental (such as –olve it" or —donot like"). Another one-quarter to one-third of responses were metaphorical (extra-musical or affective statements). For example, Shakira received comments that were mostly metaphorical (24%), judgmental (20%), or about the lyrics (14%); Frankie J.'s were mostly judgmental (32%), about style (22%) or metaphorical (21%).

For the forced-choice version of the survey, there was variation across the 10 items (see Table 2). Generally, –yrics" was circled much more for the selections with singers; however, some listeners would circle –yrics" as the reason on instrumental examples, meaning that they disliked the selection because it did not include lyrics.

Respondents who spoke more languages were significantly more likely to have a higher overall preference response (F = 3.76, df = 3, 453, p = .05). Mean responses (averaged across the 10 selections) for those speaking one language was 3.7, two languages was 3.9, three languages was 4.0, and four was 4.4.

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Table 2. Percentage of Forced-Choice Responses per Category

	Beat/ rhythm	Instru-ments	Style	Melody	Words/ Lyrics	Tempo	Artist	Other
#1 Jazz	48%	18%	21%	31%	12%	16%		<1%
#2 * Shakira	34	13	32	27	40	40	<1	1
#3 * St.byMe	35	17	27	29	38	21	<1	1
#4 EspanaC.	39	26	22	31	15	30		1
#5 * A.Krauss	35	19	33	33	51	26	<1	<1
#6 Chance	41	27	26	29	14	36		1
#7 * FrankieJ.	42	13	41	41	54	26	<1	2
#8 Latin Jzz	57	29	33	29	13	34		1
#9 * Taeyang	45	14	38	34	53	31	<1	1
#10 * WonderG	48	15	44	33	48	30		1

Note. * = vocal selection

Discussion

This paper explores the cultural identification of 4th, 5th, and 6th grade students in regards to their professed reasons for liking or disliking selections. Students heard four selections counterbalancing English and Spanish/Asian versions of pop songs. Songs were performed by the same artists across language conditions. For students circling reasons from a menu of choices, the patterns related to cultural identification were quite interesting. Students liking the four targeted selections did not list lyrics as the main reason for their preferences consistently across the songs.

For those who did not prefer those selections, however, a consistent pattern was found for three of the four selections. Both those with less identification with Spanish (or Asian) culture, and those with more identification with Spanish (or Asian) culture, circled –lyrics" the majority of the time as the reason for disliking songs heard in Spanish (or Asian language). It is not surprising that those identifying less with a culture may have felt uncomfortable and thus not preferred songs in that language; Abril (2005) found monolingual listeners often fixate on text when discussing songs in another language. The surprise comes however, with those signifying a Hispanic or Asian identification. For three of the four examples, those listeners rated –lyrics" as the reason for their dislike far more frequently when hearing the song in Spanish (or Asian language) compared to hearing it in English.

Thus an assumption seems unfounded; assuming students who identify with Spanish or Asian culture will like music in that language

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because of the lyrics is not necessarily so. The patterns here may have depended on style to an extent; perhaps certain songs sounded more authentic in English. However, artists were selected because of their authenticity with the selected cultures, so listener reactions were very interesting. Indeed, "lyrics" was the main reason given for disliking when heard in Spanish or an Asian language, even for those identifying with those cultures.

Why lyrics became the focal point for this displeasure is unknown and warrants further study. Abril (2002) found that Latino listeners (primarily of Cuban heritage) put a higher premium on material by non-Latino performers, but found the opposite in subsequent work with listeners primarily from Mexican heritage. Those identifying with Hispanic culture in the current study were mostly from Mexican heritage as well, thus making their reaction to the Spanish words more surprising. Certainly this finding contradicts the notion that playing music in the language associated with student's heritage will necessarily cause them to gravitate towards that song or those lyrics. These reactions deserve more exploration.

Forced choice categories leaned towards the analytical and showed different responses across the 10 pieces, as expected. In some ways, this data might relate to research done on focus of attention. Generally, "instruments" was not chosen as frequently as several other choices, even for instrumental pieces (although "instruments" was cited more frequently on instrumental than on vocal selections). While instruments were mentioned less often than in some past research (see Flowers, 2000; Morrison & Yeh, 1999), this may reflect the nature of the task ("why" rather than "what did you hear?"), the age of the respondents, the amount of previous music instruction, or the mix of styles included in this particular study.

There were consistencies between forced-choice and free response answers. For Shakira, lyrics and tempo tied for the most frequent forced choice responses, closely followed by beat and style. For those with free response, "lyrics" was the analytic item cited most frequently, followed by style and beat.

The answers in the free choice version of the survey were often not analytical, however. Many were judgmental, meaning non-specific statements. Limited vocabulary might be a contributing factor; this was influenced, perhaps, by the number of students with English Language Learner issues. This is an area that should be explored further. Another one-quarter to one-third of responses were metaphorical, such as "it sounded like ballet" or "it made me feel happy" or "too girlie". Morrison and Yeh (1999), with undergraduates, found some cultural differences in use of metaphor for rationale; this could be explored further with this age group.

There were interesting statements on point to the issue of cultural identification and preference. One respondent said "This is Asian, I am Asian", and gave the selection a 6. In other cases, ethnic tensions were in evidence. For example, a person rating himself a 6 on the "Spanish/Hispanic/Latino" scale gave a 1 to all the Asian-influenced selections, and wrote "This is Chinese, I hate Chinese" on all excerpts associated with Asian culture. Thus we see cultural identification may extend to exclusion as well as inclusion. How music educators bridge that gap towards greater tolerance, understanding, and acceptance deserves further scrutiny in our research.

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Infants‟ Discrimination of Long and Short Melodies

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Abstract

Many studies have described the acuity of infants‘ perception of melodic characteristics. Their results have shown that infants are skillful at discriminating very short *unfamiliar* melodic sequences as well as longer *familiar* melodies. What remains unclear is whether they can discriminate long unfamiliar melodies. The present study conducted with 32 11-month-olds using the habituation-novelty procedure focused on infant discrimination of 4- and 2-measure melodies rich in rhythmic and melodic variations and unfamiliar to the infants. The responses of boys and girls were compared to explore sex differences in melodic discrimination because research has shown that auditory development occurs earlier in female than male infants.

The results of the study showed that infants did not discriminated the 2-measure melodies and that only the girls discriminated the 4-measure stimuli. I discuss the characteristics of musical stimuli that may make the discrimination of melodies particularly difficult for 11-month olds. It seems that the brevity and discontinuity of the short stimulus hindered infants‘ ability to remember it and discriminate it from a similar melody. On the other hand, the length of the 4-measure melody probably imposed high auditory memory demands on the infants and negatively affected the boys‘ ability to discriminate it from a similar melody. These results suggest that the complexity of a melody, in the context of infant perception, may be determined not only by its length but also by its internal musical organization and that male infants‘ discrimination abilities are particularly susceptible to the level of melodic complexity.

The conclusions of the study question whether exposing infants to short and disjointed melodic patterns characteristic of children‘s videos, games and toys is an appropriate practice from a music development perspective. Although these bursts of music may be effective in eliciting infants‘ attention, they are not ideal for the development of melodic discrimination in infants.

Keywords
infant, melodic discrimination, musical development, early childhood

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Self-directed and Interdependent Learning in Musical Contexts

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Abstract

This paper focuses on the role that intensive residential ensemble courses play in supporting and encouraging effective learning and progression amongst aspiring musicians. A case study approach was adopted, using mixed methods that included a survey of course participants as well as in-depth focus groups and individual interviews with young musicians, music staff, pastoral staff and administrators. Four UK national youth music organizations took part in the study. These represented Western classical, jazz and Asian music-making traditions. Highlights and challenges experienced at the courses were explored, with a focus on the aspects of pedagogy that contributed to the impact of these intensive musical experiences. A thematic analysis of open questions from the survey and text generated in focus groups and interviews revealed that these were rich contexts of musical development. The four case study sites shared a commitment to a holistic approach underpinned by facilitation of self-directed learning. Effective learning for the participants comprised three complementary strands of practical, conceptual and experiential learning. The social interdependence of the young people was found to be a challenging yet significant and essential factor in supporting musical progression.

Keywords
effective learning, progression, self-directed, holistic

The issue of how musical potential amongst young people may be encouraged and supported has long been of great interest to parents, music education professionals, funders and researchers. The research reported here focused on the role that intensive residential ensemble courses hosted by ‗flagship' national youth music organizations in England play in supporting and encouraging young aspiring musicians. Specifically, the research aimed to identify salient facets of these courses that promoted effective learning and supported musical progression amongst young musicians. This paper will focus on aspects of teaching and learning that were challenging for participants and yet contributed to the high impact of the musical experience.

Background

It is widely accepted that the acquisition of musical expertise requires considerable long-term dedication of time, effort and resources. A substantial body of research now suggests that the question of how best to support young musicians in sustaining their motivation and developing as effective learners in music is a complex one.

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Previous research has drawn our attention to the crucial role, for example, played by intrapersonal characteristics (Burland and Davidson, 2004; MacNamara, Holmes and Collins, 2006; McPherson and Williamon, 2006) and developmental phases (Bloom, 1985; Manturzewska, 1990; Hallam, 2006) as well as interpersonal systems that may involve peers, parents, extended family, teachers, institutions and/or communities of practice (Creech, 2011; Creech and Hallam, 2003; Feldhusen, 2001; Feldman and Goldsmith, 1996; Sloboda and Howe, 1991; Smilde, 2009; Sosniak, 1990).

Others have focused on aspects of music pedagogy that may contribute to deep learning, whereby student musicians develop intrinsic motivation, relate new ideas to prior experience, grasp underlying concepts and experiment with or question new ideas (Creech and Gaunt, in press; McPherson and Davidson, 2006). Lebler (2007), for example, argues for a student-led pedagogy in conservatoires, suggesting that self directed learning (see Heron, 1999), including independent as well as collaborative work, enhances musical development. With reference to younger instrumental learners, McPherson and Davidson (2006) argue that effective learning relies on well developed self regulation strategies. In a similar vein, Hallam (1997) proposed that teachers should facilitate student learning by supporting young musicians in reflecting on their own practice strategies and developing their own musical interpretations.

A small amount of literature has focused on the role of peer learning, with regard to musical development. Using in-depth qualitative methods, Kamin, Richards and Collins (2007) explored reflective retrospective accounts of developmental influences amongst 12 non-classical professional musicians in the UK. A key finding was that the instrumentalists, singers and composers all recollected that their peers had played a significant role in supporting their musical progression. Similarly, Patrick *et al*. (1999) investigated the role of peer relationships in supporting adolescents' continued involvement in talent activities. In-depth interviews were carried out with 21 American secondary school-aged Western classical instrumentalists and singers and their parents. The researchers reported that peer relationships that had developed within the context of music-making served an important motivational function and were strongly associated with continued interest and involvement in music.

Context

In the UK, musical journeys for some young people are enriched through access to short-term, intensive musical experiences that focus on ensemble work, offered by national youth music organisations. These organisations offer "high quality advanced music and performance opportunities to young people" and aim to foster "musical excellence" and provide "stimulating and challenging musical experiences" (Youth Music, 2011). At the time the research reported here was undertaken (2011) eight national youth music organisations were in existence, covering Western classical music, South Asian classical music, jazz and musical theatre. All were selective (entrance to residential ensemble courses determined through an annual competitive audition process), and aimed to identify young people with "musical ability and talent" (Youth Music, 2011) who were deemed to have the potential to benefit from intensive residential ensemble music courses and workshops.

Aims of the Research

The aim of this research was to explore the role that intensive residential ensemble experiences played within the wider musical journeys of the participants. Specifically, the researchers focused on environmental, pedagogical, interpersonal or intrapersonal factors that were salient in terms of supporting musical progression and the development of the young musicians as effective learners. One objective of the research was to explore what could be learnt with regard to pedagogy and potentially transferred to other contexts of musical

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development. This paper will focus on the young people's reported highlights and challenges as course participants and the aspects of pedagogy that were found to contribute to making the residential courses powerful contexts for musical development and progression.

Method

Four case studies were visited during July and August 2011. These included the National Youth Choir, South Asian Music Youth Orchestra, National Children's Orchestra and National Youth Jazz Collective. A sample of 'Advocates' was identified in each, including music staff, pastoral staff and young people. The young people who participated in the research as Advocates included some who had extensive experience as course participants as well as others who had only recently joined.

All course participants in each of the case study sites were asked to complete a questionnaire that included open questions asking the young people to describe the highlights and challenges relating to their participation in the residential courses.

A total of 212 young musicians, including 63 (30%) aged 10–11, 65 (31%) aged 12–16, 43 (20%) aged 17–18 and 37 (18%) aged 19–21 and four who did not state their age completed the questionnaire. Forty–one per cent were male and 59% were female. Fifty–one percent of the young musicians were from the National Children's Orchestra, while the remaining participants were from South Asian Music Youth Orchestra (10%), National Youth Choir (31%) and the National Youth Jazz Collective (8%). The questionnaire responses were from singers (71, 34%), string players (80, 38%), wind players (24, 11%), brass players (18, 9%), pianists and percussionists (8, 4%), players of world music instruments such as tabla, sitar and miruthangam (8, 4%) and three young people who did not state their instrument.

Focus groups with student and staff Advocates and individual interviews with conductors were carried out in each of the case study sites. These took place during scheduled one-day visits by the research team to the residential courses. At each site between four and six focus groups were carried out. A total of 65 young musicians and 22 staff members (including music, pastoral and administrative staff) took part in the focus groups. Individual interviews were carried out with a total of four conductors. The focus group discussions and interviews explored the environmental, intrapersonal, pedagogical and social characteristics of the residential courses that participants considered to be salient with regard to encouraging effective learning and progression in music.

The researchers worked collaboratively with a film-maker. All of the interviews and focus groups as well as short clips from rehearsals were filmed. No individual took part in the interviews or focus groups unless a signed media release form had been provided. Care was taken by the researchers to treat all of the Advocates, including students and staff, as experts. In particular, the researchers aimed to ensure that the 'student voice' was respected and valued.

The questionnaire responses were coded and recorded using SPSS (Statistical Package for the Social Sciences). Thematic analysis of the interviews and focus groups was undertaken within a constructivist paradigm, following the principles set out by Braun and Clarke (2006). Themes were organized around intrapersonal, interpersonal, social, environmental and pedagogical factors that were constructed as contributing to effective learning and musical progression.

Results

The young musicians were asked to indicate, in written responses to open questions, what the top highlights of the NYMO course had been for them. Overall, the most frequently cited highlights were socialising and making music with like-minded peers. Repeatedly, the young people

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said how much they valued the chance to make friends and engage in music-making with a peer group united by a passion for music, enthusiasm for music making and similar skill levels in music (Table 1). Being introduced to ‗wonderful' repertoire was another frequently cited highlight; amongst those aged 12 and above *performance* of excellent repertoire was frequently reported as a highlight. Across all of the age groups, making music of a very high standard and improving technical and musical skills were frequently cited highlights. Contact with experts and the ensuing opportunity to gain new knowledge and skills were reported frequently by those aged 12 and above. A few respondents reported specific highlights such as individual feedback in lessons or the chance to work in small groups and sectionals. Just a few mentioned leadership opportunities, creativity, inspiring venues and general enhanced enthusiasm for music making.

The young people were also asked to identify the challenges they had faced at their NYMO course (Table 1). Overall, technical demands and stamina were the most frequently cited challenges. Amongst the younger musicians aged 10–16 there were frequently cited challenges associated with feeling excluded, making friends and feeling homesick. These younger age groups also reported challenges in participating in mixed ability groups. Amongst the older groups aged 17–21, the demands of the course, and particularly the amount of music that had to be learnt to a high standard in a short period of time, were found to be challenging.

Predominant shared themes relating to pedagogy emerged from the analysis of the qualitative data from the four case study sites. These were 1) a holistic approach to teaching and learning, 2) the facilitation of self directed learning, 3) student interdependence and 4) complementary strands of practical, conceptual and experiential learning (Table 2). Analysis of the text generated from the focus groups and interviews suggested that the four organisations shared a holistic approach concerned with development of the whole person. In this vein, a persistent theme was that facilitation of self-directed learning was at the heart of supporting and encouraging musical potential. This approach involved offering opportunities where young musicians could take ownership of their own learning, develop self regulation strategies and engage at their own individual level. Autonomous learning, however, developed within a rich social environment comprising like-minded young people engaging in peer learning and acting, in some cases, as peer role models. Learning within these contexts involved practical acquisition of skills alongside conceptual broadening of knowledge, awareness and understandings. These strands of practical and conceptual learning were embedded a context where the young people learnt through shared experience, experimenting, taking risks, making mistakes and developing authentic understandings of what excellence in music might ‗feel' like.

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Table 1. Highlights and Challenges of Participation on NYMO Courses

	Age group				
Highlights of the course	**10-11**	**12-16**	**17-18**	**19-21**	**Total**
Socialising with like-minded peers	52	45	23	21	141
Making music with others of a very high standard	23	40	27	18	108
Getting to know wonderful repertoire	29	19	16	20	84
Contact with experts in field	4	20	26	17	67
Opportunity to improve technical and musical skills	16	16	15	12	59
Performance of wonderful music	4	20	18	16	58
New knowledge about singing or playing	6	16	19	15	56
Opportunity to work in small groups or sectionals	8	5	0	0	13
Leadership opportunities	3	2	0	4	9
Feeling inspired and having more enthusiasm	2	4	1	1	8
Making music in inspiring venues	0	2	2	2	6
Individual lesson	0	2	2	1	5
The chance to be creative	0	3	0	0	3
Total	147	194	149	127	
Challenges of the course					
Technical demands	41	45	13	17	116
Stamina	16	18	30	26	90
Feeling excluded; making friends; feeling homesick	23	19	5	1	48
Amount of music to learn in a short period of time	0	9	19	16	44
Having to work in mixed ability groups	14	12	1	0	27
Staying confident when surrounded by more experienced musicians	1	4	5	6	16
Sight reading	6	3	3	4	16
Emotional pressure	0	2	4	7	13
Cost of the course	0	0	6	7	13
Getting along with staff members	0	0	4	4	8
Being in a leadership role	5	1	0	2	8
Not enough individual attention	0	3	2	2	7
Ensemble skills	0	3	3	0	6
Improvisation	0	3	2	0	5
Poor administration	0	0	1	3	4
Travel long distance to course	0	0	2	2	4

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Table 2. Aspects of Pedagogy within the NYMO Contexts

Themes	Examples
Holistic approach: • Concerned with development of the whole person (social, cognitive, musical, emotional, spiritual)	*We are here for the children, we are a service for the children. We are here, as a tool so to speak, just to help them progress. Not in music, but in life.(director)*
Facilitation of self-directed learning: • Supporting autonomous learning • Young musicians own the music, assess their own performance, develop practice and rehearsal strategies and create their own interpretations. • Working at the student's individual level, meeting individual needs	*Ownership … it's interesting to see how that increases over the week … they're able to interpret the music on quite a deep level and feel that it's their music … that's wonderful to see, very exciting to see that. (tutor)* *All of them have something to say – something important to say and something we need t`o hear. … when they're teaching us they're quite specific to us individually - it's different for all of us, we all get something different out of it. (student)*
Interdependence of students: • Peer learning and support • Peer role models • Like minded people working as a team Sense of belonging and self affirmation.	*It's got to be about them coming together and experiencing that sense of being part of a bigger thing, which they might not have had before. (tutor)* *The competitive element is there … because they see one of their peers play to a high level and they're not matching that … they need that spur … it's a shared wanting to help each other along. It's inseparable (tutor).* *I do remember on my first course it was slightly intimidating to have this person who was only a few years older than me and was amazing …But then it makes you work harder because you know you can be that good if you put the effort in … It's inspiring … it's a real role model and it's so much closer to our age … It's more accessible, you can see yourself in that position, hopefully. (student)* *There's so many ways you can learn … just playing with people … I feel like I'm double the standard I was before when I was at home, because I'm just playing with people. (student)*
Practical acquisition of skills: • Skills for progression, including musical, technical and creative • Attention to detail: Rehearsal techniques that	*They tell you stuff that you use for the rest of your life. Like, how to practice properly, that's what you do for the rest of your life. (student)* *What I don't have in any other choir that I've ever been in is the detail … you're not even thinking about just the notes*

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focus on great attention to detail in the music.	*you're singing anymore, you're thinking about your harmonics, you're thinking about notes you're not even singing, but the fact that what you're doing affects that, it's the closeness, you know, attention to detail, which makes the sound so good. (student)*
Conceptual learning: • Developing goals and new directions Developing deeper understanding of professionalism in music • New musical ideas. • Concept of _excellence' is challenged. Visualize new musical horizons. • Develop strategies to sustain motivation and commitment to music-making	*Obviously there's always stuff you know you want to know, but what I get from this course is a completely new direction … (student)* *What they see during the week is the fullest picture possible about what it means to be a jazz musician. Some of the things… they didn't even know existed. (tutor)* *For me, the best aspects of the course so far is seeing the students get an opportunity to play at a much higher level than they normally get to play … right from the start in the rehearsals you can start at quite a high level. (tutor)* *you just learn new and exciting things that you just never really thought about before … ways to make music so much more exciting, and then going back home and applying that in your music making for the rest of the year. (student)*
Experiential learning: • Experiment with and question new ideas • Transform understanding • Authentic experience of what excellence feels like, sounds like • Performance and showcasing opportunities • Exposure to diversity • Explore, take risks, make mistakes learn from mistakes	*A lot of work that we do is on feel and groove, feeling the music in a sub-conscious way. By learning it on a deep level with experienced people, the whole thing raises up a level. (tutor)* *The way he conducts it instills it with so much energy and dynamism… that's what makes it most exciting… I've never had a moment like that with another choir, ever. (student)* *I think the musical highlight of my entire life … was singing in a prom a few weeks ago … it's just an absolutely fabulous piece, and fabulous musicians … just the most incredible experience. …(student)* *… everyone's come from different backgrounds and different places … but somehow music draws us all together … we're all musicians, but different people. (student)* *We encourage them…'look, do this …if you're making a mistake – great! That's the first step towards learning anything.' (conductor)*

Discussion

The results of the analysis of the text generated by interviews and focus groups closely resembled a framework for learning proposed by Heron (1999) which suggests that deep student learning is necessarily self-directed, yet embedded within a social

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system. According to his model, deep engagement with learning, or transformative learning as proposed by Illeris (2006), is possible within a holistic pedagogical framework, where development of the whole person is considered and where the interdependence of students is acknowledged. Deep and transformative learning, from this view, is underpinned by student-centred curricula that emphasise the facilitation of self-directed learning within communities of young musicians where peer learning can flourish. Within such contexts, effective learning amongst young musicians may be supported when there are opportunities for practical, conceptual and shared experiential learning.

Practical, conceptual and experiential learning formed rich, complementary strands of the intensive residential ensemble course experience. The young people's reported highlights and challenges suggested that on a practical level, students gained new technical skills, while on a conceptual level they were challenged with new repertoire, musical ideas and knowledge. Through interaction and collaboration with peer groups and peer role models as well as experts in their field, the young musicians developed their aspirations and visions of possible, imagined musical selves. While challenging for some, experiential learning within peer groups was the cornerstone of each course. Although the stamina required to fully engage with these experiences was a widely cited challenge, making music, participating in performance and having contact with like-minded young people as well as experts, feeling inspired and being creative were amongst the highlights reported by the young people.

The qualitative data gathered through interviews and focus groups supported the view that the inter-woven strands of experiential, conceptual and practical learning were embedded within a context where, as Hallam (1997) advocated, young musicians were encouraged to take ownership of their developing musicianship. However, autonomous learning developed within a strong social network. As Patrick *et al.* (1999) suggested this social 'web' of intense peer relationships, centred on a shared passion for music, played a key role in supporting the motivation to progress in music. The social interdependence of the young people was found to be a challenging yet significant and essential factor in the effective musical learning that the NYMOs fostered.

Conclusion

What can be learnt from the national youth music organisations? The findings presented here suggest that rich contexts of musical development may be fostered with a holistic pedagogy where individual development is understood as being intricately connected to social experience. In this vein, engagement and progression in music may be supported when opportunities for practical, conceptual and experiential learning are available within a framework where experts facilitate peer groups in resolving challenges together. In practice, this model for supporting musical development relies on expert facilitators who support the development of self regulation skills and independent learning within a context that is replete with opportunities for collaborative and cooperative peer learning. This may mean challenging young musicians with new ideas and facilitating them in developing ensemble skills, interpersonal competencies and the practical skills that will enable them to extend their musical boundaries. It will also mean providing authentic experiences of excellent group music-making that have the potential to transform young musicians' *felt* understandings of music.

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Research on Philosophy of Music Education in China

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Abstract

The study of music education philosophy in China started in the 1990s, and developed rapidly after 2005. The music education philosophy in China is focused primarily on the following areas. 1) An introduction and comparative study of international music education philosophy, including Reimer's concept of Music Education as Aesthetic Education (MEAE), Elliott's praxical music education, Haack's functional music Education, Mayday Group's idea of behavior conception and research development, as well as ideas of multicultural music education. 2) Dispute on the basic idea of music education, i.e. "Music Aesthetics as the Core of Music Education" in the *Music Curricula Standard* issued by the Ministry of Education. The objectors, according to the ideas and developmental trends of both the praxical philosophy of music education and the present international multicultural music education, regard that it is outdated universalism epistemology. The defenders of this philosophy argue that the idea of "Music Aesthetics as the Core of Music Education" varies from the Western MEAE. Furthermore, these defenders advocate a sort of coexistent and comprehensive education idea on the basis of emotion theory, paying attention to the different standpoints and reasonable cores of different philosophic ideas including functional, contextual and practical theories. 3) As for an overall introspection of Chinese philosophy of music education, scholars put forward different theories to establish a philosophy of music education in accordance with the practice of present Chinese music education. A somewhat compatible all-inclusive philosophy of music education therefore becomes the basis for the present music education reformation in China.

Keywords

philosophy of music education, Chinese music education, music aesthetics as the core of music education, music aesthetics education

According to the literature, the study on the philosophy of music education in China started in the 1990s, and has developed rapidly since 2005 (Qi, 2011). However, this specific area of study appeared in academia as early as 1985. In that year, Bennett Reimer visited China for two months following an invitation by the Ministry of Education and the Ministry of Culture of China with respect to the Project of Sino-US Arts Exchange, He gave lectures and introduced his concept of Music Education as Aesthetic Education (MEAE). From this concept, he helped to originate the field of Chinese music education and started the discussion about the philosophy of music education in China.

Since the end of the twentieth century, with the development of music education research, several international methods and concepts related to music education were introduced to China. Through introductions, translations, lectures and academic conferences about music education, great influence was brought to the Chinese music education field, which subsequently greatly improved the development of Chinese music education. Chinese music scholars began to absorb international music education, which resulted in several published research papers on the philosophy of music education. In

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these papers, several ideas were put forward regarding music education, which in turn, started an upsurge of the field of philosophy of music education in China with an emphasis on the following areas:

1. Introduction to and Comparative Study of the International Philosophy of Music Education

This area of focus includes Bennett Reimer's concept of MEAE, David J. Elliott's praxical philosophy of music education, Paul Haack's functional philosophy of music education, and Mayday Group's behavior conception and research development. This also includes ideas of multicultural music education, which includes an emphasis on the interpretation of Reimer's MEAE. This is partially due to the fact that his representative works from his trip to China were translated into Chinese and published, which subsequently brought great influence to the Chinese music education field. Additionally, based on Reimer's ideas, the Chinese music education field tried to find an international theoretical basis on which implementation of music aesthetics education is realized to help establish music as an independent discipline. Reimer later expressed in his works the idea of a compatible and developing philosophy of music education, which helped to pave the way towards the current Chinese music education philosophy.

One of the most important topics for academics in regard to the discussion of Chinese music education is the question of whether the field should be rooted in the aesthetic or the practical. After 2005, the research relating to praxical music education has become a hot topic of discussion. David J. Elliot and Wayne Bowman were both invited to China to give lectures on music education. As a result, part of their works were translated and published into Chinese. Based on their works, which use praxical music education theory as the basis of their philosophy, the discussion of music education in China shifted from an emphasis on the aesthetic to a more praxical view.

In regard to the philosophy of Chinese music education, the interpretation of Paul Haack's idea of functional music education and the introduction of ideas about international multicultural music education also have important influence. Yet, it is the comparison and the resulting discussions of all of these differing philosophical ideas about music education that have directly improved the development of theoretical research and has helped to guide the reform and practice of Chinese music education.

2. Dispute on the Basic Idea of "Music Aesthetic as the Core of Music Education"

In 2001, the Ministry of Education issued *Education Curricular Standard for Full-time Compulsory Education (experimental draft)* (hereafter referred to as *Curricular Standard*). In this State's indication document, "Music Aesthetic as the Core of Music Education" became the basic conception of music curricula. At the time, although multiple ideas of music education coexisted, this idea seemed indicate that the MEAE dominated an orthodoxy status under requirement by the government. The idea immediately attracted the attention of the Chinese music field. For most of the music educators who thought that this idea was a profound rethinking of an extremely functional idea of music education, this idea received a warm welcome. This group of music educators believed that this concept helped to return music education to its academy value, which reflected a historical progress in the development of Chinese music education. However, some scholars were doubtful. Thus, an academic hotspot was formed due to the interpretation of *Curricular Standard* in regard to the criticism and advocacy of the idea of "Music Aesthetics as the Core of Music Education."

Based on the ideas of post-modernism and the multiple international philosophies of music education, critics pointed out that the philosophical basis of "Music Aesthetic as the Core of Music Education" is outdated universal epistemology and is contrary to historicism and philosophy linguistics (Guan,

2005a). Based on the counterevidence of Haack's functional music education, critics of this idea also argue that aesthetic music education tends to be isolationism, i.e. art for the sake of art, which limits the function of music (Li & Li, 2005). Furthermore, Elliot's praxical philosophy of music education, as well as the international ideas and development trend of multicultural music education, have become the main basis for criticizing —Music Aesthetics as the Core of Music Education" (Guan, 2005b; Guo, 2007; Xu, 2009).

Based on Chinese social demand and the root of Chinese culture, some have argued that the idea of music aesthetics as the core of music education is a deepened conception of the idea of aesthetic education, which was advocated by Cai Yuanpei in the early part of the last century in China (Heng, 2006). Some argue the concept of aesthetics-rooted music education is progressive compared with the disadvantages associated with the opposing concept of knowledge and skill as the core of music education. The key of the problem, however, lies in how to change the historical inertia of traditional music education in China, which typically focuses on virtue and not on aesthetics (Song, 2004). The reappearance of the concepts of aesthetics and culture means that there has been a tendency towards a critical discard of the previous educational concept of politics plus skill. Yet, the ideas of aesthetics and culture and the concepts of politics and skill are not completely opposite; they are coexistent and both represent the integral aspects of music education. These aspects include: the social vision resulting from politics; the method of skill training resulting from skill conception; subject experience from aesthetic ideas; and the idea of attaching importance to the native and multiple cultures through the senses. According to Xie (2001), these aspects should work in harmonious coexistence in music education, thus forming a healthy and full philosophy of music education. This idea is very closely related to the unique place of aesthetic education in China, which is not always valued by the State. Thus, music education is often only regarded as a tool of virtue-rooted education. The idea has progressive meaning for emphasizing the importance of music education, yet has shortcomings for being somewhat overdone. Thus, it is not necessarily good for the full play of multiple functions of music education (Qi, 2010).

The overall interpretation of new *Curricular Standard* gives another viewpoint. The idea that music aesthetics is the core of music education is not equal to the western MEAE. *Curricular Standard* advocates a kind of compatible and comprehensive ideas of music education, which gives attention to the different standpoints and reason ingrains of function theory, context theory and praxical theory, which is an obvious trend of seeking multiple and open conceptions (Song, 2010).

3. Introspection of Philosophy of Chinese Music Education

Through translations and the critical rethinking of the different philosophic ideas related to international music education, the theoretic research of music education in China has attempted to marry the practice of music education with the philosophy of music education. Some scholars argue that the field of contemporary Chinese music education has failed to break out of the regular philosophic tendency of the dichotomy between subject and object. Furthermore, these scholars state that Habmarth's conception of Intercourse Sense may be used to surpass the subjective philosophy of music education (Zhu, 2010).

Other scholars claim that critical thinking and the phenomena of Indifferent Subject Consciousness is the foundation of the present philosophical research of Chinese music education (Liao, 2010). These scholars believe that the music education philosophy related to Practical Introspection, Native Introspection, and Innovation Introspection will become inevitable areas of research for Chinese music education (Li &Yin, 2011). Furthermore, these scholars argue that even Chinese music educators would rather find a

philosophy of music education based on ancient Chinese thought, as represented by Confucianism, Buddhism and Taoism, as opposed to a philosophy rooted in Western thought (Xie & Bao, 2010).

It still remains a question as to whether Chinese music education will insist on MEAE as a foundation of thought and practice. Most research offers firm support for this idea. Based on the new development of modern aesthetic ideology, some scholars extend the concept of Music Aesthetic Education, and advance the idea of ‗comprehensive aesthetic education' of music education (Tian, 2002). In this vein, these scholars also focus on the anthropologic nature and value of music aesthetic education (Yin, 2004). Liao Jiahua, the author of the 1993 article *Music Aesthetic Education*, still advocates the idea of Aesthetic Education. He considers that the practice and theory of music aesthetic education can be dated back to ancient times, both at home and abroad. He further posits that the philosophic idea is not the invention of someone, but instead the result of both long-term exchanges and combination of human aesthetic culture sense and music education practice. This manifests the nature of music and music education, which fundamentally assures the realization of the functions of music education and the reach of the predicted education goal (Liao, 2011).

Some scholars advance different ideas. Liu Pei (2004) points out the trend towards the harmonization of varying ideas related to music education. He advocates multiple logic systems and value patterns of music education on the basis of music discipline subject and culture context. Based on the music anthropologic conception and practical philosophy of music education, Guan Jianhua (2005a; 2005b) advocates the concept of "Cultural Philosophy of Music Education." Wang Yaohua (2007) advocates the philosophic idea of "Music Creation is Core of Music Education." Cui Xuerong (2008), based on the summary and analysis of rationality, one-sidedness, and comparability of six music education philosophy ideas throughout Chinese music education history, advocates that the comparative philosophy of music education should be used as the guideline for basic music education practice. Lastly, Song Xiuquan (2010) advocates a kind of philosophic idea of music education of "Seeking Virtuousness."

Summarization and Review

Aesthetic Education is one of the basic policies for the holistic development of national music education. The idea that music education is an important channel to implement aesthetic education has been described in many of the State's documents. The idea of music aesthetic education as an important role in cultivation of humanity has subsequently become the basic idea of Chinese music education. Although it has risen and fallen with the change of status of aesthetic education in the education system of China, the development of music aesthetic education has never ceased.

In contrast with MEAE, which focuses on the value of music subject, the idea of music aesthetic education places emphasis on the non-subject value of music. This idea originated from the German classic philosophy relating to aesthetics and aesthetic education, but still manifests the influence of Chinese Confucian culture and traditions. The reason why this concept could occupy an orthodoxy position for a long time is based on the inertia of the history and culture, the development of modern Chinese society, and the requirements related to the State's education policy.

In China, the trend towards research on philosophy of music education in the 21st century has helped to develop Chinese music education. Previously, Chinese music education reform and academic research focused solely on the content and form of music education and neglected the notion different music education belief would bring different behavior decisions. The discussions about the philosophy of music education have allowed Chinese music educators to realize that ideas can direct behavior. Of course, the theoretic research on the philosophy of music

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education is not so narrow, and can only develop when the philosophy is continuously discussed and criticized. At present, multicultural music education and the multiple philosophies of music education have become a mainstream of the development of international music education, which has subsequently influenced the Chinese music education. Thus, a kind of comparative philosophy of music education has become the practice guideline of the present Chinese music education reformation.

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Music and Me: An Exploration on the Effects of Music Toward Refugee Children in Southeast Asia

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Abstract

Points of concentration involving refugees and music in published literature have been mostly centered on ethnographic, sociological and music therapy based viewpoints. These studies provide an overview of the flexibility of music and how it can be used in various approaches within populations. To what extent are these findings validated in the context of a refugee population? This study brings a perspective from music psychology to the small body of knowledge related to refugee engagement in musical experiences. It not only addresses the —why" but also the —how" of music's effect on refugee children, and is viewed from the perspectives of both the refugee child and educator. This study examined the effects of music towards refugee children (n=92) aged 7-12 in Southeast Asia, through a program entitled *Music and Me!,* which focused on the dimensions of self-confidence, social interaction and linguistic proficiency. This was a mixed methods study incorporating pre- and post-testing of the Effects of Music Towards Refugee Children Scale (EMRCS), as well as researcher observation. Measurement was taken on levels of participant's overall pre- and post-program scores and further analyzed by gender. Spearman's Rho and the Kruskal-Wallis were used to test significance to examine the strength of relationship between variables. Significance levels of $\rho \leq 0.05$ were detected for each dimension in regard to pre and post program scores, indicating that music had significant effects on refugee children. However, there was no statistical significance ($\rho \geq 0.05$) detected for gender analysis of each dimension. These findings contribute to the body of research and raise implications for further research regarding the factors of refugees and gender studies relating to music.

Keywords
refugees, refugee children, South East Asia, music, gender

Music is an integral part of life today. The effects and benefits of music have been documented in various studies conducted on facets of personality, health, education and mental well-being. Bearing in mind that music has the capability to produce positive effects, it is only fitting that research be conducted to see how this growing field affects the lifestyles of individuals from different populations and demographics, and the reasons that lead to music creating these positive effects on individuals.

The author's prior experience in working with refugee children under the umbrella of the United Nations revealed a population that was marginalized as a result of war, oppression and displacement. In Malaysia, where this research population is based, refugees are not recognized due to the nation not being a signatory of the Geneva Convention on Refugees. As a result, there exists a loophole in the system: while refugees are allowed to

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remain in the country on a temporary basis while seeking durable solutions, i.e. resettlement to another country, they are not given access to mainstream employment or education opportunities, nor any assistance by the government. The duration of this process is determined on a case to case basis – which is equivalent to a person's life being —on hold" for an undetermined period of time. for As a result, 70% of refugees and asylum seekers in Malaysia suffer from some form of mental illness, which is three times higher than in a normal population (Pereira, 2011)

Exposure to this population thus led to the development of a project intended to provide refugee children with an avenue to express themselves through music, which would also create opportunities to develop social interaction, self-confidence and linguistic proficiency. These elements were identified through an informal needs assessment as key elements that needed to be addressed. This study addresses the effect of a combination of the disciplines of music psychology and music therapy. It not only addresses the why" but also —how" music affects refugee children, and is viewed from the perspectives of both the refugee child and educator. The traumatic nature of a refugee's transition to a new country produces challenges for social interaction, self confidence and linguistic proficiency. Identifying successful approaches to meeting these challenges is a concern not only for refugees, but for members of the wider society who are involved with such individuals on either a professional or personal level. It is not sufficient to address these issues by reproducing precedents established when working with other marginalised groups such as detainees or prisoners. Rather, there is a need to recognise the unique journey undergone by refugees and asylum seekers both collectively and individually.

Points of concentration involving refugees and music in published literature have been mostly centered on ethnographic, sociological and music therapy based viewpoints (Parkes, 1994; Stokes , 1994; Pesek, 1996; Reyes, 1999; Petten, 2000; Ladkani , 2001; Turpin , 2004; Heitzman, 2005; Socolov, 2006). These studies provide an overview of the flexibility of music and how it can be used in various approaches within populations. In terms of music psychology, the incorporation of aspects of music and refugee care is a relatively new field. Reviewed literature within this area tends to fall within individual experience narrations and community studies. This is then linked to the general role of music as a tool for empowerment and its role in the development of the individual.

Refugees

—There are two aspects of refugee identity: the production of the idealized conception of *what* a refugee is; as well as the individual matter of *who* is and who is not a refugee" (Phillips & Hardy, 1997, p. 160). Who is a refugee? The United Nations High Commission 1951 Convention relating to the Status of Refugees (Article 1) describes a refugee as a person who, "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country" (UNHCR Convention for Refugees, 1951).

Refugees often suffer social withdrawal, emotional scarring and loss of cultural identity, not to mention psychological imprisonment due to the lack of control over their lives and futures (Mansouri and Bagdas, 2002). Their traumatic experiences set up challenges for developing social interaction skills, self-confidence and linguistic proficiency. A number of elements draw together to create these challenges. Aroche & Coello (2002) illustrate a suprasystem of experiences that generate the challenges experienced by refugees

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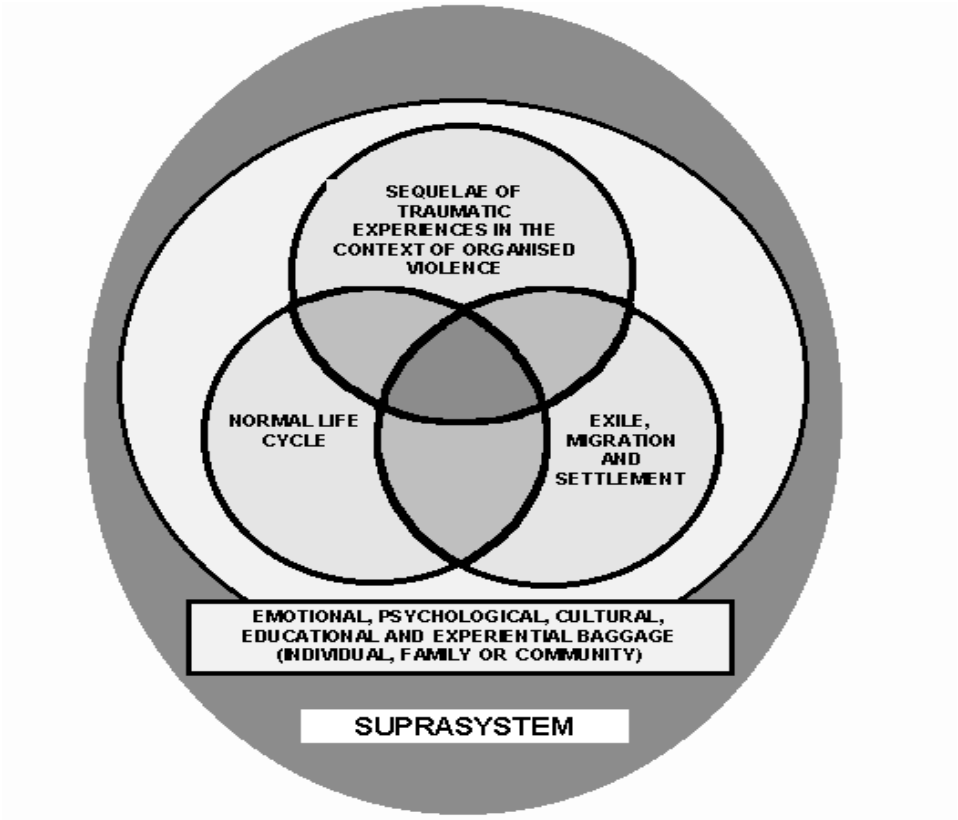
throughout the process or resettlement, or incarceration.



The use of music with refugee populations can therefore be differentiated between the use of music for personal use and the use of music for therapeutic purposes. While music use for personal use is not a new element in the individual's life, there exists a gap in the literature where music is clinically applied to meet therapeutic goals. This study aims to fill this existing gap in literature.

Music and Refugees: Individual Experiences

There have been documented instances when refugees have stated that music has played an integral part in rebuilding their lives. One example is Alie Marrah, a refugee from Sierra Leone, who had to leave his country due to the civil war in the 1990s. He focused on music as a distraction from his dark experiences and memories, and used it as a driving force for his ambition to succeed in life and one day return to his country. In his own words, —Music has brought hope back into my life but I have not forgotten my experiences, which echo through my music" (United Nations High Commissioner for Refugees, 2008).

Another more prominent case of refugees and music is the band _Refugee All-Stars', a group of six refugee men from Sierra Leone, documented by Niles & White (2007). While living in a refugee camp in Guinea, these men met each other and decided to form a band to deal with their pain of losing loved family members and neighbors. This band not

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only helped them cope with their pain, but also brought happiness to the refugees around them. After the civil war receded, the band returned to Sierra Leone to rebuild their lives, but is on constant tour around the world in aid of humanitarian support. It is truly reflective that music has given them a chance to rebuild their lives, and something to hold on to.

Diehl (2002) provides a narrative about the world of music in the refugee community of Tibet. Upon observing a concert for refugees, she speaks of the power of music and its ability to unite individuals who are brought together by circumstances where the bands are formed from refugees sing songs of their homeland, as well as songs which reflect their current situation. She suggests that as a result of being a refugee, a new style of music develops: fused in traditional heritage, yet contains elements of the new culture absorbed.

Music & Refugees: Organizational Involvement

Certain organizations have also realized the importance of music and its influence in helping refugees rebuild their lives. One such organization is the Refugee Assistance and Immigration Services (RAIS) based in Alaska, USA, who run a music group for children as part of the resettlement and initiation programs for refugees from Nepal and Africa. The group was formed after it was noted that refugee children have a hard time adjusting to mainstream groups and clubs during their early period of life in their new country. The refugee music group was created so that the child refugees could learn to relate to one another through a common bond, music, and express themselves while learning to improve their English at the same time (Refugee Music Organization, 2011).

In Australia, organizations working with refugees are using music to abolish social barriers between the refugees and the Australian community and sub-communities in the refugee population (Corlett, 2010). This is conducted through community-based programs, where Australians and refugees come together to create music. Through these programs, both the refugees and Australians are able to promote a culture of bonding, while acknowledging their differences, but focusing on the similarities.

Refugee Children

In terms of forced migration, trauma or displacement, children are the ones who are most affected (Hart, 2009), even to the level of pathologically withdrawing from society (Hacking, 2010). Their experience of childhood is totally different as they lack the sense of security that is associated with a healthy childhood, where their basic needs as per Maslow‘s hierarchy, are met. As a result of their constant change, issues with their sense of identity, as well as sense of belonging may emerge. Who am I? Am I a refugee because others say that I am a refugee? Am I a citizen of Country A, where I was born, Country B, where I lived while awaiting resettlement and the hope of a better future, or Country C, where I now live? On top of that, these refugee children have to deal with adaptation and integration into a new society which may practice different cultural norms and lifestyles totally different from theirs (Crowley, 2009). These events can impact a child‘s development, be it cognitively or emotionally, as the events influence the level of self-perception in a child. (Fazel & Stein, 2002).

Gardner (1983) is of the opinion that, while children may demonstrate a higher level of strength in one of the seven intelligences mentioned in his theory, each child possesses musical abilities that can be nurtured through instruction. This viewpoint was first expressed by Blacking (1973) in his observation of Venda children in South Africa. He stated that music is innate and is waiting to be brought out and developed. Children are primarily known to associate music with symbolic representation, entertainment, emotional expression and

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aesthetic enjoyment (Campbell & Kassner, 2010). In this same way, music is able to function as a tool for teaching children ways of living their lives. Sloboda (1988) echoes this belief by his assertion that music assists in experimenting and self-discovery of a child. It is then suggestible that music be used as a tool to assist refugee children with establishing a sense of stability, so that bad memories may be dealt with and a new idealization of the self can develop.

The Role of Music and Me!

Taking into consideration the issues discussed above, it would thus be fitting to propose a study that focuses on the emotional healing of refugee children, since this would help in tackling the problem of emotional trauma in the young. This results in eradicating an intensification of emotional trauma, especially when children phase into their adolescent years. This study would address a gap in the literature, as well as introduce the possibility of interdisciplinary research within the music and psychological fields.

Turino (2008) states that a difference exists between participatory music making and presentational music making. Participatory music making can be defined as the usage of music for the individual's pleasure, and happens within a comfort zone. However, presentational music making is the practice of music to be shared with others. It can be argued that presentational music making is also beneficial to individuals who find pleasure in presenting their form of art to a wider audience. However, a point to consider is that in a presentational music setting, children with no prior music experience may feel pressured when compared with children who have prior experience in music making. This results in anxiety in music performance, which is detrimental to the main purpose of music making. To counter this, sessions of *Music and Me!* were designed to be mutually participatory and presentational so as to ensure the best possible outcomes.

Method

Research Design

The nature of the research topic, which was both exploratory and quasi-experimental, necessitated the study of individuals and events in their natural settings (Tetnowski & Damico, 2001). This involved triangulation of measures comprising of quantitative pre- and post- questionnaires, a mood indicator chart, and participant observation via qualitative video recordings to substantiate information gathered through questionnaires.

Participants/Sampling Method

Written consent was obtained to conduct research on refugee children from the United Nations High Commission for Refugees (Malaysia), which is the body responsible for the well-being of refugees in Malaysia. Requests were made for access to a population of refugee children aged 7-12, preferably in groups of 12-15 participants to ensure individualised attention for all. Based on the criteria mentioned, the UNHCR identified three feasible schools for the study. The term 'school' is loosely used: this refers to an open space, approximately 20 x 12 feet, where refugee children gather to attend lessons run by volunteer teachers from the local community as well as the refugee community. Lessons comprise of English, Science, and Mathematics, and are held every day. Some schools have designated Friday as Bible Study Day/Arts Day, where the timetable deviates from the usual English-Science-Mathematics routine. The population breakdown of these schools is as follows:

Table 1. Population Breakdown of Schools

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School	7-9 years old	10-12 years old	Other Ages	Total
School 1	15	15	3	33
School 2	10	7	6	23
School 3	16	18	2	36
		Sample Size		**92**

Measures

Effects of Music towards Refugee Children Scale (EMRCS)

The EMRCS is a self-designed scale to determine the effects of music towards refugee children through three aspects: social interaction (SI), self confidence (SC) and linguistic proficiency (LP). Each of the three aspects is represented through an individual subscale: items 1-10 measure self confidence (= 0.63) 11-16 measure linguistic proficiency (α = 0.78) and 17-26 social interaction (α = 0.42) . Items 5, 8, 9, 17, 19, 21, 24, 25 and 26 were reverse scored. The principal, along with the relevant teacher for each participant, was required to score behavior of each individual on a Likert scale of 1-5, with 1 being ‗Strongly Disagree/Never' and 5 ‗Strongly Agree/All the Time'. In terms of psychometric validity, the EMRCS is assumed to be valid through the test-retest method (pre and post test) as well as the reverse scored items. In terms of internal consistency, the EMRCS scores =.876 in terms of alpha reliability. Even though there are only six to ten questions testing each dimension, the quality of the EMRCS is not reduced as these six to ten questions encompass the various facets of each dimension as listed by Harvard Trauma Inventory and the Behaviour Assesment for Children Scale. Principals were requested to complete questionnaires in the schools to facilitate observation of a participant in their natural school setting. These three dimensions were identified as a result of a needs assessment conducted with participants before the study. Improvements of these dimensions would be measured through the pre-and post-test method, where it was anticipated that individual scores would reflect the level of each dimension. An increase in score would indicate that the program had improved levels of the three dimensions.

Instrumentation

Music and Me! Sessions incorporated the usage of percussion-based instruments. Percussion-based instruments were chosen so as to create an equal opportunity for participants to express themselves without the need for prior music exposure. Instruments that were used in the projects were obtained locally, under a grant offered by SEMPRE (Society for Music, Psychological Research and Education). The following instruments were selected on the basis of availability and purchase price.

Instrument	**Quantity**
Combi Bells	2 sets

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Boomwhackers	2 sets
Maracas	2 pairs
Guiros with scrapers	2
Bongos	2 sets
Djembe	1
Jingle Stick	4
Tambourine	2
Tambourine with Head	2
Claves	4 pairs
Castanets	4 pairs
Frog Scraper	2
Indian Ankle Bells	2
Thunder	2
Triangles	2
Cabasas	2
Recorder	2
Whistles	2
Kazoo	2
Cymbals	2
Two-tone block	2
Drumsticks	15 pairs

Procedure

Upon receiving approval and consent from the various groups involved, the actual research was conducted as a series of six sessions per school. To best address the needs identified, participants would be divided according to age groups, and participate in Music and Me! sessions, which are outlined as per below:

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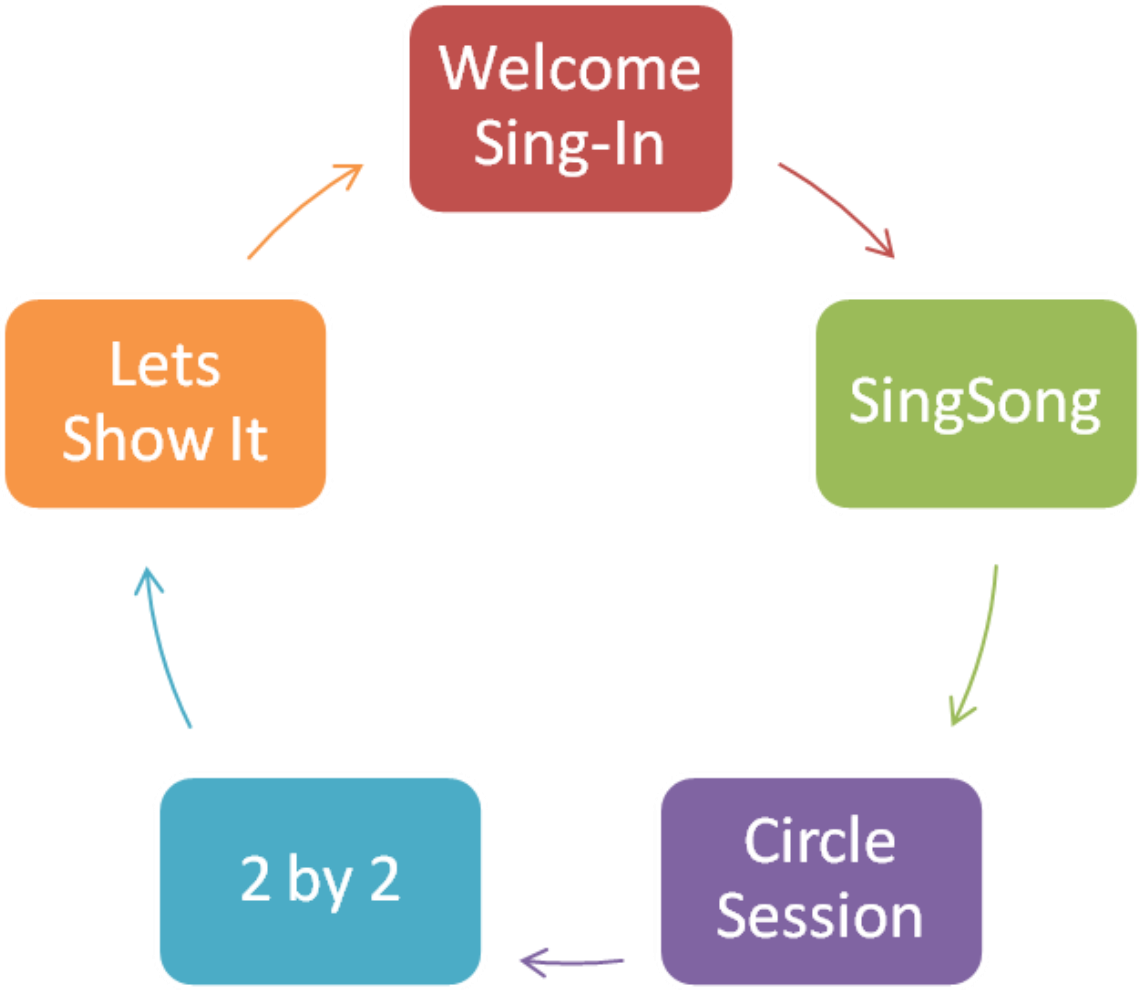

Part One, which was the Welcome Sing-In, was to facilitate a sense of belonging and as a general welcome to the group. Participants would introduce themselves to the group through the usage of music, in the form of singing or tapping a rhythm. General progression was planned throughout the sessions in order to raise self confidence, and also social interaction levels where participants would have to abandon their typical social groups and work with other children with whom they may not have worked otherwise.

Part Two of the Music and Me! structure was the SingSong, where participants would learn a new song relevant to their new culture. This would assist in developing a sense of cultural belonging to the country, as well as improving their linguistic proficiency in English and Bahasa Malaysia, which is the Malaysian national language. While learning a new song, participants would also ‗teach' the facilitator about their own culture, by singing a song in their own language. This exchange was aimed at providing opportunities for empowerment, where participants were given an opportunity to be in a leading role, as well as retaining their cultural identity.

Part Three, which was Circle Session, would expand on the concept of letting participants be in a leading role and assert their self confidence. Participants were to choose musical instruments they liked, and then play together in harmony within a musical circle. The musical circle began with the facilitator, who then ‗bounced' the role to a random member of the circle when she felt that her rhythm choice had come to a close. Upon completing their rhythm/melodical pattern, the

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participant would ‗bounce' the role to the next participant of his/her choice. This ‗bouncing' would continue until all participants had had an opportunity to lead the music circle. The concept of ‗bouncing' was indicated through the jump of a participant and the pointing of his/her instrument to the next chosen participant.

Part Four, 2 by 2 was aimed at facilitating the social interaction and linguistic proficiency aspects of the study. Participants would work together in developing a unique piece of music though the usage of percussion instruments. This process would help in exploring the creativity of each participant, as well as provide an opportunity for participants to complement each other rhythmically or melodically. During this time, the facilitator would be granted an opportunity to observe the actions of each pair of participants from a more personalized viewpoint, as well as to interact with participants on a one-to-one basis.

Let's Show It, the final part of Music and Me! was aimed at facilitating all three targets of the study: self confidence, social interaction and linguistic proficiency. Participants had the opportunity to present their pairwork music pieces to the overall group by giving a brief introduction on the meaning of the piece and what it symbolized to them. This part was hoped to assist in the eradication of the ‗stage fright' phenomenon, while gathering support from fellow participants through the applause given. At the end of all performances, participants were given a period of ‗free play' where they could do as they wish with musical instruments (short of mistreating them) in terms of method of playing, intensity of sound and bodily interaction.

Each session lasted for approximately 60 minutes, and was conducted in the school/place of learning. All sessions were video-recorded, and the footage used for analysis. Participants were briefed from the beginning that this program would run for 6 sessions, and that the teachers would continue the sessions after session six. During session one, participants were introduced to the mood indicator, and as a group, defined the emotions of each individual based on their perspectives. This activity served as the basis of common understanding of the mood indicator for consecutive sessions. The mood indicator would then be completed by each participant pre and post session, and the overall change of moods reflected through a statistical analysis.

Results

All results are first presented as the results of a pre-and post- test measurement of overall participants. The overall pre-and post-test results are once again examined, but broken down by the factor of gender. Therefore there are two sets of results for each study. The study was conducted in this manner to determine if there was a difference in the effects of music based on gender.

Table 3 provides an overview of the descriptive results for the subscales represented in the conceptual framework, including the minimum and maximum statistical response for each variable, the means and standard deviation. High levels are especially represented in the overall score of Post Social Interaction (PSI) ($\bar{x}$ = 35.89), Post Self Confidence (PSC) ($\bar{x}$ = 33.68) and SI ($\bar{x}$ = 32.56). An increase of the mean is seen in each aspect, with the highest percentage being the increase of SC score by up to 10.78%, followed by LP (7.76%) and SI (6.66%).

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Table 2. Characteristics of Participants

		Participants	
		n	%
All participants		92	100
Participating Schools	School 1	33	36
	School 2	23	25
	School 3	36	39
Gender	Male	59	64
	Female	33	36
Age (years)	4-9	50	54
	10-14	42	46
Duration in country of asylum (months)	1-6	26	28
	7-12	29	32
	13-18	2	2
	19-24	25	28
	25-30	2	2
	31-36	5	5
	37-42	0	0
	43-48	2	2

Note. For confidentiality purposes, participating schools were labeled School 1, School 2 and School 3 and not identified by name

Table 3. Summary of Effects of Music to Refugee Children Scale (EMRCS) Scores

		Min	Max	M	SD
Self Confidence (SC)	Pre	17.00	46.00	28.30	4.35
	Post	24.00	47.00	33.68	4.29
Linguistic Proficiency (LP)	Pre	6.00	17.00	8.57	2.76
	Post	6.00	24.00	10.90	5.31
Social Interaction (SI)	Pre	23.00	44.00	32.57	3.65
	Post	28.00	46.00	35.89	3.27

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Figures 1 and 2 illustrates the gender analysis in terms of self-confidence prior and post the *Music and Me!* sessions. The maximum self-confidence (SC) level that a participant could attain was 50 points. There was a marked increase in confidence levels of females. While females expressed a minimum confidence level score of 17 points pre-sessions, this increased by 14% to 24 points post-session. Males, on the other hand, increased their initial score of 22 points to 25 points (6% increase). The mean confidence level of males pre- test and post-test was $27 \leq \bar{x} \leq 36$, while for females it was from $27 \leq \bar{x} \leq 30$.

Figure 1. Gender Analysis for Pre-Session Confidence Levels

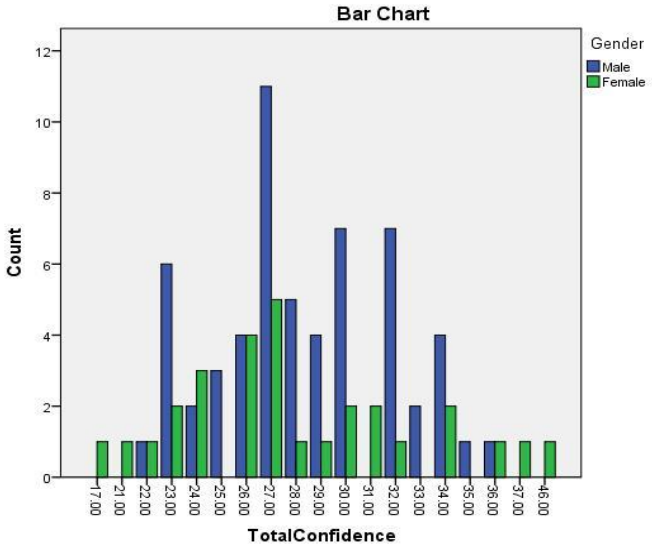
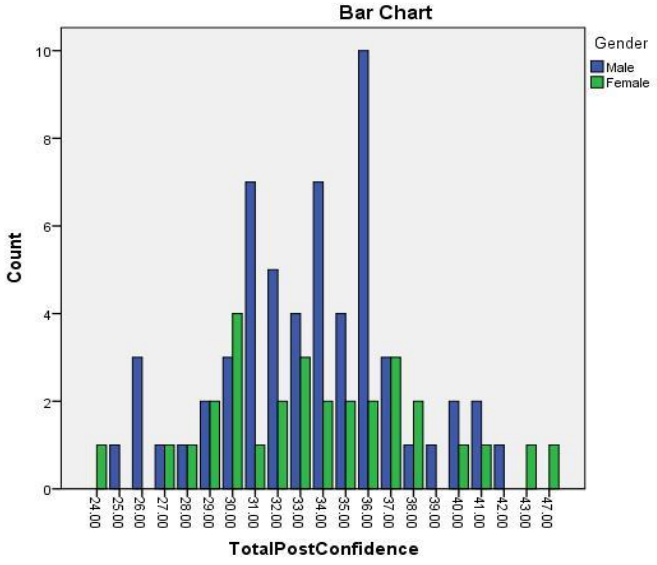


Figure 2. Gender Analysis for Post-Sessions Confidence Levels



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Figures 3 and 4 illustrate the gender analysis in terms of linguistic proficiency prior and post *Music and Me!* sessions. The figure shows a maximum score of 30 points, and indicate a range progression for males by up to 18%. While the maximum score pre-sessions was 15 points, after implementations of *Music and Me!* sessions, the maximum score was raised to 24 points. Female scores on the other hand increased by 12%, from a maximum of 17 to 23. While there were noted increases in scores, the majority of the group (both males and females) maintained a minimum score of 6, even after sessions.

Figure 3. Gender Analysis for Pre-Sessions Linguistic Proficiency Levels

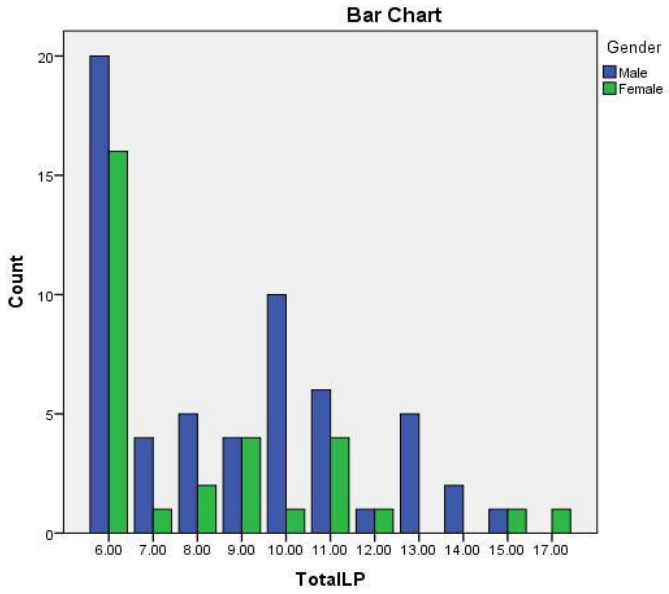
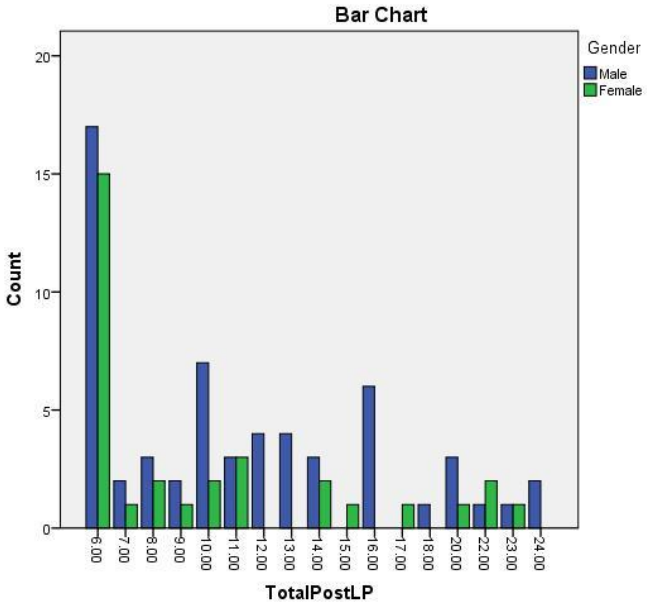


Figure 4. Gender Analysis for Post-Sessions Linguistic Proficiency Levels



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Figures 5 and 6 illustrate the gender analysis in terms of social interaction prior and post *Music and Me!* sessions. In terms of social interaction, scores of males ranged from 26 ≤ $\bar{x}$ ≤ 42 points pre-session (maximum of 50 points) and 28 ≤ $\bar{x}$ ≤ 43 points post-session. Females scored 23 ≤ $\bar{x}$ ≤ 44 points and 31 ≤ $\bar{x}$ ≤ 46 points pre and post sessions respectively. The mode score for males and females were 31 points pre-session; this increased to 37 and 35 points respectively post-session.

Figure 5. Gender Analysis for Pre-Sessions Social Interaction Levels

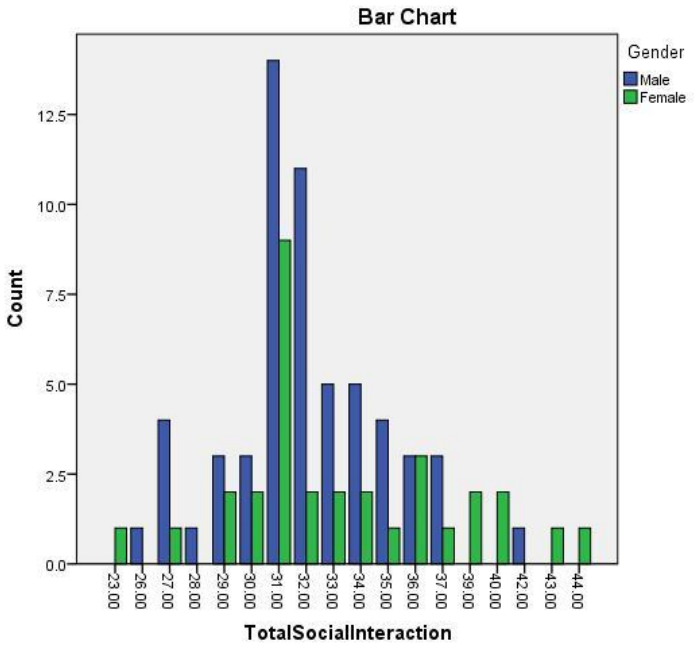
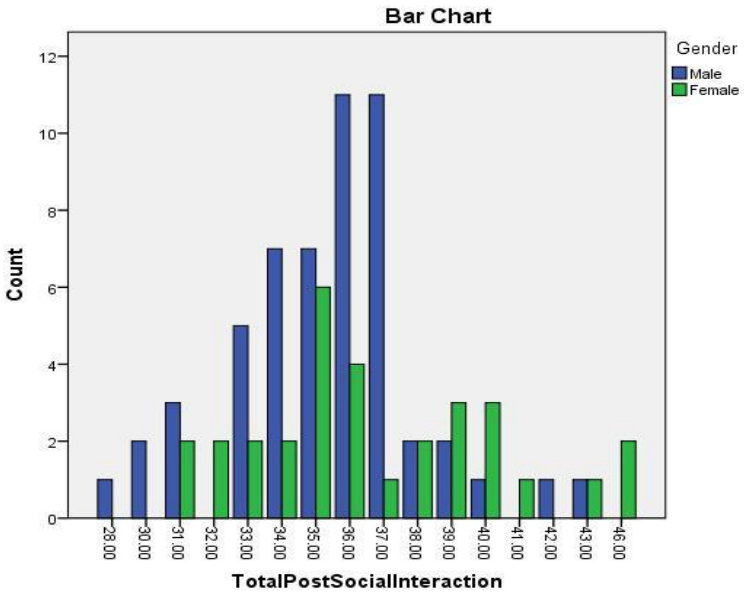


Figure 6. Gender Analysis for Post-Sessions Social Interaction Levels



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Due to data being identified as being non-parametric, Spearman's Rho was the choice of bivariate analysis. Table 5 reflects the associations between the overall scores for the pre and post effects of the *Music and Me* sessions for refugee children. There was a significant association between the pre and post effects of the music sessions on all three subscales: self-confidence, linguistic proficiency and social interaction.

Table 5. Correlation between the Overall Pre and Post Effects of the Music and Me Sessions

	Self Confidence (SC)	Linguistic Proficiency (LP)	Social Interaction (SI)
Self Confidence (SC)	.449**		
Linguistic Proficiency (LP)		.909**	-
Social Interaction (SI)	-	-	.609**

However, there were negative correlations (ρ ≥ 0.05), between gender differences and subscales, as expressed in Table 6. This indicates the opposite from the data above; while there is high overall correlation within participants and subscales, there is no significant relationship between gender and the individual subscales. Gender appears not to be a reflective aspect in the dimensions mentioned.

Table 6. Spearman's Rho Correlations for Gender with Subscales

Effects	**Pre**	**Post**
Overall	-.07	-.01
Self-Confidence	-.09	.02
Linguistic proficiency	-.15	-.16
Social interaction	.12	.14

Table 7. Mean for Pre and Post Effect of Music towards Refugee Children

Effects	**Pre**	**Post**
Overall	57.40	108.22
Self-Confidence	59.83	115.85
Linguistic proficiency	81.06	99.74
Social interaction	64.72	112.65

Table 8. Mean of Gender to Effects of Music towards Refugee Children (pre & post)

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Effects		Male	Female
Overall	Pre	43.11	39.70
	Post	41.14	40.73
Self confidence (SC)	Pre	45.53	40.95
	Post	44.17	45.13
Linguistic proficiency (LP)	Pre	47.64	40.06
	Post	49.02	40.44
Social Interaction (SI)	Pre	43.45	49.22
	Post	40.47	47.40

In order to statistically confirm the previous observations between overall effects of music towards participants, as well as effects of music towards participants by gender, the Kruskal-Wallis test was applied. In terms of non-parametric data, the Kruskal-Wallis test run with the means of the constructs confirms the previous observations by verifying significant differences between the groups in terms of pre and post tests (ρ= 0.000). An increase in all dimensions was observed (SC = 43.07%, LP = 14.36%, SI = 36.87%).

However, in comparing effects of music towards gender, there was a marked difference in terms of results not being statistically significant. Males showed a decrease in levels of SC (-1.04%) and SI (-2.29%). However, there was an increase of 1.06% in LP. Females showed a decrease in SI levels (-1.40%) but an increase in levels of SC (3.21%) and LP (0.29%).

To reaffirm the data gathered through the Kruskal-Wallis test, an Analysis of Variance (ANOVA) was run based on both pre-and post-test measures, as well as by gender. The results are expressed in tables 9 and 10 below.

Table 9. Significance Levels of Pre and Post Effects of Music towards Refugee Children

		Significance Levels
Self Confidence (SC)	Pre	.215
	Post	.000
Linguistic Proficiency (LP)	Pre	.546
	Post	.000
Social Interaction (SI)	Pre	.412
	Post	.000

This data indicates that music has had an significant effect on participants in improving their levels of self-confidence, linguistic proficiency and social interaction

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Table 10. Significance Levels to Effects of Music towards Refugee Children (gender)

		Significance Levels
Self Confidence (SC)	Pre	.769
	Post	.657
Linguistic Proficiency (LP)	Pre	.306
	Post	.270
Social Interaction (SI)	Pre	.093
	Post	.060

There are no statistically significant differences noted between gender of participants and the effects of *Music and Me!*. However, it is noted that the levels of each subscale have decreased within the initial six sessions of *Music and Me!*. This might suggest the possibility of a significant difference by gender in a longitudinal study.

Discussion

Social interaction

As expressed quantitatively in the previous session, there was an overall improvement in the levels of social interaction amongst participants. Prior to sessions of *Music and Me!*, there was no avenue that facilitated social interaction amongst refugee children. Participants would arrive at school, undergo lessons and return home. There were little or no extra-curricular activities or group activities during lessons. The usage of music and instruments therefore resulted in a method of encouraging social interaction amongst participants who would usually refrain from socializing with participants from outside their clique of friends.

One effective method of promoting social interaction was through teamwork, and this was best encouraged through the usage of boomwhacker sets. A challenge was given to participants to produce a 8 tone scale using boomwhackers. Each note had to be played by two participants; the challenge was that it had to be in unison. If any pair failed to produce a sound in unison, the scale had to be started again until all 8 notes had been played without mistakes. Upon beginning the challenge, it took participants approximately 5 minutes to produce a perfect scale. At the next music session, the same challenge was put forth to participants. They then initiated discussions on methods of increasing speed and performance, and as a result a perfect scale was produced in 3 minutes. This led to a series of high-fives across the team – which served as the initial icebreaker for future social interactions outside *Music and Me!* sessions as this team had accomplished a task together.

Self Confidence

During the course of *Music and Me!* sessions, it was noted that participants were not familiar with the concept that they were allowed to make their own decisions. During initial sessions, when asked which song participants would prefer to start off with, there was utter silence. When participants were then asked what they wished to do, the response gained was –Whatever you wish us to do". It was then emphasized through the sessions that participants had the freedom of choice, and could make choices that were deemed beneficial to themselves, in the hopes of raising levels of empowerment and self confidence.

Another method of promoting empowerment and encouraging participation was through a musical game entitled _Bouncing

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Chopsticks'. In this game, each participant was given a pair of drumsticks. The facilitator would play a rhythm pattern with drumsticks which was to be mimicked by the rest of participants. Once the rhythm pattern was completed, the facilitator would "bounce" the leadership of the group to a participant at random by doing a little jump and pointing the drumsticks in the direction of the next participant. He/she would then play his/her own unique rhythm pattern, also to be mimicked by the group, and then "bounce" it on to another participant at random. During initial sessions, leadership of the group tended to be "bounced" back to the facilitator after every second participant. This behavior was assumed to indicate a of lack of confidence in making choices, and in leading the group, since the rhythm patterns were usually only 2-3 bars. Nevertheless, over the weeks, leadership of the group tended to be "bounced" back less often to the facilitator and kept within the group. Individual rhythm patterns also grew from 2-3 bars to up to 12 bars. This was congruent with the theory that children were more confident with their musical abilities and wished to express themselves individually through the opportunities given.

Linguistic Proficiency

Statistical analysis shows that there was minor improvement in the linguistic proficiency of the refugee children as a result of *Music and Me!* sessions. Since participants spoke little or minimal English at the start of the research, this lack of improvement was unexpected; an increase in linguistic proficiency scores was anticipated as a result of the longitudinal study approach. However, the fact that any gains in linguistic proficiency were obtained after a period of only six weeks indicates the potential of using music in language. This can be viewed as an oxymoron, since music supposedly transcends boundaries of race, religion and language. However the fact remains that linguistic proficiency was exposed to participants through the usage of English songs, and sessions were carried out in English, with the usage of an interpreter where necessary. Participants stated that although they were not confident in English, the act of singing together as a group resulted in them being able to explore their linguistic abilities without fear of being ridiculed. The introduction to certain concepts such as 'left-right', 'up-down', 'loud-soft', and the usage of English songs in addressing concepts (Example: Road Safety) led to participants realizing that knowledge of English could be expressed via song.

Emergent Themes

The effects of music towards refugee children in this study were empirically measured on the three dimensions above. However, other themes emerged from the usage of music towards this sample, which are elaborated on below.

Gender

While there is significant statistical input for the effects of music upon the overall sample in terms of a pre-and post test, no significant difference was noted for gender. One possibility for this result can be attributed to the sensitivity of the instrument in examining measurements of gender. As the instrument was originally constructed for the purpose of measuring differences between pre-and post-sessions, as well as by age, a slightly different angle may be needed to examine the constructs of gender in this study. On the other hand, it was noted that over a period of six sessions, there was a minute increase in levels of statistical significance. Although still classified as not statistically significant, the increase in parameters offers the option that longitudinal sessions of *Music and Me!* might result in a outcomes of statistical significance between genders. However, the possibility still exists that refugee children do not show apparent signs of differentiation between genders due to the nature of experiences that

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they have undergone. As discussed, the concept of being a refugee leads to the lack of self-identity. Does this lack of self-identity also relate in the lack of a perceived gender differentiation, and is this lack of gender differentiation expressed through musical identity? This is a research question in itself that holds potential for an area of future research.

Emotional release

Participants stated that they had never been asked about their feelings regarding being a refugee child. Instead, they were always given the impression from the public that they deserved pity due to their situation. This perceived impression was heightened by corporations who structured their corporate social responsibility programs around refugees. While genuine expressions of assistance were appreciated, participants stated that they were tired of being "on display" to the public, especially from corporations who used their work with refugees for social gain. Corporations would begin a program, but leave as soon as it had been documented. This feeling of being 'used' added to the frustration already experienced by participants. However, there was never an outlet for participants to express these emotions. They feel that the usage of music is an avenue that allows for emotional release due to its therapeutic benefits, as discussed in the themes above. Music also served as a method for them to reconnect to their past memories and deal with their uncertain future. Music was viewed as a transferrable skill; while circumstances of participants may change, they will always be able to 'hold on' to the concept of music making.

Creativity development

While it is impossible to quantify creativity, what was observed was that participants tended to be more expressive and willing to try more choices as the sessions progressed. The wrist bells were one of the instruments which was least used; however after exhausting their choice of instruments, participants would examine the wrist bells and see how they could be affixed to the foot to enable sound when a foot is stomped. One other participant attempted to challenge himself to produce sound from a multi-tone wooden block without using the beater: He bit each side with his teeth in order to see if it produced different tones.

Limitations

Pilot study

Due to the difficulties in accessing the population, a pilot study was not possible. This difficulty was mainly due to the vulnerability of the population, as research with refugees in Southeast Asia is in its pioneer stage. As a result, the pilot study and actual study were combined into one. While attempting to retain the outline initially proposed, changes to the design had to be made on an ad-hoc basis according to the feedback and observations from each session. However, now that rapport has been established between the research and refugee communities, it is anticipated that there will be accessibility granted for future research undertakings which would enable pilot studies to be carried out.

Usage of interpreters

As participants spoke little or no English, an interpreter had to be used to help convey instructions and questions to participants. The school principals were chosen as the interpreters, since participants were familiar with them. However, while interpretation of language was able to be done verbally, transference of sense of energy and method of delivery was lacking. Interpreters used were not professional interpreters; therefore had not undergone any training on methods of delivery. As a result, it was expected that some meaning of the message intended to be conveyed had

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been lost in translation. To prevent this, it will be beneficial to use interpreters who have been professionally trained and are familiar in working with children.

Conclusion

The field of music and its effects on refugees, be it through therapy, education or integration, is a field that holds much potential. There are numerous research opportunities available simply due to the fact that no documented research has been conducted with this population. This study has managed to fill a gap in the literature, and was successful in meeting the expectations of the researcher. The biggest achievement was the increase of 37.69% in terms of overall improvement. While there were shortcomings within the research, the above list of limitations and recommendations would suffice to ensure that they are avoided in the future.

It is vital that there should be future research conducted in the context of music and refugee populations, since these results will be able to be used in a variety of areas. Evidence of how music intrinsically relates to refugee populations can be used in development of multi-faceted refugee integration programs for future use in humanitarian group settings, which would be advantageous to the refugee population themselves. Utilizing music with a refugee population is intriguing because this entails the amalgamation of the boundaries of ethnomusicology, therapy, education, and integration. It can be said that this would mean treading a fine line between music psychology and music therapy. However it is the synthesis of the two disciplines that would lead to a thorough understanding of the refugee population and how they can benefit through music.

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Creating Musical Multimedia in Music Educational Preschool Context

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Abstract

Children are growing within a world dominated by multimedia, influencing their everyday lives and a lot of their learning. With a variety of musical multimedia at hand, greater emphasis is given to music education to challenge traditional views based on instruction and to offer opportunities that can involve children into creating new material based on their experiences, knowledge and understanding. To meet this need, teacher preparation could focus on an increasing understanding of children's perception of multimedia material. At the same time, it could develop ways of adopting a creative view towards such material by taking up the challenge of creating multimedia material. In the current study, prospective teachers were given the opportunity to create such material by working in groups to make their own advertisements. Conversations with the participants regarding the actual end result indicated their ways of exploring their perceptions of the end product as well as the creative process followed. The results indicated a tendency to use familiar themes only as a starting point for creating new, original and humorous approaches to convey meaning. It appears that during the process of creative engagement with multimedia material, the element of involvement and fun increased the participants' experiential relationship with the medium. Creative approaches as such, could suggest a teacher training that understands children's needs in relation to current trends and is more sensitive to find ways to guide their expressive potential. Various issues are discussed regarding opportunities offered in music education for children's participation through multimedia use, for discovery and development of expressive outlets.

Keywords
music education, musical multimedia, preschool age, musical engagement, experiential relationship

Children are growing within a world dominated by multimedia, influencing their everyday lives and a lot of their learning. Multimedia is having a profound impact on the way children experience music (Young, 2007). Yet, —a common reaction among practitioners is to reject children's everyday musical experiences together with the multimedia and children's popular culture that are part of them" (Young, 2009, p. 37). Teacher-directed models based on singing, listening and movement dominate school experience, while rich material related to children's personal lives and preferences is left out of the educational experience. Multimedia may vary in terms of its application and meanings attached to it, including material presented in 'verbal form', i.e. printed or spoken text and in 'pictorial form', i.e. illustrations, photos, animation or video (Mayer, 2005). It is a field that involves the interaction of different media, crossing from the 'high' arts to the popular ones (Cook, 1998). Could such an interaction involve learning? Richard Mayer, one of the leading researchers

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in the area of multimedia learning, emphasized the important role of pictures in our learning, as people can learn more deeply from words and pictures than from words alone (Mayer, 2005). The latter consists of the fundamental principle behind multimedia learning and it can be a challenging basis for reconsidering the way music education can get in touch with children's experiences, to offer a creative approach for the purposes of music education.

The work described in this paper encompasses an interest into understanding the way multimedia can influence children's lives and the way music educators can find a role within the current trends by integrating multimedia within music education practice. Three different aspects of multimedia in music education are of interest here:

- The way preschool children's out-of-school experiences are influenced by multimedia.
- Children's understanding of specific aspects of multimedia, in particular the interaction between image and music.
- Developing a creative stance towards multimedia by getting involved into creating multimedia examples within a music educational context.

Multimedia in Young Children"sLives

From the various multimedia with which children are engaged daily, television seems to hold a prominent position in children's lives, holding their attention more than any other activity. Indicative to the latter, is that by the end of their first year of life children view television for one and a half hours. Preschool age children are the greatest consumers reaching up to thirty five hours of watching television per week. The latter could mean that by the end of high school, most children are spending double hours watching television than the hours spent in classroom (Clemens & Nastasi, 1993). The increased time on television viewing indicates that, by preschool age, children become systematic viewers, with well established viewing habits.

Children's viewing preferences involve child-oriented shows and cartoons, adult soaps', documentaries, amusement games and programs (Clemens & Nastasi, 1993; Dogani, 2007). Their viewing influences their lives and attitudes. As animism is quite strong in preschool age, they react to what they see, transforming television to an object that has life and can be imitated in the same manner as an adult. This is evident in examples where children tended to imitate televised models in their everyday lives, i.e. six month infants altered their vocalisation pattern when listening to a televised model, while 14-24 months infants imitated TV actions even a day after their viewing (Hollenbeck & Slaby, 1982; Meltzoff, 1988; Clemens & Nastasi, 1993). They also tend to carry the show's tune in their everyday activities or they replicate dialogues and specific cues from the characters in the programs they watch (Dogani, 2007). In addition to influencing children's free time activities, television seems to be the main family gathering activity. Most of the viewing time takes place with the parents. As a result, time spent in other communal activities that used to bring family members together (storytelling, singing, playing musical instruments, etc.) has diminished (Dogani, 2007).

Preschool children's comprehension of multimedia viewing needs to be taken into consideration, since their understanding of multimedia components differs from adults. Their limited experiences and bounded ability for generalisation and deduction does not allow them to decontextualise but to simply accept perceptual information (Francois, Hudelot, & Sabeau-Jouannet, 1984; Nelson, 1985; Piaget, 1967; Vygotsky,1934/1988). As a result, their understanding of the viewing object/s may be directly influenced by their experiences (Nelson, 1985). Dogani and Konstandinidou - Semoglou (2009) provided a framework for understanding the way children perceive the

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connotations of music that accompanies a visual message with important implications for music education. It appeared that in the process of engagement, it is the informative part of the visual message and the receiver's experiential relationship with it that involves the receiver in the specific context more than the connotations transmitted by music. Thus, it has been indicated that specific use of pleasant music, for example, may have little or no effect on children's interest when paired with content that does not present an obvious interest to them. This presents a case for considering children's reaction to music when planning music educational activities for them, not only as a result of an immediate response but also as a result to children's previous experiences that may guide their response and understanding (Dogani & Konstandinidou – Semoglou, in press).

Given the current influences and children's immediate responses to multimedia, the question of interest here is to consider a school's "institutional culture" that could make viable a more creative disposition towards multimedia. It is worth considering ways with which music education could challenge traditional views based on instruction and offer opportunities to involve children into creating new material based on their experiences, knowledge and understanding. Although a rich educational environment can offer many opportunities for the child's initiation and experience with various forms of multimedia, the teacher's disposition towards it could play an important role. In the same way that the teacher's own experience with the creative aspects of music could positively affect children's engagement with creative music making (Dogani, 2004), teacher's experience with the creative use of multimedia and various interactive modes of learning is hoped to also work as a catalyst in encouraging children's creative engagement with these materials.

Method

The participants consisted of 20 groups of 4-5 students, who were prospective preschool teachers encouraged to prepare their own short advertisement as part of their engagement in a music education module within their teacher-training course. The module was the final part of a series of modules in music education (2 compulsory and 2 elective). During the course the student teachers had various experiences that allowed them to engage in sound exploration, active listening and participation in paired or group improvisation. For the creative task, the participants were free to explore any previous personal or other experiences gained during the course or any other university courses, to find their own ways of organizing the visual and the musical content of the advertisement. They were also encouraged to find ways of recording it for subsequent group sharing, reflection and evaluation, on any available technology they had at hand (e.g., mobile phones, digital cameras). They could then edit using any appropriate software (e.g., Windows Movie Maker). During that process, they could seek peer or tutor assistance in terms of clarifying musical concepts or using course materials, i.e. instruments.

They worked in groups to create a pilot advertisement in which they explored the way they could put their ideas into practice and how they could use technology to record it. Since they were quite adept using their mobile phones as part of their daily habits, they were encouraged to use them as a recording device for their advertisements. In retrospect, this helped them to make certain decisions for the technical aspects regarding their final advertisement. Thus, they realised they needed more sophisticated equipment, such as a video camera, to enhance the quality of sound and image. Also, the pilot experience led to their final piece in which they tried to integrate their creative ideas in a more clear and economic way than their first attempt. The analysis of the data was based on the final

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recordings that were submitted, as well as whole class and group reflective discussions while viewing those advertisements.

Results and Discussion

In the majority of the advertisements there was a tendency to use themes from known commercials, showing the influence and dominance of the media to the participants. They used items they favoured in their daily lives, such as refreshments and clothing. In the majority of the attempts they had only borrowed ideas that seemed to fit to their purposes, using them as a starting point to create an original advertisement. For example, they titled an advertisement —A Coffee Maker With a Twist", to give their own version and use for it. Based on the assumption that the ultimate goal was to be able to create something similar in class, many of the themes conveyed clear educational or moral values, such as recycling, learning about professions, healthy eating, and vitamins. It was interesting that many of the groups considered that content appropriate for children should have a didactic aim. In that case as well, each group found different and humorous ways to present their themes within their imagined scenario.

Based on their stories they did the actual filming in outdoor or indoor settings to give a film feeling to them. They adopted different roles based on the needs of their scenarios, being actors or even puppeteers, playing music live or backstage, filming and so on. In that way, they demonstrated how they used their imagination and their previous personal experiences from what they gained from other university courses. However, the emphasis was not so much on speech as on the sound aspect that would accompany their advertisement. For that reason, they added their own music with simple and repetitive rhythmic or melodic elements (see Figure 01), with the necessary sound effects and limited speech to enhance the message of their advertisement.

Although all participants initially thought that the process of creating an advertisement would be easy for them, they soon realised the great amount of time and effort needed to complete it in order to successfully present their musical and visual ideas in the short time allotted for the advertisement. Nevertheless, they participated with excitement because as one of them said —we were free to work on our ideas and to find our own solutions on any difficulties" (Athena). They were immersed in the game-like situation losing the track of time, following the —flow' of the lived experience (Csikszentmihalyi, 2008), to create their own version of reality through the advertisement.

Being responsible to develop their own musical material, they realized in what ways they could musically enhance the messages of their story. That way they were able to get an insight into the musical process as well, as —I realised that in our improvisations, we needed to find a basic theme or tempo and to enrich it. This is what happened on our advertisement" (Thaleia). In their search for a basic musical theme characteristic for their story, the musical action led them to the actual musical experience. They enriched that experience through the process of musical engagement, as Maria admitted, even making things they have not imagined before: —I do not have any musical knowledge and I was always amazed that in our lessons, I could make music with anything! I contributed into something as good as the advertisement, the sound walk, our improvisations…".

The expressive qualities of music were used appropriately to accompany their story (Cook, 1998) creating the effect of tension or agony, i.e. using a rhythmic chant and a rhythmic pattern to accompany specific instances of an advertisement. They modified the music using minimal text, giving emphasis on sounds, rhythms, gestures, even simple dance moves. That way, the different elements in a scene, such as visuals or sound effects,

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served as indicators to inform the viewers for the content of a scene. Music can indeed alter or characterise a scene in terms of some its "expressive quality'; it "tells us something, of an emotive significance"; the description of a presentation "of the emotive properties the film attaches to the referents of the scene" (Carroll, 1991, p. 221).

Through reflection, the participants realised that they could make comparisons related to the other groups' end result. It became obvious that similar to a group composition, the groups that worked well together and used their ideas in an economic way, they could create an advertisement that could easily convey a message. In that process, they had to omit many ideas out in order to retain those that seemed most appropriate to the group. Most importantly, by reflecting on the whole creative process they felt more challenged to try out a more active teaching approach with the children:

"The experiences I gained were the best way to learn about music and to have the courage to try and do things with music and sounds with the children in the kindergarten" (Maria).

Music-making as an extension to multimedia creations, can be a challenging opportunity for preschool music education. It could assist children in creating their own multimedia videos of dance, movement and sound through vocal sound track sampling as an add-on feature to improvised dance and movement performances, a method supported by Young (2009). Indeed creative methods as such could suggest a more sensitive approach to teacher training in which current trends are taken into consideration in order to best understand children's needs and ways of guiding their expressive potential. The opportunity described here may offer great benefits to music education; children's participation, discovery and development of expressive outlets can be inspired by the contemporary use of material familiar to them. Although issues are raised regarding the relevance of the examples created by the student teachers in the present research to children's musical and other experiences, it would be subject to subsequent research to see their actual reactions and understanding for videos created for them. It is nevertheless hoped that the teacher that has personally experienced the excitement of working in a group situation to create a complete example of multimedia can be much more ready to take the challenge and try something similar with children.

Learner-centred approaches with integrated technology as a tool in early years general and music education provides an important alternative to technology-centred approaches. The framework for learner-centred approaches focuses on using multimedia technology to enhance children's learning, towards a "human-centred technology' (Norman, 1993) so that technology will serve us rather than us serving it.

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Infant Vocal Productions Challenge Music Education: A Case Study on the Transition between Speaking and Singing at Age 14 Months

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Abstract

Singing is the first complex musical production. It is an innate capacity that allows adapting the vocalization to the surrounding music and language. Singing can be defined essentially as producing sonorous vocal sounds with pitches modulated and possibly forming categories. Even primitive song singing encompasses the relevant parameters loudness, pitch, timbre, and timing that are common to both language and music. How does an infant vocally organize these parameters? Which musical and linguistic principles does an infant already understand and express by vocalising? In this study an infant's spontaneous vocalization at age 14 months is analysed with computer-aided methods. He grew up with song singing being a shared activity and with German as mother-tongue. The selected excerpt lasts 41 seconds. It shows the infant speaking the word */da/* and changing to singing by starting regular body movements, and by using stable pitches matched with regularly accented syllables. This case study provides insights into the infant's vocal learning of the rule-based system underlying song singing. Musical features prevail, and thus, results are congruent with the singing-before-speaking or the musical-origins-of-language hypothesis. The infant distinguishes clearly between speaking and singing, and he seems to know implicitly that singing allows repeating syllables, inserting a regular stress pattern, and requires extending the sonorous sounds to form pitch categories, and sequencing them to a melody. Studies on early musicality show that infants start very early to acquire the rule-based systems of music and language, and especially the one related to song singing. This early capacity could be much more exploited to support children's development and learning, e.g., to facilitate language acquisition.

Keywords
singing, infant, vocal learning, song, musicality

Already for children at the age of two years, Kelley and Sutton-Smith (1987) demonstrated huge individual differences between children's linguistic and musical abilities brought up in differently stimulating musical homes. Evidently, the first two years are most crucial for a child to learn to sing and to speak. Papoušek and Papoušek (1981) showed that preverbal parent-infant communication is very musical. Intuitively, caretakers use musical features to regulate emotional states in themselves as well as in infants. Apart from affective and functional aspects of early musical interactions, infant directed singing has been studied in its structural aspects (e.g., Falk, 2009; Longhi, 2010). There is evidence that infants have precocious perceptual capacities even as neonates (Kisilevsky et al., 2004; Stefanics et al. 2009; Winkler et al. 2009) and that neonate crying exhibits features that indicate early and seemingly quite sophisticated vocal learning (Mampe et al., 2009). Musical features prevail in infant-directed

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communication, but also in the infant vocalization. Stadler Elmer (2012) analysed the structural aspects of early song singing by a 20 months old child and showed that the child expresses understanding of the major song singing rules. She refers to Rousseau (1871) and Vanechoutte and Skoyles (1998) hypothesis that the innate singing capacities are pre-adaptations that enable or facilitate language. Human infants are equipped with the capacity to recognise and reproduce pitch and stress patterns. They coordinate the auditory and vocal system and adapt very fast to external stimuli. During the first year, the infant learns to differentiate between the singing and the speaking mode. Yet, it is difficult to categorise pre-musical and pre-verbal vocalizations because they are intertwined and indistinguishable. Moreover, as contextualised listeners, we tend to attribute culturally specific features that might not be verifiable. A crucial moment for investigating the infant‘s differentiating between singing and speaking are situations in which the infant intends to shift from the one to the other. This can be observed at the beginning of the second year. How does the infant organize the linguistic and musical parameters while vocalizing? What does this organization reveal about the infant‘s understanding of music and language?

The present study aims at analyzing at a micro-level the structures of an infant-intended transition from speaking to singing at the age of 14 months. The microanalysis of this process should uncover early capacities in vocal learning of music and language and the infant‘s access to these rule-based systems.

Infant Vocal Learning

Hsu and Fogel (2001) showed that infants between one and six months increase their non-cry vocalization in the context of social interactions; hence, they seem to connect vocalizations with communicative situations. According to the models on vocal pre-speech development by Oller (1980), Stark (1980) and Koopmans, van Beinum and van der Stelt (1986) the infant at an age of about four months enlarges the inventory of vocalizations by a wide range of yells, growls, whispers, vibrants and for the first time full-resonant vowels. Acoustic parameters like intensity and fundamental frequency are controlled as a result of the ongoing anatomic maturation in this period (Fischer, 2009). Infants show an explicit control over the intonational modulation and are able to vocally match the pitch of adult models by imitating the precise fundamental frequency (e.g., Kessen & Wendrich, 1979; Peters, 1997). The infant‘s manipulation of the intonation contour concerns the vowels since they are the most sonorous features of vocal sounds. Taking these features as a starting point, minimal singing can be defined as being a vocally produced sequence of prolonged vowels whose pitches are modulated (Stadler Elmer, 2012). After the infant has gained control over the modulation of pitch, a new quality is achieved when the primitive singing version extends to a sequence of syllables (lyrics) that are patterned by periodic accents and bound to more or less discrete pitch categories. This more differentiated song singing always consists of both, some kind of linguistic and musical elements.

Although theoretically, minimal singing could be found in infants at six months and older, it is very difficult to determine an infant vocalization at this age as being either singing-like or speaking-like. The infant does not yet differentiate vocalisation in these respects. For the observer or researcher, contextual and cultural information are essential to identify the infant‘s or child‘s intentions. However, paradoxically, this information tends to bias the perception, and the interpretation of the infant‘s intention and vocalization remains still vague.

In general, the more singing-like vocalizations tend to be connected with emotional states of comfort, well-being, body movements, and playfulness, whereas the more speaking-like vocalizations tend to relate to a signalling of requests.

In our longitudinal studies we observed that around the beginning of the second year

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the infant may occasionally change deliberately between the singing and speaking mode. These situations indicate that the infant understands the difference between these two modes. How is this understanding manifested in the vocal organisation? How does the infant express the intention to sing or to speak? In order to investigate this process, such a situation has been selected to be analysed in detail.

Transition from Speaking to Song Singing at Age 14 Months – A Case Study

Context and method

The present audio data is an excerpt selected from a longitudinal study of an infant's vocal development. It demonstrates his spontaneous intention to switch from speaking to singing at age 14 months. The event lasted 41 seconds, and acoustic data as yielded by the *Pitch Analyzer* is given in two parts in figures 1 and 2.

Tom grew up with song singing being a habitually shared activity and with German as the native language. Yet, his parents are not professional musicians. Thus, this case study may be considered to represent a prototypical case.

During the recording, Tom is sitting on a couch watching a picture book together with his caretaker. The caretaker turns the page and points to an object and says in German: */da/* (see syllable 1 in figure 1. The word meaning is —here"). Then the infant starts speaking by saying */da/* (see syllable 2 in figure 1), and after some syllables, he switches to singing, and the caretaker reacts with laughing (indicated as syllable 14, lasting 2.2secs). This first part of the process is shown as figure 1 and correspondingly analyzed and represented in figure 3, and the second part shown as figure 2 is analyzed and represented in figure 4.

For the analysis of the infant vocalizations, a combination of acoustic tools, expert listening, and mutual control is used to determine the basic parameters, pitch, timing, and syllables. The acoustic analysis is done with the free ware program *Pitch Analyzer* that offers two different algorithms to estimate pitch, and in addition with *praat* (Boersma & Weenink, 2011). Figures 1 and 2 show one of the two algorithms calculating pitch. The acoustic as well as perceptual analyses undertaken by three researchers showed high agreements. The depiction of the data as shown in figures 3 and 4 is produced by the program *Notation Viewer* (http://mmatools.sourceforge.net/) (Stadler Elmer & Elmer, 2001). This combination of analysis ensures reliable data on the configuration of the main parameters simultaneously present in vocalizations or song singing.

Figure 1. First part of the event as represented by sound signals yielded by the Pitch Analyzer. The *x*-axis shows the timing in seconds. The numbers at the bottom line indicate the syllables, and of those, the first one is spoken as the word */da/* by the caretaker and the sound signal counted as syllable 14 represents her laughing. All other sounds are produced by Tom. The *y*-axes shows the occidental pitch categories and the lines within the sound signals indicate the fundamental frequency estimated by one of the two algorithms provided by the *Pitch Analyzer.*

Figure 2. The second part of the event as an immediate continuation of part one.

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Results

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Altogether, the analysis shows a process starting with articulating the word */da/*, using this as a stimulation to explore sounds that lead to singing, and finally to inventing a new little —song". This process is now analysed in detail with respect to the syllables, their groupings, timing, pitches, and accentuations.

With the seven syllables (see fig. 1 syllables 2 to 8, and correspondingly fig. 3) Tom explores */da/* by changing its articulation (even to non-target language syllables), by modulating pitch within the syllable mostly with a pattern from high to low, and by varying the duration and the accentuation. With syllable nine he starts to sing (see fig. 1 and 3). Which features indicate his intention to sing? First, at this moment, the infant starts to move regularly his head and upper body part.

Second, large pitch variations no longer occur within the syllables, but between them (high – low, high – low). This implies that the within-syllable pitch is stabilised. The consecutive matching of syllables with stable pitches is an important feature of singing in contrast to speaking. Third, he repeats syllables. While singing, syllables may be repeated, but this rule is not valid for word formation.

Fourth, with the syllables 10 to 13, he establishes a trochaic stress pattern. This was somehow prepared by the previous syllables, but only now this metrical pattern shows regular changes in intensity (high – low) and duration (long – short) to create strong (high – long) and weak (low – short) beats. Intuitively, after this sung part, the caretaker started to laugh (indicated as —syllable" 14, see fig. 1 and 3), signaling understanding of the child's intention to sing.

By the syllable groups 15 to 18 and 19 to 22 (fig. 2 and 4), Tom repeats the previously established trochaic melodic pattern of high-low with stable pitches matched with each of the syllables. Yet, he pauses two times, after the trochaic pattern (between syllable 18 and 19) and after an accented syllable (between 21 and 22). By that, he interrupts the trochaic meter and continues with an iambus starting with syllable 22. From here onwards until syllable 31, Tom produces a new metrical and melodic pattern consisting of five iambic syllable pairs with a rising pitch. The accents yielding the iambus are created by short-long and low-high sounds, respectively. The syllables 28 and 30 show within-syllable pitch variations, indicating instability. It can be speculated that this instability signals the preparation for the short —song" emerging with syllable 32.

Tom's spontaneous and explorative vocalization culminates with a short —song" with the syllables 32 to 38. This —song" contains all of the previously established elements, except for non-target language syllables: Pitch variations within but mainly between syllables, a trochaic pattern created by strong-weak beats and high-low pitches, and an iambic pattern created by low-high pitches and correspondingly varied syllable durations.

The two first syllables form the anacrusis. It follows a trochee with the features high-low and long-short, then a long and unaccented syllable that leads to an iambus with low-high pitch and a weak-strong beat pattern. Overall, this short —song" sounds coherent and well-formed. The musical notation in figure 5 is an approximation of Tom's ideas, and levels out some tonal and temporal variations. The melody can be said to be in E minor.

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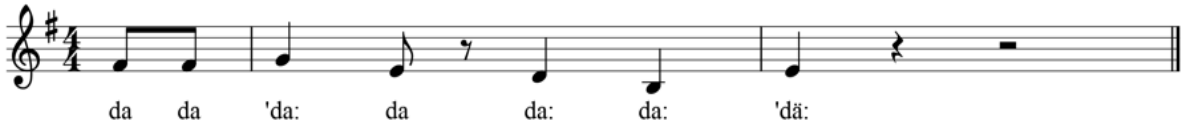

Figure 5. An approximation of Tom‘s invented and well-formed song.

Conclusion

Infants not only are musical „connoisseurs— (Trehub, 2006, 2009) with respect to perception, but also they actively produce musical sounds as songs. So far, infant vocal productions have been studied mostly with a focus on pre-verbal features (e.g., Fischer, 2009), but only rarely they are investigated with respect to both, musical and linguistic aspects. This has to do with the difficulties to analyse pre-speech and pre-musical vocal sounds. They do not yet adhere to linguistic and musical rules, and thus, it is not possible - and would make no sense - to use any usual system of transcription for such vocalizations.

The present case study is an attempt to combine these two domains and to use a combination of methods and parameters. Music and language only partly are separate systems (Patel, 2008), and especially in the first year of life, they can hardly be separated. For one, the communication characterised by Papoušek and Papoušek (1987) as –intuitive parenting” is very musical, and second, the infant fully explores his or her vocal potential, including singing. The most primitive form of singing is a short sequence of sonorous vocal sounds produced with pitch variations between the sounds rather than within. Since infants are able to control intonation in increasing lengths of utterances from about the age of three months, singing-like vocalizations are likely to occur at very early age in emotionally relaxed and playful situations. A milestone in the infant‘s ability to differentiate between singing and speaking is the deliberate intention to switch between the two modes. This situation allows the researcher to study the rules of both systems the infant is capable to differentiate and to apply.

The micro-analysis of an infant‘s process to change from speaking to singing shows how a complex set of features is simultaneously explored and finally established to invent a well-formed short —song”. What makes such songs well-sounding for the listeners‘ ears is the fact that the infant now adheres to all the musico-linguistic well-formedness conditions that he violated in previous vocalizations. In this sense, the transition phase between speaking and this final —song” can be interpreted as preparations. In fact we see the infant exploring patterns and searching for some kind of stability. During this process, he changes the focus from target-language syllable pronunciation with varying within-syllable pitch patterns, duration, and accents to syllables matched with stable pitches and metrical patterns with accents created by strong and weak beats, long and short durations, and high and low pitch patterns. Moreover, the infant signaled his change from speaking to singing by regular body movements. With respect to the temporal structures, the infant used trochaic and iambic patterns, yet, they were short and lasted a maximum of four beats. While producing the final —song”, the infant had to pause two times in order to breathe. The expiration capacity seems not sufficient for more than four sounds.

The basic requirement for tonality is the presence of stable pitches. This is already achieved by this infant. Moreover, the analysis shows some beginning basic tonal stability in terms of recurrent pitches as categories. Repeatedly, the infant refers to pitch categories

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around E4 and H3. Hardly any of the pitch intervals seems to form a stable category, but clearly, the final —song" is an exception to that. Here, the three intervals between the last four pitches are stable, and it is this property that contributes to the well-formedness. Furthermore, the final pitch, an E4, functions as an anchor point that had been established previously and now recurs in a stable and finalizing manner. It is an interesting and important question whether at this point, the infant has discovered the stabilising function of the final note.

To summarise, it is evident that an infant growing up in an environment that stimulates song singing spontaneously and with ease and playfulness produces musical and linguistic elements, and creates a well-formed short —song". Although the singing patterns are still short and show instabilities with respect to the musico-linguistic song singing rules, the emerging potential for later musical and linguistic abilities is obvious.

Reviewing this case and comparing it to prior research on early musicality, the conclusions for music education are the same: It is important to stimulate the infants' high potential for learning, and music and singing are among the most adequate means for a healthy development.

Acknowledgements

I am very grateful to Christian Krügel and Timon Elmer for their expertise and assistance.

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Final Report on Creativity as Assessed by Functional Magnetic Resonance Imaging and SCAMPER Tool

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Abstract

Based partially on the Torrance model to describe creativity and his approach to its evaluation, a research oriented to evaluate creative performance and functional brain activation was run in Argentina. The study was co-leaded by a neurologist and a music educator, involving multidisciplinary teams. A tool developed and validated in a previous work (S.C.A.M.P.E.R) has been applied to assess creative performance in a group of 24 voluntary students from a university grade Music Therapy career. A functional magnetic resonance imaging paradigm, involving simple audible rhythmical stimuli and collection of subject responses to creation and repetition tasks, was designed and then implemented.

Our results suggested that subjects with better performances on fluidity and flexibility assessments showed in both cerebral hemispheres active brain areas associated to cognitive, emotional and perceptual processes whereas subjects with poorer performances activated brain areas mostly related with complex sensorimotor integration, predominantly unilaterally.

Keywords

creativity, rhythmical patterns, fMRI, S.C.A.M.P.E.R., assessment

Creativity is a mental process that involves generation of new, original and attractive ideas. Only few studies in neuroimaging have investigated neural networks related to creative tasks. In the field of music, only two studies (Bengtsson et al., 2007; Limb & Braun, 2008) have examined the neural mechanisms that underlie generation of new musical ideas. However, none of them has differentiated the creative level of the subjects and even less sought the possible existence of differences among the neural networks and their correlation with the level of creativity.

Objective

To analyze functional activity of the brain during rhythm productions of control subjects, and to evaluate correlations with their creative performance.

Method

Subjects

Twenty four voluntary, right-handed healthy subjects (mean age 21 ± 2 years; 9 males) were recruited for this study. All participants were students sharing the same courses of the "Music Therapy" career at Universidad del Salvador (USAL) and having similar level of musical education; according to curricular evaluations and current assessment methodologies.

First they were divided into two groups through performing rhythmical tasks after hearing a rhythmical pattern; products were described and analyzed with the criteria provided by the S.C.A.M.P.E.R concerning flexibility and fluidity. These two groups were organized as "high" and "low creative level".

All participants gave written informed consent in accordance to the declaration of Helsinki, and the protocol was reviewed and approved by the Local Ethics Committee at FLENI Institute.

Paradigm

We analyzed the subjects´ brain activity using functional magnetic resonance imaging (fMRI) techniques during rhythm fragments production, and analyzed activations grouping according to fluidity and flexibility performances.

During the fMRI scans, subjects were lying supine in the scanner room provided with

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headphones, a compatible button-response box and a non-magnetic visualization mirror mounted in the head-coil. A total of 200 images were acquired while subjects were performing the paradigm.

The paradigm consisted on the randomized presentation of brief predefined audible stimuli rhythms via the headphones (monotonal percussion patterns @ a440; 4 seconds long) while one word instruction was presented in a specially designed back projected screen visualized through the head-coil mirror. Two tasks were instructed to follow after listening to the patterns: Create and Repeat. Subjects performed the instructed tasks by pressing the response button comfortably placed at their laps with a single finger movement, playing the role of executing the same percussion instrument listened in the previously presented rhythms.

Auditory return was implemented and a synthesized audio feedback with the same characteristics to the originally presented stimuli was listened during each task execution. Briefly, subjects listened to their productions as similar or modified patterns, with the same pitch, volume and sound characteristics with respect to the original rhythmical stimuli.

During the first task (Create) participants were instructed to create a new rhythm based in the previous listened stimulus. During the second task (Repeat), they had to reproduce the stimulus instead.

Task duration was configured to allow 10 seconds either in the creation or repetition stages, in order to give subjects enough time to execute their productions.

Regarding to visual instructions, they were restricted to the minimum necessary stimuli, so that tasks were announced by a single word displayed on the screen: LISTEN, CREATE or REPEAT. All subjects were clearly instructed on all the paradigm process prior to the study, so each participant was familiar with all the visual instructions and audible stimuli.

The paradigm presentation, including visual and audio stimuli, response management and scanner synchronization was implemented using Presentation v14.4 software (Neurobehavioral Systems, Inc.) running in a dedicated notebook computer used for standard fMRI procedures in the control room.

The magnetic resonance images were acquired in a 3 Tesla General Electric HDx scanner with an 8 channel head-coil. Changes in blood-oxygenation-level-dependent T2* signal was measured using a gradient echo-planar imaging (EPI) sequence. Twenty four contiguous slices were taken in the AC-PC plane (TR: 2.3 s, TE: 35 ms, flip angle: 90°, FOV: 24 cm, 64 x 64 pixels per inch matrix, voxel size = 3.75 x 3.75 x 4). A structural MRI was acquired with the fast SPGR-IR sequence (120 slices, 1.6-mm thick slices, TR 12.956 ms, TE 6.1 ms, flip angle 15°, FOV 24 cm, 512 x 512 matrix). One session of 200 volumes was taken per subject.

Performance Analysis

All subjects‘ performances during the fMRI session were recorded in a text file containing time stamps of the subject responses. For each task, we extracted the time table and converted it to a rhythm sequence. The creations were then assessed by two independent evaluators (both of them with university degree musical background) using the SCAMPER method (Bengtsson et al., 2007; Carlsson et al., 2000). By means of the resulting punctuations applied to all the creation tasks, fluidity and flexibility parameters were computed for each subject; subsequently, grouping according to those creative skills was performed.

Functional MRI Data Analysis

Image processing was carried out using SPM2 (Wellcome Department of Cognitive Neurology, London, UK) implemented in MATLAB 7 (Mathworks Inc., Sherborn, MA, USA). The imaging time series was realigned to the first volume and spatially normalized to

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the stereotactic space of Talairach and Tournoux (1988) using the Montreal Neurological Institute reference brain (Ashburner and Friston, 1999); then the volumes were spatially smoothed by an isotropic Gaussian kernel of 8mm at full width half-maximum (Friston et al., 2000) and high pass filtered during analysis. Individual analysis was computed using the general linear model including all the conditions and correction for head movements.

According to subjects' performance on fluidity and flexibility, we created two groups for each parameter based on subjects scores; defining lower fluidity and flexibility groups and the higher counterparts groups. Then we performed statistical group analysis for Create vs. Repeat tasks.

Results

Creation Assessment

For the fluidity parameter we obtained a distribution of values ranging between 19 and 43 units. With those data we built a histogram from which we created two groups: one formed by 11 subjects with values below 32 (mean 24.5 ± 3.9) defined as "less creative on fluidity" group (LCfy) and the other with values above 34 (mean 38.5 ± 3.2) formed by 13 subjects and defined as "more creative on fluidity" group (MCfy).

For the flexibility parameter the values obtained ranged from 58 to 79 units and a histogram classified the subjects in two groups: one with values below 64 (mean 61.1 ± 2.5) formed by 12 subjects defined as "less creative on flexibility" group (LCfx) and other with values above 74 (mean 76.7 ± 1.2) formed of 12 subjects defined as "more creative on flexibility" group (MCfx).

Subjects grouped according to their high or low values in fluidity scores were not necessary classified into the homologous high or low flexibility values groups, for that reason we based our analysis on the four mentioned groups: MCfy, MCfx, LCfy, LCfx. Figure 1 shows the histograms and Table 1 the performance results.

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Table 1. Fluidity and Flexibility scores

Subject	*Fluidity*	*Flexibility*	*Subject*	*Fluidity*	*Flexibility*
S1	19	64	S13	34	63
S2	19	59	S14	34	77
S3	22	63	S15	36	77
S4	23	59	S16	38	77
S5	23	63	S17	39	76
S6	24	58	S18	39	76
S7	25	61	S19	39	79
S8	27	59	S20	39	74
S9	28	63	S21	41	78
S10	29	61	S22	42	77
S11	31	77	S23	43	76
S12	34	60	S24	43	77

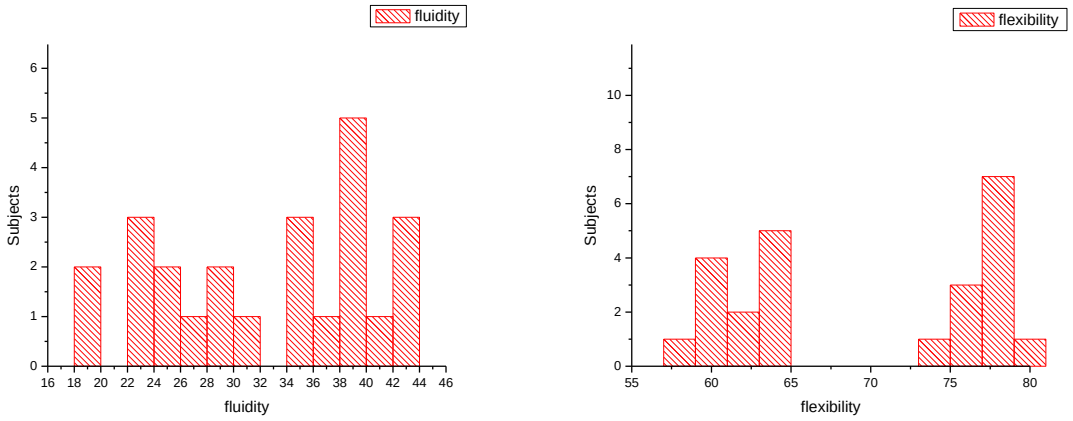

Figure 1. Histograms

fMRI Results for Create and Repeat Tasks

Random effect analysis for fluidity class groups.

Group analysis for MCfy showed activation bilaterally in thalamic areas, and superior (SFG) and medial frontal gyrus (MFG); left inferior parietal lobe (IPL) and right precentral and inferior frontal gyri (IFG) as well as in the right superior temporal gyrus (STG). The analysis for the LCfy group resulted in activation in the left MFG, IPL and precuneus and a cluster in the MFG in the right side. Table 2 shows the coordinates and t-values. Images are displayed in Figure 2a and 2b.

Comparative results for MCfy vs. Lcfy

A two sample t-test between groups revealed a major effect in frontal areas like MFG and IFG bilaterally although more intense in the right hemisphere, for the MCfy group over LCfy as well as bilateral activity in the superior temporal gyrus and middle insula. The inverse comparison, LCfy over MCfy, gave more activity in the left hemisphere mainly in the MFG and precuneus although activity in the same regions but in the right hemisphere was also found but less intense. Images are shown in Figure 2c.

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Table 2. Create vs. Repeat for Fluidity Class Groups (P<0.001; uncorrected)

		Coordinates			
Regions (abbreviations)	*# voxels*	*x*	*y*	*z*	*t-value*
MCfy					
L Thalamus	760	-8	-16	8	12.93
R Thalamus	1234	16	-18	8	10.41
L Medial Frontal Gyrus	2310	-10	16	48	8.13
R SFG		10	6	76	6.42
L MFG	107	-52	24	32	7.64
L IPL	780	-40	-44	44	5.91
R precentral Gyrus	181	42	6	22	6.25
R IFG	320	48	14	-12	5.17
R Inferior Occipital Gyrus	527	44	-72	-6	5.44
L MFG	170	-36	-2	48	4.57
R STG	178	42	-42	12	5.17
R Precentral Gyrus	165	54	-2	54	5.16
LCfy					
Left MFG	1132	-36	4	52	13.4
Left MFG		-40	30	24	9.4
Left IPL	116	-40	-52	56	10.18
Right Medial Frontal Gyrus	152	18	10	52	8.82
Left precuneus	95	-28	-80	52	6.66

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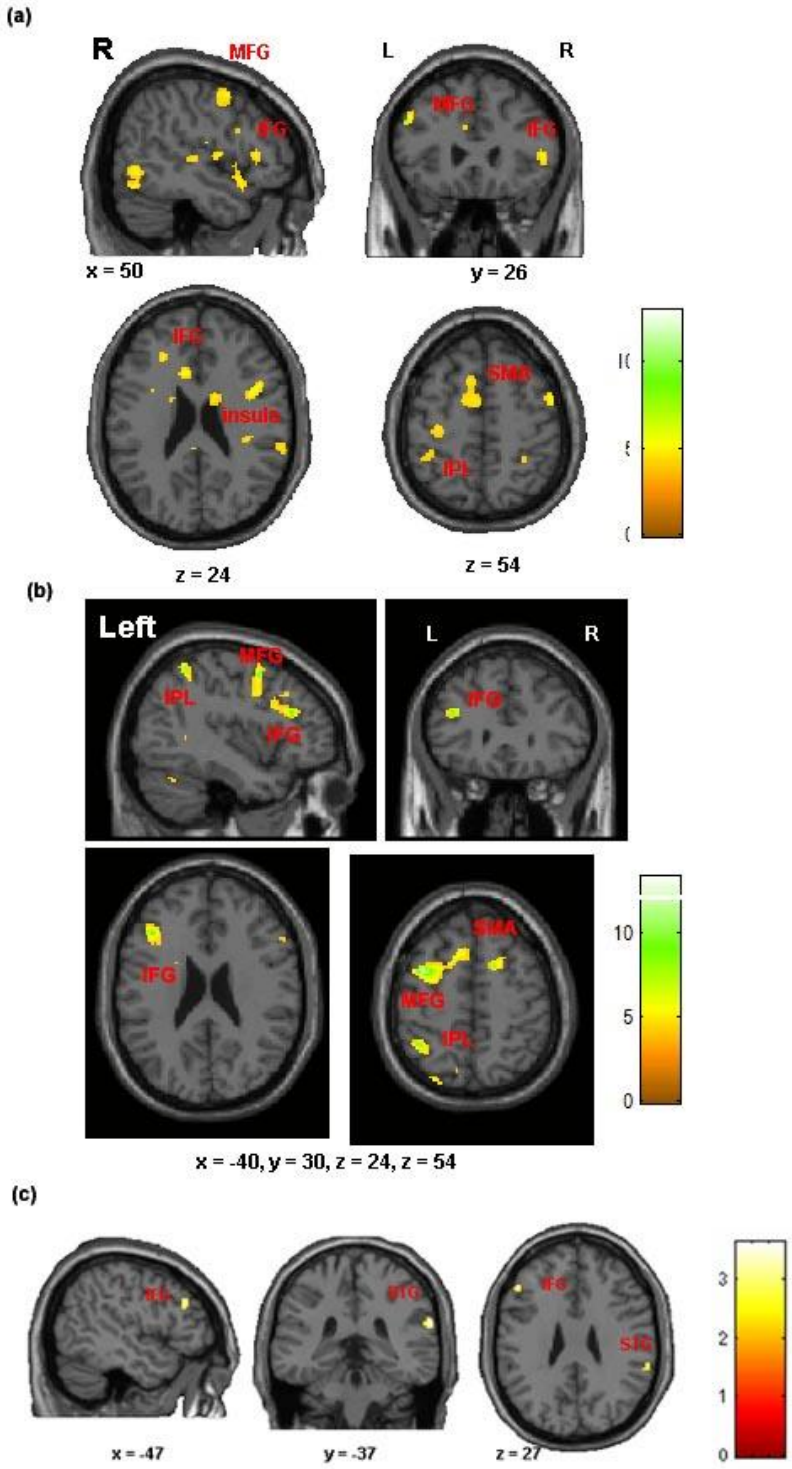

Figure 2. fMRI activity: Create vs. Repeat. Group analysis for MCy (a) and LCy (b); Two sample t test for MCy over LCy (c)

Random effect analysis for flexibilty class groups

Random effect analysis for MCfx group showed an increment of BOLD activity, mainly

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in prefrontal areas like the IFG and MFG, as well as bilaterally in the insula. Activity was also presented bilaterally in thalamus and caudate nucleus, and in the left SFG. Activity for LCfx group showed fewer differences, mainly observed in the left MFG and SFG, left superior parietal lobule and precuneus (only at voxel level). Table 3 resumes the coordinates at voxel threshold (P< 0.001; uncorrected). Figure 3a and 3b shows the BOLD signal for MCfx and LCfx group respectively. Table 3 shows the respective coordinates and t-values.

Comparative results for MCfx vs. LCfx

The comparison MCfx over LCfx revealed activity differences in frontal areas bilaterally, although the major activity was found in the right hemisphere. Active areas were located over IFG, insula and MFG. For the opposite comparison LCfx over MCfx, the activity was only found in left MFG, right precuneus and left superior parietal lobule. Images are displayed in Figure 3c.

Table 3. Create vs. Repeat for Flexibility Class Groups. (P<0.001; uncorrected)

		Coordinates			
Regions (abbreviations)	*# voxels*	*x*	*y*	*z*	*t-value*
MCfx					
L insula	1245	-32	18	22	11.87
L IFG		-48	18	26	6.8
L MFG		-30	48	22	5.32
L SFG / Medial Frontal G.	428	-8	14	58	11.16
L Thalamus	1799	-10	-14	8	9.09
R Thalamus		18	-20	10	7.97
L Caudate		16	2	16	6.12
R Caudate		-16	0	18	6.04
R insula	1357	42	8	20	8.01
R IFG		48	28	14	7.85
R aSTS		48	14	-12	5.21
R fusiform gyrus	804	52	-66	-14	6.06
R MTG		62	-62	-2	5.69
LCfx					
L MFG	1404	-36	4	56	9.03
L SFG		-22	8	64	6.13
R Middle Occipital G	256	38	-74	-10	7.17

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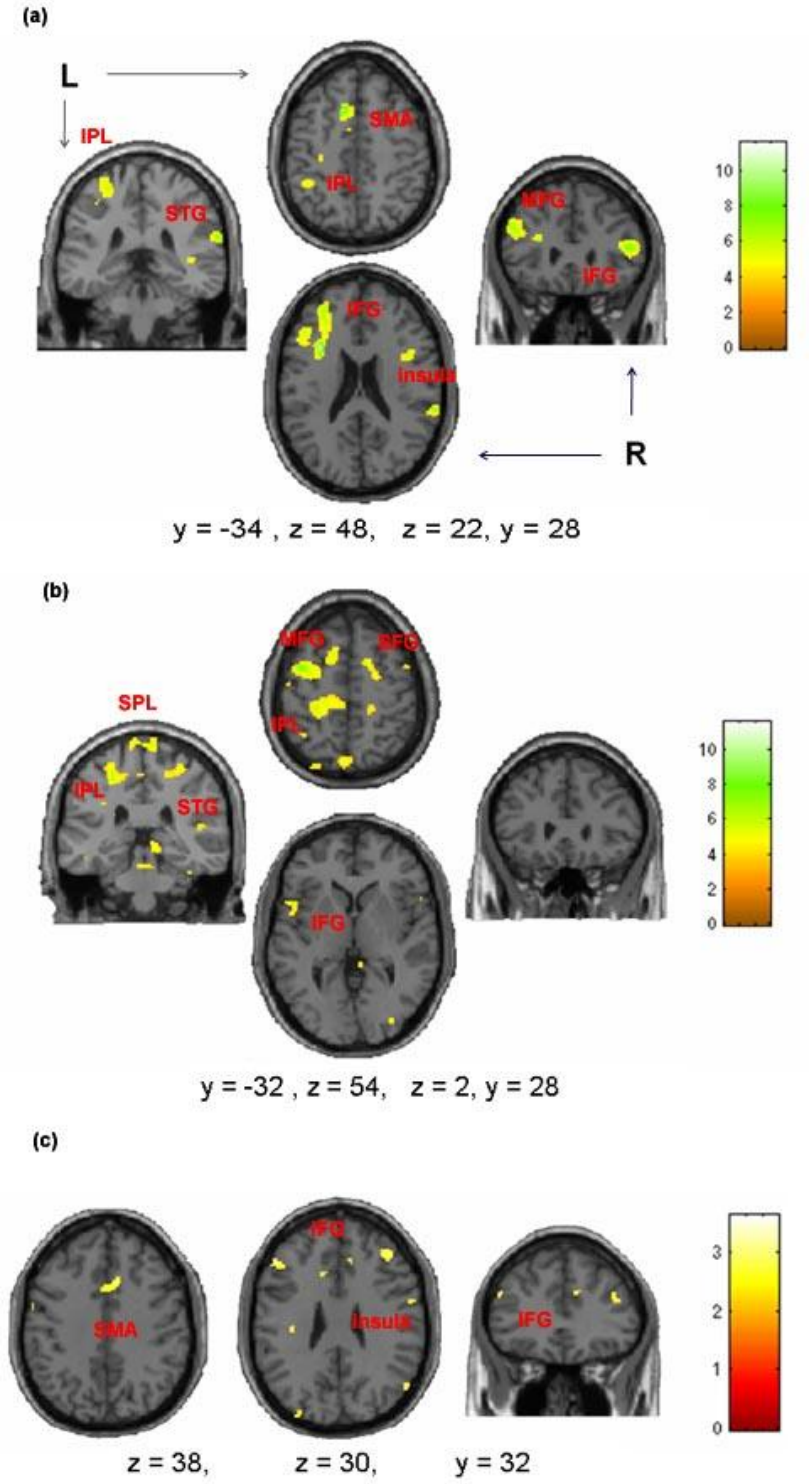

Figure 3. fMRI activity: Create vs. Repeat . Group analysis for MCx (a) and LCx (b); Two sample t test for MCx over LCx (c)

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Discussion

From the SCAMPER analysis of both groups of high and low level of fluidity, the behavior of the cognitive mechanisms underlying the processes of creation (and observed on the productions) have not been very different, presenting normal distributions in both groups and being similar to each other.

The creative production regarding flexibility was generated primarily based on modifications to the original stimuli and to a lesser extent by replacing some element of the original pattern. The retrogradation and inversion options over the original pattern were rarely observed, being not statistically different nor in the group of low or high level of flexibility. Besides, the differences found on the adaptation and elimination dimensions, allowed us to infer that the groups with lower levels of fluidity and flexibility were somehow fastened to the original patterns presented in the paradigm, and could make whole or partial changes, always keeping references to the original stimuli.

On the other hand, subjects with higher levels of fluidity and flexibility could introduce the elimination dimension in the original patterns, generating their own creations with low adhesion to the stimuli and performing quite original productions.

According to the random effect analysis of the fMRI, in the MCfy and MCfx cases (better performance on fluidity and flexibility) brain active areas in both cerebral hemispheres were mainly associated to cognitive, emotional and perceptual processes; while in the LCfy and LCfx cases (poorer performance on fluidity and flexibility) active areas, particularely in the left hemisphere, were linked with complex sensorimotor integration.

Our evidence seems to demonstrate that brain activations would be present in distinctive brain areas, which can be correlated to the performance level of some creativity tools; in this case to the fluidity and flexibility components of the SCAMPER assessment tool. Further research, possibly under other types of stimuli and creation environments, would be needed in order to support our results.

We believe that this research could help understand what underlies below certain complex human productions as creative behavior, and would enable us to enrich our knowledge and contributions to settings for either general or specialized education.

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Creating a "Space" for Class Discussion about Collaborative Creativity: The Point of View of Teachers

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Abstract

How can teachers develop a discussion with their class about what has been created beforehand so that the pupils can learn how to compose music? In this study, we are interested in identifying certain actions of teachers for developing a reflective discussion with the whole class on a creative activity carried out by their pupils. First, we observed video recordings of four teachers with pupils ages 11 to 13 during two classes. Secondly, we conducted interviews with each teacher on selected excerpts that included interaction between teacher and pupils. Our analyses show that teachers find it difficult to teach the skills at the right time. To encourage pupil reflection, the teachers declared that they found it difficult to allow the pupils to discuss about their collaborative creativity amongst themselves, to let them speak freely and to intervene without obstructing reflection. To do so, it was necessary to give them certain tools, such as formulating open questions or facilitating the pupils' discussion by using certain conjunctions or repeating certain words or the ends of the pupils' sentences. This study helps us to improve the way that teachers can support collaborative and reflective creativity at school.

Keywords
collaborative creativity, class discussion, reflection, creative activity, musical creativity

Collaborative and Reflective Creativity in the Classroom

A piece of music produced by a group of pupils may be considered to be an "original" if it is new for its creators in relation to their specific field (Gardner, 2001; Mayer, 1999). Under the Vygotsky child development framework, creativity is a transformational activity that includes play, imagination, and fantasy, in a process that synthesizes emotion, meaning and cognitive symbols (John-Steiner, Connery, & Marjanovic-Shane, 2010). Creativity has been historically studied as an individual phenomenon rather than a social phenomenon. Recent studies consider collaborative creativity to be the building of a relationship that evolves between individuals with a common purpose to improvise, compose, or arrange a piece of music, sharing ideas and understandings to achieve a common goal of creating something new (Burnard & Younker, 2008; Hewitt, 2008; Miell & Littleton, 2008, 2004; Moran & John-Steiner, 2004; Morgan, Hargreaves, & Joiner, 2000; Sawyer, 2008; Young, 2008). According to Vygotsky (1931/1994), creativity requires a transformation of one concrete form to another through abstract thinking. Thus, when a teacher encourages creativity in pupils, a completely new learning task must be addressed.

"Creative Scaffolding": Interaction between Teacher and Pupils

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Various authors have analyzed interactions between teachers and pupils (Barth, 2004a; Bruner, 1996; Edwards & Mercer, 1987; and others), demonstrating the essential role of the teacher in establishing communication styles and forms of interaction in the classroom.

The concept of scaffolding, as introduced by Wood, Bruner and Ross (1976), encompasses the process by which an expert tutor assists a young child in achieving a relatively difficult task, such as by guiding the child's attention during the task; reducing the number of stages or steps to follow; emphasizing the task's critical and essential characteristics; controlling frustration and risk of failure; and providing appropriate models. Knowing the solution to the problem, the tutor is able to provide the most efficient learning support. Fernandez, Wegerif, Mercer, & Rojas-Drummond (2001) have redefined the metaphoric "scaffolding" concept to include a more symmetrical collaborative situation (e.g. between pupils) in which the solution to a problem remains unknown to all. Such is the context of developing musical creativity: the music teacher does not know the result that will be achieved, and thus, must respond to the creative activity of the pupil.

Aiming for ~~c~~reative scaffolding"

In our previous studies (Engeström, Virkkunen, Helle, Pihlaja, & Poikela, 1996), we developed pedagogical sequences which placed the pupils' creative activity in the centre of the instruction, providing a model for other teachers to use in their classrooms. Groups of three pupils were invited to write, interpret and listen to music and then to participate in reflective discussion with the entire class and the teacher. We analyzed the types of collaborative creativity and interactions among pupils, noting that the pupils‘ learning was not confined to playing and organizing music, but also included learning communication skills and conflict resolutions through a series of social and cognitive strategies (Giglio, 2013). To promote appropriate interaction among the pupils during their composition task and to avoid interference, the teacher needs to use the following scaffolding techniques with the pupils:

- orienting the pupils' attention to the task at hand
- announcing the time remaining to finish the task,
- observing the pupils' composing without interrupting them,
- indicating that the pupils have to come to an agreement together,
- confirming to the pupils that their work was going in the right direction according to the brief,
- providing support to pupils by giving them specific information or notating their composition.

The teacher has more knowledge and experience than the pupils in technical and aesthetic compositional skills, but during the creative process, the teacher is in symmetry with the pupils: neither knows what melody or rhythm will be produced. The pedagogical skills required to teach music creativity differ greatly from the skills required to teach musical interpretation or perception activities.

"Space" for reflective class discussion after a collaborative creativity

In certain musical composition activities, Giglio & Perret-Clermont (2010) observed the activity of group composition to be complex and highly motivated. Communication difficulties, agreements and disagreements, arise while creating a common goal. These are solved in various ways, sometimes with cognitive elaborations likely to lead to cognitive advances for the individuals involved but not always: sometimes, they are useful and at other times less so. Usually disagreements were resolved through concessions; rarely were solutions reached after considerable discussion that would have taken into account each person's perspective. (p.99)

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A creative activity is not automatically a learning activity. Teachers can promote the likelihood of enriched learning through encouraging class discussion: building the pupils' awareness or changing perspectives by sharing with others different options available in composition..

From the psycho-cultural approach of education, the common achievement of creative activity can foster —communities of mutual learners" and develop new modes of doing and thinking (Bruner, 1996). Mercer (1995) has identified a list of teaching techniques for discussion with the classroom by eliciting knowledge from learners (direct elicitations or cued elicitations), responding to what learners say (confirmations, repetitions, elaborations, reformulations) and describing significant aspects of shared experiences (—we" statements, literal recaps, reconstructive recaps). In a sociocultural discourse between the teacher and the pupils, Mercer (2004) observed —ways that language is used for thinking collectively in educational settings" (p.165). This leads us to rethink the school musical composition project as an occasion for discussing and commenting on the work of the pupils as it progresses. However, the teachers may find it somewhat difficult to teach in the situations of musical creativity (Odena, Plummeridge, & Welch, 2004) or they may feel uncomfortable talking to their pupils about their creative productions (Templov, 1946; Byrne, 2005). The experience of recording and listening again to the discussions that took place between the pupils (encouraged and accompanied by the teacher) on a previous musical creativity experience may significantly improve a second musical composition (Giglio, 2007, Giglio, Jaccard, & Schertenleib, 2008). These studies invite us to explore what happens, according to the teacher, during the reflective discussion afterwards with the class.

Research Questions

We would like to know what techniques allow the teacher to support the discussion afterwards with the class on the collaborative composition. We are also interested identifying the characteristics of the teacher's discourse that enable the development of a reflective discussion on group composition.

Method

This study is the continuation of a research study (Giglio, 2013) that develops pedagogical sequences placing the pupils' creative activity in the centre of the teaching and observes the type of interactions between teacher and pupils.

In these sequences, the pupils compose short pieces of music; they learn how to communicate in their small groups, and how to discuss their work with the whole class. The structure of the sequences includes five phases:

- Phase 1: The teacher presents to the class the activity of composing a rhythm or melody in groups of 3 or 4 students.
- Phase 2: The students in each group engage in the composition task using the instruments available (drums, celesta and panpipes in Argentina, metallophones and tambourines in Switzerland, guitars and recorders in Brazil).
- Phase 3: The teacher invites the groups (one by one) to perform (a mini recital) in front of the class.
- Phase 4: The teacher organizes and records (via MP3) a reflective discussion with the classroom on what they have created.
- Phase 5: the teacher plays the recorded discussions and write down notes on the blackboard.
- Phase 6: Then teacher introduces new elements of knowledge likely to enrich future compositional endeavors, and reflective practices.

Before the composing period (phase 2) and the reflective discussion (phase 4), the teacher can train, assess or inform his/her

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pupils (phases 1 and 6) from what has been previously observed and discussed in the class.

For this study, some extracts were selected from phase 4 (discussion) from two musical composition lessons given by 4 teachers (Geneviève, Marina, Sergio and Ulises) that were filmed with their respective classes of pupils, ages 11 to 13, in schools in Argentina, Brazil and Switzerland.

At the first level of analysis, these extracts were viewed a number of times and the characteristics of the teacher's discourse that enable the development of a reflective discussion by the pupils were identified.

At the second level of analysis, we presented some video extracts to each teacher during a cross confrontation interview between the teacher and the researcher (Clot, Faïta, Fernandez, & Scheller, 2001). This interview was filmed with a camera that focuses on the images projected on the monitor (PC) and the profiles of the teacher and the researcher. This recording was transcribed and its content was also analysed. Therefore, we concentrate on the teachers' discussion (techniques) with the classroom of the task (what the teacher thinks should be done) and the activity (what is really done).

Results

First Level of Analysis: Allow Reflection in the Class

By observing the filmed extracts of phase 4 of the different lessons, we identified some of the teacher's questions that may obstruct the discussion (e.g. asking closed questions so the pupils can only answer "yes" or "no"). Other poor questions weakened the discussion by diverting the attention from the purpose of assessing significant aspects of the experience (how to compose and collaborate) to focusing on irrelevancies (e.g. asking questions like —how did you feel?").

The students were able to talk when the teachers asked open questions in general with interrogative adverbs, e.g. *—How did you write what you had created?" , —How did you all come to an agreement?", —What difficulties did you come across when writing the score?", —What was your contribution to the composition?".*

Some pupils were able to continue their sentences thanks to certain prompts by the teacher: conjunctions (*—but…"*), conjunction phrases (*—so that…", "so…"*) or explanatory conjunction *(—like…", —that is to say…"*). At other times, the teacher helped the pupils by repeating the last word or the end of the sentence that the pupil had just uttered. This helped them to continue.

Second Level of Analysis: The Teachers' Point of View

In the cross confrontation interviews given to teachers, we were able to identify the conflict existing between the task (what the teacher thinks should be done) and the real activity (what the teacher really did).

In the first lessons, some of the teachers' questions and the majority of the pupils' answers tended only to respond to how they felt and less to the actual experience:

> *—One thing was to ask, how did you do it? and another thing was to ask, how did you feel while you were doing it? (…) The important thing is to ask them what they did specifically, and this is also difficult for me to answer." (Marina)*

The type of question asked can prompt answers from the pupils. Proposing good questions was not easy for the participating teachers. Marina believes it is important for teachers to force themselves to observe and to ask pupils questions without intervening too much:

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> [in this type of lesson] *I feel like I am forcing myself // to —bite my tongue" (…) until the time comes when I can speak and develop more / myself / what I mean* [= teach the pupils]. *(Marina)*

During both phase 2 and phase 3, Marina has to force herself to refrain from speaking, limiting herself to speaking only to support the interaction of each individual. It seems that this helps her develop greater understanding during phase 6 when the teacher reflects upon what she has observed.

Sergio believes:

> *—It is important (…) to present the structure of the lesson to the pupils, what is going to happen. (…)* [that way] *they are given tools for reflection/how did you do it?" (Sergio)*

The essence of the lesson presented in the questions the pupils were going to be asked was important for Sergio as it meant that the pupils could carry out the creative activity while they thought about how to compose and to come to an agreement.

> *Now I feel like I can tune a violin* [= feel close to what the pupils know and think] *(…) I can participate as a common element for all groups (Ulises)*

Asking questions and talking to the pupils about how to compose in small groups allows Ulises to find out more about what they can do and what they think they can do.

Marina felt it was important to be aware of the different techniques of interaction with the pupils over one lesson:

> *—The effort of the discussion phase (4) with the class is what made me learn most. Also the effort in thinking that there is a first (phase 1) and last period (phase 6) when my word is valued. Or in other words, senior. The teacher's word. And during the other periods (phases 2 and 4), you have to let the pupils' conversation flow among them" (Marina*

Here, Marina thinks that her word is valuable when she can explain and give examples to the pupils. But when she refers to letting *—the pupils' conversation flow among them"*, Marina has used another type of dialogue so that this knowledge flows through a —community of mutual learners" (Bruner, 1996). During this type of discussion, the pupils can:

> *—learn how to really think (…) what is happening to them [while they create]? (…) be aware that when he manages to say it, it can produce learning, [it] can mobilize —things". (Sergio)*

This type of awareness can form the social ways of doing and thinking. Sergio believes that this is achieved "by doing it" but especially "by saying it". In this way, it is possible to mobilize the technical and aesthetic aspects and skills in the pupils.

It is not easy to keep up with what the pupils are saying. In these lessons, the teachers recorded the discussions of all the pupils that lasted in general for 3-4 minutes. These recordings were listened to again. Recalling this aspect, Marina said,

> *—I was pleasantly surprised to note how intense the debate was… […] they played journalist, but I noticed that there is a place where my intervention may ruin the dialogue among them. (Marina)*

Like Marina, the four teachers were surprised at —the level of intensity of the pupils' reflective discussion". At the same time, this reflective activity is not easy and the teacher can make it easier or more difficult for the pupils to discuss their reflections, if the interventions are not suitable.

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Conclusion

Our goal was to identify certain characteristics of the teacher's discourse that enable the development of a reflective discussion on how to compose in a group and to understand what the actions are that allow the teacher to create a meaningful discussion with the class on collaborative creativity. Our observations of videos and our content analysis of interviews with 4 teachers show that the reflective discussion with the class requires certain conditions that the observed teachers could sometimes uphold. The teachers have had to learn to obtain certain technical or aesthetic aspects directly (rules, knowledge), ask questions without reflecting instead of the pupils, and without answering directly until the appropriate time (phase 5) and highlight certain significant aspects of the musical experience by repeating words or ends of sentences, with open questions (and not closed), with interrogative adverbs, with restatements, or with conjunctions, and summary statements.

Through these actions, the teacher can enable a discussion in class on the pupils' compositions and create a —community of mutual learners" (Bruner, 1996) by letting knowledge flow in the class. The traditional social form of class discussion cannot always be adapted to situations for reflecting on collaborative creativity. This creative activity requires a subsequent "space" for reflective discussion. In this way, the teacher can suggest other techniques through class discussion so that the pupils can learn to create and reflect effectively on their own.,

The creative activity would lose its educational richness if we omitted the discussion activity with the whole class. Taking all the observations into account, the teacher can better organize the teaching of those curricular skills that may be difficult to teach without giving pupils their creative and reflective role. Additional perspectives and future research may enable us to identify more effectively the pedagogical conditions that favour greater reflective practices of pupils during collaborative creativity experiences in school contexts.

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Impact of a Technology-Based Program for Professional Development in Music Education

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Abstract

This project aimed to investigate the impact of a technology-based program of professional development for music educators. National and international experts in different music education areas were invited to participate, presenting virtual seminars in a series of webinars (one–two hours long) which took place at a Mexican university. Participants in the program included: undergraduate and graduate students, faculty members and other music practitioners. The research project evaluated the impact of the use of information and communication technologies (ICT) by examining attitudes, perceptions and values of the participants towards this type of distance-education program. Results of this study showed that participants had very high perceptions of interest, usefulness, and importance to their development through this type of online model. Participants attached a higher personal cost to participate in traditional educational settings compared to virtual or hybrid settings (webinars). Factors that negatively affected participants' experience; were time to assist, job or school responsibilities, lack of information and lack of authorization to attend. In order to promote a higher level of participation, it would be required to provide better incentives from job or educational authorities, more flexibility in schedules, increase teacher involvement and participation, and developed effective advertising strategies would be required.

Keywords

collaborative work, information and communication technologies, music education, online education, professional development

It is well known that higher education and academic programs benefit greatly from communication and collaboration among academics, researchers and practitioners in various areas. Currently this is facilitated by the use of technology (Bates & Poole, 2003; Czaja, Charness, Fisk, Hetzog, Nair, Rogers, & Sharit, 2006; Kent & McNergney, 1999; Kraut, Fussell, Brennan, & Siegel, 2002). Academic liaison programs allow collaborative work and knowledge exchange that enriches and expands our understanding from diverse socio-cultural perspectives (Perrin, Wynen, Bitcheva, & Godart, 2003; Wellman, Salaff, Dimitrova, Garton, Gulia, & Haythornthwaite, 1996). However, the use of technology as a means for professional development in arts and music has still not reached its fullest potential. In this era of information and communication technologies (ICT), it is extremely important to create and foster liaisons that promote quick and reliable access to recent advances in research and practice of music and music education. This project aimed to foster communication, collaborative work and professional development in music education, facilitated by the use of new technologies. The project took place in a university in Northern

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Mexico. The research component of the project aimed to investigate the impact of the use of ICT by examining perceptions, attitudes and values of participation in this model of distant learning (webinars as a hybrid format of learning). It was intended to understand what factor fostered the development of academic competencies, facilitated by collaborative work and cooperation networks. This paper presents the results of the first phase of the on-going series of webinars.

Implementation of the Professional Development Program

The professional development program examined in this study commenced in January 2011 and aimed to foster continuous training of faculty members, as well as undergraduate and graduate students. Experts with international recognition in the areas of music and educational psychology, philosophy in music education, arts-based research, among others, were invited to participate as speakers in the series of webinars. In the first phase of the study reported in this paper (Spring 2011), the program included the participation of researchers from Australia, Canada, Israel, Spain, and the United States of America. During this phase, around 30 faculty members and more than 120 students participated in one or more webinars.

The platform used for the webinars was *Skype* version 5.1.0.935. Although some platforms offered a wide variety of technical tools for distant learning (virtual meetings, remote access, online technical support, and virtual training), the use of those tools involved additional training and time commitment from the speakers. Due to the prevalent use of *skype* amongst the invited researchers, and its ease, it was chosen as the webinar platform.

Theoretical Framework

In order to measure personal perceptions, attitudes, and motivation for professional development, the author based the study on Eccles et al.'s expectancy-value theoretical framework (Eccles, 1983; 2005; Eccles, Adler, & Meece, 1984; Eccles, O'Neill, & Wigfield, 2005; Eccles & Wigfield, 2002; Eccles, Wigfield, Harold, & Blumenfeld, 1993; Wigfield & Eccles, 2000; 2002; Wigfield, Eccles, Yoon, Harold, Arbreton, Freedman-Doan, et al., 1997; Wigfield, Tonks, & Eccles, 2004). In this theory, two main components explain student motivation and achievement-related behavior, which helped to understand the cognitive processes in different educational contexts. Students were influenced by their expectancies for success (perceptions of competence, confidence, task difficulty) and the subjective values (perceptions of interest, importance, usefulness, cost) they attached to participate in a particular activity. Past empirical studies have suggested that whilst competence beliefs predicts achievement, perceptions of value predict a more systematic participation in the activity.

Method

Based on this theoretical framework, a mixed methods approach was applied in order to examine motivational and environmental factors which inhibited or fostered the participants' optimal experience in the professional development program. Data collection included: questionnaire administration, systematic observations and semi-structured interviews which also allowed to evaluate the impact of the program. The first phase of the professional development program and the observations commenced in February 2011. Questionnaires were administered in April–June 2011, and they were available electronically, using a web-based survey platform (www.encuestafacil.com), as well as printed copies. Participants in the research project volunteered and were informed about confidentiality issues and the characteristics of the project. Consent forms were included in

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both online and printed versions of the questionnaires.

Research Instrument

The questionnaire included demographic information about the participants, including gender, age, specific area of musical expertise, musical background, music teaching experience, and academic status (student or teacher/faculty). Seven-point Likert scales were used to examine perceptions of competence and value (interest, importance, usefulness, cost). Items used to evaluate the impact of the program were constructed using 11-point Likert scales, a commonly used range in Mexico for evaluation scales. In addition, open-ended questions examined environmental factors that positively or negatively influenced participation in this program, as well as in other programs for professional development in music. Cronbach's alphas used to examine internal reliability confirmed an adequate consistency amongst motivational and environmental constructs, with coefficients ranging from; .727 to .770 for value (interest, usefulness, importance, cost); from .823 to .883 for competence beliefs (expectancies for success, confidence, task difficulty); and .757 for environmental influences.

Participants

A total of 51 participants collaborated in the research project by answering the questionnaire either electronically or in the printed version. Gender distribution showed that 56.9% (*n* = 29) of the participants were male, whilst 35.3% (*n* = 18) were female; and 7.8% (*n* = 4) of the sample did not respond. Based on their academic status, 52.9% (*n* = 27) of the participants were music teachers or university professors, with teaching experience ranging from 1 to 29 years; and 47.1% (*n* = 24) were music students without any teaching experience 45.1%.

According to their professional experience, a larger number of participants reported to be involved in teaching activities (62.7%, *n* = 32), as compared to those who reported to be mainly involved in music performance (31.4%, *n* = 16), in music composition/arrangement (15.7%, *n* = 8) or in music research (13.7%, *n* = 7). Most of the participants reporting teaching activities had experience in instrumental music education (35.3%, *n* = 18) or in general music education (31.4%, *n* = 16). It was less common for participants to report teaching experience in music theory (23.5%, *n* = 12) or vocal/choral music education (13.7%, *n* = 7).

Results

Factor Analysis

A confirmatory factor analyses was conducted in order examine whether the motivational constructs loaded onto the expected factors of values (interest, importance, usefulness, cost) and expectancies for success (competence, confidence, task difficulty). A principal component analysis was used as a method of factor extraction. Consistently with the theoretical framework, the extraction provided evidence of two principal factors, which were rotated using Orthogonal Varimax with Kaiser Normalization procedure explaining 52.42% of the variance of the data (factor loadings in Table 1). Unlike past studies (Eccles & Wigfield, 1995; González-Moreno, 2009; McPherson & O'Neill, 2010), the positive sub-constructs of value (interest, importance, usefulness) and expectancies for success (competence, confidence) loaded onto the first factor, while the sub-constructs that negatively affected perceptions of value and competence, that is, cost and task difficulty loaded onto the second factor. This result does not necessary imply a contradiction with the theoretical framework since values and expectancies are positively related, as it is the same case with

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perceptions of cost and task difficulty. Therefore, it is still implied that, as in past studies, perceptions of value and competence serve as a reference in predicting participation and achievement behaviors respectively.

t-Tests

A series of *t*-tests were conducted to examine differences in perceptions of motivational and environmental factors, as well as differences in the evaluation of the impact and quality of the professional development program, as a function of gender (male or female) and academic status (students or teachers/professors). An alpha coefficient of .05 was set to determine the statistical significance of the results.

In general, the overall perceptions of interest, usefulness and importance were high in a range of 5.56 to 7, based on the 7-point Likert scales, regardless of gender or academic status (see Table 2 for gender differences). Results of the *t*-tests showed only few statistical significant differences based on gender or academic status. This suggests that regardless of the participants‘ gender or academic status, perceptions of value, competence, influence of environmental factors and evaluation of the program were similar between groups. Only two gender differences met statistical significance. First, the perception of impact of the webinars in their development and competence as artists, where male participants expressed a higher level of competence (M = 5.59, SD = 1.18) as compared to female students (M = 4.73, SD = 1.33), $t(40) = 2.15$, $p = .03$ (see Table 3). Second, female participants expressed a higher perception about the relevance and usefulness of the topics addressed during the webinar sessions (M = 6.60, SD = .73) as compared to male participants (M = 5.96, SD = 1.25), $t(40) = -2.07$, $p = .04$ (see Table 4).

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Table 1. Factor Rotation Using Orthogonal Varimax with Kaiser Normalization

	Factor Matrix	
Motivational Constructs: Values	*Factor 1*	*Factor 2*
Interest		
Interest on personal and professional development	.478	-.093
Desire to learn in the area of interest	.723	.342
Interest on learning from artists and experts	.723	.342
Interest to improve teaching practice	.641	-.268
Usefulness		
For personal development (in general)	.578	-.268
For professional development (in general)	.884	-.255
To acquire knowledge from experts	.770	-.350
To improve teaching practice	.646	-.573
Importance		
To develop their professional career	.778	.026
To expand the impact of their work as artists	.879	-.168
To increase their knowledge based on the advances in diverse music areas	.594	-.419
To improve teaching practice	.659	-.597
Personal cost of attending professional development programs		
In traditional settings	.042	.495
In virtual settings (computer-to-computer)	-.036	.250
In hybrid settings (webinar)	-.035	.628
Motivational Constructs: Expectancies for Success	*Factor 1*	*Factor 2*
Competence/confidence beliefs as a result of participation		
As an artist	.878	-.196
As a teacher	.690	-.407
As a researcher	.754	.227
As an arts administrator	.813	-.115
Perceptions of difficulty		
To attend academic activities	.277	.667
To apply knowledge acquired through the webinar program	-.235	.375
To obtain institutional permission to attend the webinars	.081	.767
Extraction sums of squared loadings (% of variance per factor)	34.03	18.38
Cumulative % of variance		52.42

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Table 2. Gender Differences in Perceptions of Value Attached to Participation in the Technology-Based Program for Professional Development in Music

	Male		*Female*			
Motivational Factors: Values	*M*	*SD*	*M*	*SD*	*df*	*t*
Interest						
Interest on personal and professional development	6.38	1.06	6.50	1.03	40	-.35
Desire to learn in the area of interest	6.48	1.28	6.75	.57	41	-.79
Interest on learning from artists and experts	6.41	1.31	6.69	.87	41	-.76
Interest to improve teaching practice	6.67	.56	6.67	.82	37	.00
Usefulness						
For personal development (in general)	5.96	1.19	7.00	.00	40	.08
For professional development (in general)	6.00	1.49	6.38	.81	41	-.96
To acquire knowledge from experts	6.15	1.23	6.19	1.05	41	-.11
To improve teaching practice	6.14	1.17	6.57	.75	34	-1.24
Importance						
To develop their professional career	5.56	1.57	5.69	1.40	41	-.28
To expand the impact of their work as artists	5.63	1.59	6.19	1.05	41	-1.25
To increase their knowledge based on the advances in diverse music areas	6.07	1.07	6.00	1.03	41	.22
To improve teaching practice	6.04	1.14	6.40	.91	38	-1.04
Personal Cost of Attending Professional Development Programs						
In traditional settings	4.41	2.27	3.94	1.79	41	-.66
In virtual settings (computer-to-computer)	3.04	1.78	3.31	2.21	41	-.48
In hybrid settings (webinar)	3.74	2.03	3.25	1.84	41	.79

Note. * $p < .05$

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Table 3. Gender Differences in Perceptions of Competence Attributed to their Participation in the Professional Development Program

	Male		*Female*			
Motivational Factors: Expectancies for success	*M*	*SD*	*M*	*SD*	*df*	*t*
Competence beliefs						
As an artist	5.59	1.18	4.73	1.33	40	2.15*
As a teacher	5.30	1.03	4.93	1.67	40	.87
As a researcher	3.73	1.78	4.27	1.83	39	-.92
As an arts administrator	4.37	1.47	3.64	2.17	39	1.27
Perceptions of difficulty						
To attend academic activities	3.30	1.38	3.00	1.07	40	.72
To apply knowledge acquired through the webinar program	2.89	1.42	2.20	1.20	40	1.58
To obtain institutional permission to attend the webinars	3.63	1.92	3.33	1.49	40	.52

Note. * $p < .05$

Table 4. Gender Differences in Perceptions of Environmental Factors Affecting Positively and Negatively

	Male		*Female*			
Environmental Factors	*M*	*SD*	*M*	*SD*	*df*	*t*
Positive						
Encouragement from professors to assist to this type of academic events	3.26	2.39	3.60	2.35	40	-.44
The invited presenters‘ curriculum vitae	5.85	1.48	6.47	.83	40	-1.47
The expected quality of the presentations	5.96	1.45	6.50	.85	39	-1.27
The relevance of the exposed topics	5.96	1.25	6.60	.73	40	-2.07*
Negative						
Lack of courses and workshops for the professional development in the arts	4.74	1.93	4.47	2.10	40	.43
Lack of authorization from professors, educational authorities or bosses to attend the program	3.63	2.20	4.27	1.98	40	-.93
Lack of external incentives to attend	3.23	2.10	3.73	2.37	39	-.70
Lack of information and communication	4.11	1.71	4.73	2.31	40	-.99
Job or academic responsibilities	5.11	2.00	5.87	1.41	40	-1.29
Family responsibilities	4.08	2.41	3.07	2.37	39	1.30

Note. * $p < .05$

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Differences found between students and professors were directly related to their self-perceived competence fostered by their participation in the program. Professors expressed higher levels of competence in artistic abilities, $t(38) = -2.91$, $p < .01$, teaching competencies, $t(37) = -2.71$, $p < .01$, and administrative competencies, $t(37) = -2.67$, $p < .01$. Nonetheless, these results could be attributed to the normal perception that competencies are obtained throughout the years of practical experience and not necessarily attributable to the impact of the program over their perception of competence. In relation to the quality of the simultaneous translation, students reported a higher quality than the professors, $t(23) = 2.25$, $p = .03$.

It was interesting to notice that, considering different educational contexts (i.e., traditional, virtual and hybrid), participants attributed a higher personal cost to participate in traditional contexts ($M = 4.23$, $SD = 2.24$) than in virtual environments ($M = 3.14$, $SD = 1.93$) or hybrid formats (webinar) ($M = 3.56$, $SD = 1.95$). The perceptions of difficulty attributed to participate in technology-based programs for professional development appeared in the low mid-range of the 7-point Likert scale ($M = 2.64 - 3.52$). Specific items suggest that the biggest difficulty was to obtain permission from jobs or schools to attend these academic activities ($M = 3.52$, $SD = 1.77$), when other job or academic responsibilities interfere (e.g., teach a class, take a test or exam).

These results were consistent with the environmental factors examined (Table 4), where participants perceived a lack of incentives to attend this or other programs for professional development ($M = 3.41$, $SD = 2.19$), lack of school or job authorization ($M = 3.86$, $SD = 2.12$), lack of information and advertisement about this or other programs ($M = 4.33$, $SD = 1.94$), lack of courses and workshops ($M = 4.64$, $SD = 1.97$), and an excess in job or academic responsibilities ($M = 5.38$, $SD = 1.83$) or in family responsibilities ($M = 3.71$, $SD = 2.42$) that impeded a more constant participation.

Table 5. Gender Differences in Perceptions of Impact of the Technology-Based Program

	Male		*Female*			
Evaluation of the Program	*M*	*SD*	*M*	*SD*	*df*	*t*
Impact of the technology-based program (webinars)						
CV and professional experience of the presenters	9.52	1.05	9.87	.35	35	-1.57
Quality of the presentations	8.89	1.65	9.40	.73	40	-1.14
Relevance of the addressed topics	8.96	1.45	9.40	.73	40	-1.09
Punctuality	9.52	.97	9.87	.35	40	-1.67
Use of virtual platforms to do the webinars	8.74	1.60	8.67	1.72	40	.140
Quality of the spaces	8.52	1.71	8.73	1.71	40	-.39
Quality of the simultaneous translation	7.59	3.00	8.47	1.96	40	-1.01
Program advertisement	7.37	2.19	7.33	2.22	40	.05
Time of presentation	4.33	2.00	4.80	2.07	40	-.715

Note. * $p < .05$

In general, participants reported a very high perception of the quality of the program (Table 5), particularly in aspects related to the presenters: their professional experience and recognition ($M = 9.64$, $SD = .88$, in a 10-point Likert scale); quality of the presentations ($M =$

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9.07, *SD* = 1.40) and relevance of the topics addressed (*M* = 9.12, *SD* = 1.25). The use of virtual platforms to conduct the webinars was also favorably evaluated (*M* = 8.71, *SD* = 1.62). Other environmental factors also received adequate scores, such as the quality of the spaces (*M* = 8.60, *SD* = 1.69), quality of simultaneous translation (*M* = 7.90, *SD* = 2.68), and program advertisement (*M* = 7.36, *SD* = 2.17). The lowest scored related to the time of presentation (*M* = 4.50, *SD* = 2.01), where participants expressed interest on a more deep understanding of the topic and more time for interaction with the speakers.

Results from the open-ended questions, as well as from the semi-structured interviews supported the results obtained from questionnaires and statistical analyses. Participants reported the lack of time due to job or academic responsibilities, as the main cause that inhibited a more constant participation in the program. The time and dates assigned for webinars interfered with their classes or job and the participants were not granted permission to attend. Participants were also asked about what would be incentives for their regular participation, and they reported the importance of flexibility from professors and educational authorities, and also the possibility of attending on schedules that did not interfere with their regular activities. Participants suggested more advertising for this and other programs for professional development in music. No consensus was found in relation to the topics that needed to be addressed during futures sessions. Whilst some participants suggested more related topics amongst those presented in the series, other participants preferred the inclusion of diverse music areas, such as performance, musicology, music theory, and from other arts areas.

Observations during webinars provided interesting information. Although with some limitations, the platform used –*skype*– facilitated the interaction between the speaker and the audience provided the Internet connection worked properly at both ends. The communication could be as dynamic as the one in traditional contexts, if both the presenter and the audience interacted during the presentation (not only at the end of the presentation). In addition, attendance records allowed comparing the attendance among students, faculty members, and external participants.

Discussion and Implications

This technology-based program for professional development in music aimed and allowed to establish a closer communication between international experts in their respective areas and a community of music educators and practitioners from one university in Northern Mexico. This program served the purpose of academic advancement to benefit the undergraduate and graduate programs, teacher development, and professionalization of music practitioners by linking the academic world with the social and practical environments of music and music educators.

Consistently with the National Program for Institutional Development (i.e., PIFI, *Programa Integral de Fortalecimiento Institucional*) this project also intended to continue addressing specific needs in higher education:

- To foster internationalization of higher education through international networks of academic cooperation.
- To strengthen higher levels of academic training.
- To amplify and update the academic infrastructure.
- To incorporate technology to facilitates the educational process.
- To use virtual spaces to develop teacher and student competencies. (PIFI, pp. 3–7).

During the series of eight webinars, participants reported a very positive evaluation of their experience in the program. Although it was an on-going project, these initial efforts

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required to be continuously supported in order to increase awareness of knowledge advancements through the contribution of experts in the specific music areas, as it was in the first phase.

The possibilities to replicate this program were wide considering its characteristics. Despite an increasing development of more sophisticated technological platforms for online-learning, they still required a time investment from speakers and participants. Those platforms increased technical possibilities that were highly recommended when the educational environment involved longer times of involvement, such as workshops and online courses. The use of a platform more commonly used by a larger number of people, such as *skype*, could facilitate communication without longer times of training for speakers and without any investments from participants, except their time during attendance. The key point of this model was the need to establish adequate and efficient links, creating cooperation networks, involving faculty members, researchers, and students.

The research project conducted during the professional development program examined perceptions and attitudes toward continuous training and the use of technology to facilitate this. Results of the study showed that participants held high perceptions of interest, usefulness and importance attributed to their experience in this type of hybrid learning model of webinars, regardless of their gender or their academic status. Findings of the study also suggested that higher education could be highly benefited by implementing this type of program based on the use of technology and facilitated by international collaboration. Some of these values were attributed to the opportunity to access the most recent advancements in music and music education research, and direct communication with experts in specific areas. These perceptions predicted that those who attended the program were more likely to maintain their interest in this and other professional development programs in music. Likewise, it was expected that continuous participation would increase their competencies in different music areas, such as teaching, performance and music theory. Attendance records along with self-reports of inhibitors of participation suggested that there would be higher levels of attendance if institutional mechanisms were in place in order to encourage faculty members and students to more actively participate in the program. Therefore, it was necessary to foster an institutional understanding of the need to improve higher levels of participation from students and faculty members. Although attendance records suggested a satisfactory rate, it was still possible to increase participation whether the inhibitors were reduced, by negotiating and persuading educational authorities about the advantages of professional development programs in order to diversify perspectives and knowledge about music, music education, and other related areas, resulting in higher levels of professionalization.

The use of information technologies was highly recommended as a means of communication and international collaboration amongst faculty members, researchers, graduate and undergraduate students, from different geographical areas, in order to foster a better socio-cultural understanding of music education. Knowledge exchange has been traditionally facilitated by participating in external academic meetings such as conferences, summits, congresses, and other types of settings. Through information technologies, participants benefited from more reachable models of professional development whereas researchers and academics shared their expertise and increased the impact and recognition of their work in wider educational contexts.

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Musical Mothering and Making Choirboys

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Abstract

This sociological study of choirboys contributes to research in boys' singing by focusing on the social and cultural practices which enable a group of young Australian boys to become accomplished and committed choral singers. This paper generates a fresh conversation about what enables boys to become choirboys by working selectively with Pierre Bourdieu's theoretical concepts. The discussion examines the kinds of resources and practices involved in the musical mothering the choirboys receive in their early childhood. It argues the mothers' middle-class approaches to parenting are significant in enabling their son's to become choirboys, particularly through the high degree of emotional capital generated for and within their children.

Keywords
habitus, mothering, choirboys, middle-class, emotional capital

It has been said —big boys don't cry (or sing)" (Koza, 1994, p. 48). This provocation presents a view of boys' singing that continues to have much relevance today, despite the dismantling of such norms by much gender research. We know 'big boys do cry' and that singing does occupy a central role in the lives of many males. However, in English-speaking cultures male singing is a fraught pursuit for a great many boys. Research from countries such as Australia, Canada, Britain and the USA describes boys' singing, particularly in secondary school, singing in the treble register and in choir, as highly problematic, contributing to what is known as the 'missing males' phenomenon (Koza, 1993).

The 'problems' with boys' singing have been previously understood as issues concerning the voice change, vocal pedagogy and masculinity. Much attention has been paid to the gender trouble boys have with singing because of the fear of sounding like a girl (Adler, 2002; Ashley, 2009; Green, 1997; Harrison, 2009). However, little is known about the many boys who contradict this notion by actively participating in all kinds of singing. Previous studies indicate the 'missing males' in singing has its genesis long before the voice change becomes an issue in puberty (Bruce & Kemp, 1993; Mizener, 1993; Svengalis, 1998). Hall (2005) shows evidence that many boys have adopted negative and restrictive gender stereotyped attitudes towards singing before reaching formal schooling around the age of five. The preoccupation with adolescence and the effects of the transition to secondary school often bypasses the processes that shape children's predispositions to sing or not to sing in early childhood. I contend that a missing part of the picture is how children's positioning as gendered and classed subjects in the early years influences the subjective possibilities of children's musical lives. This sociological study contributes to this seldom discussed aspect of music education research by focusing on the gendered and classed practices which enable a group of young Australian boys to become accomplished and committed choral singers.

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Thinking about music with Bourdieu

Bourdieu's work is becoming increasingly productive for investigations of musical practice (see, Bennett, Emmison & Frow, 1999; Savage, 2006; Wright & Davies, 2010; Wright & Finney, 2010). I illustrate how Bourdieu's signature concepts, namely capital and habitus, offer one possible lens to view the gendered and classed practices involved in cultivating the choirboys' particular musical identity. I have found Bourdieu's 'logic of practice' (see Bourdieu, 1990) useful in attempting to understand how some boys acquire the power to counter the dominant cultural narrative that certain kinds of boys' singing is scornful, particularly choral singing because of its 'effeminacy'. Bourdieu argues that the cultured person is not what one is, but what one has or becomes. The struggle for various forms of cultural and material resources occurs through fields of power. Swartz (1997) explains that fields "may be thought of as structured spaces that are organized around specific types of capital or combinations of capital" (Swartz, 1997, p. 117). The overlapping fields of music and education are at the centre of this investigation. The musical field is a particularly interesting cultural arena to consider capital because of its range of sub-cultures, which span elite and popular cultural forms (Savage, 2006).

Bourdieu describes the resources individuals have access to and accumulate as 'capital', which come in four main forms: economic capital (material wealth), cultural capital (educational qualifications, knowledge, books etc.), social capital (networks, contacts) and symbolic capital (prestige) (Bourdieu, 1986). The amount of power a person has within a field depends on the amount of capital, material or symbolic, one possesses. The various forms of capital are relational and do not operate independently of each other. One form of capital may be converted into another; high economic capital can enable the accumulation of cultural capital, cultural capital can be converted into social and symbolic capital for instance.

Within the Christian musical tradition, the choirboy and his angelic voice occupies a long-standing position of high cultural and symbolic capital (Ashley, 2009). I am interested in the durability of this culturally exalted position and the means by which it is reproduced in the present day, particularly by the choirboys in this study who sing in a secular boys' choir. I question whether the classed resources these boys have access to benefit their gender identity work and to do this I examine the musical practices in the choirboys' family lives. In this paper I focus on the arduous work of the family's cultural capital accumulation which is understood to be generally the domain of women and something that middle-class parents are more able to mobilise because of their access to a higher degree of a range of capitals (Reay, 2004).

Central to Bourdieu's theory of practice is his concept of habitus that he employs to conceptualise how objective structures become embodied. Bourdieu (1977) describes habitus as "a system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of *perceptions, appreciations and actions*" (emphasis in original, p. 82-3). These dispositions are durably expressed in the body through posture, speech and taste for example, and regulate how we think, act and behave in certain ways. His use of the term 'disposition' denotes "a manner of being, a habitual state (especially of the body), and, in particular, a predisposition, tendency, propensity or inclination" (Bourdieu, 1990, p. 67). This emphasis on embodiment provides a useful means to conceptualise how the boys' musical bodies are produced.

The acquisition of the habitus begins in early childhood particularly through socialisation within the family and is realised in a *sens pratique*—a 'feel for the game'. It is this

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preflexive sense of how to 'play by the rules' of a particular field that gives dispositions the appearance of being 'natural'. Expert musicians are an example of individuals who master the 'rules' of the musical field. By acquiring and practising a range of dispositions over many years, some musical ways of being become so deeply ingrained they are 'automatic' in the sense that they become 'preconscious', such as one's musical tastes or the ability to sing in the style of one's culture for instance. While the concept of habitus is often criticised as overly deterministic (Fowler, 2003; Dillabough, 2004), Bourdieu and others (such as, Watkins, 2003; McNay, 1999) contend that the habitus is agential; it is not immutable as dispositions are indeed open to change and conscious transformation, however, some more so than others. Bourdieu says, "habitus is not the fate that some people read into it", rather, "it is an *open system of dispositions* that is constantly subjected to experiences, and therefore constantly affected by them in a way that either reinforces or modifies its structures" (Bourdieu & Wacquant, 1992, p. 133, emphasis in original). I extend Bourdieu's concept by regarding the musical dimensions of habitus as 'musical habitus'. I expand on the few known conceptualisations of musical habitus (see, Rimmer, 2006; Rogério, 2006; Wright, 2008) by viewing the choirboys' musical interactions in early childhood as the conditions for their habitus-in-the-making.

The boys in this study are members of a renowned boys' choir in a major Australian city. It is a secular organisation that does not have affiliations with any schools, other than regularly seeking recruitment from primary schools (government and independent) in the most affluent suburbs of the inner-city. However, the choir attracts boys from all regions and social strata because of its reputation as an elite artistic and educational institution. I collected narratives of choirboys aged 10-13 years and their mothers as part of a larger study of music, masculinity and the middle-class (Hall, 2011). I argue these boys are enabled to become choirboys through a range of gendered and classed practices and here I illuminate one aspect—musical mothering—which was a strong theme across their musical life stories.

Musical Mothering

The many ways the mothers invest time and effort in nurturing their son's musical development is what I refer to as musical mothering. The boys' narratives illustrate that generally it is their mothers who are there doing the 'legwork' of music training and helping out. On a practical level, these women get the boys to and from rehearsals and volunteer a multitude of hours in many facets of the choir's organisation. They work on camps, co-ordinate uniform fittings, maintain the music library, assist overseas tours and fundraise. But also, on an affective level, the boys describe their mother as a central figure in their life as a 'backstop' for dealing with a range of complex emotions that go hand-in-hand with singing in this choir. This is not to discredit the significant and valuable input many fathers have in their son's musical lives, but in the stories these boys told, it is their mothers who feature as the most significant providers of emotional and educational care in regards to their musical development. This is consistent with research in 'intensive mothering' which shows a persistent unequal gender division of domestic labour (Lareau, 2003), particularly in regards to children's early educational care where men continue to be on the margin (Aitchison, 2006; Reay, 1998). Diane's story portrays singing as a normal part of her daily care of her son, Ben:

> Basically before he could speak he would actually sing and follow singing, and it was the thing we did. We sang a lot in the car, because as a baby he used to scream the car down, so we used to put tapes on. But he liked

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> singing in the car, too. So mainly on the way back from crèche at the end of the day I'd be singing to him and he'd repeat back. So things like *Postman Pat* and simple tunes…He was able to copy the tunes that were being played or I would sing to him quite accurately. I mean, I'm not a great singer by all means, but I felt like he had a fairly good ear for music. Like, he could pick things up through his ear, and I think he was about two and I was listening to a program on the boys' choir…and I thought, "that sounds interesting", and it sort of just got tucked away in the recesses.

What made Diane act on this idea she had 'tucked away' about the boys' choir four years later? Bourdieu (1990, p. 65) says, "agents are inclined to 'cut their coats according to their cloth'" and I suggest it is Diane's own musical habitus that inclines her to be interested in listening to choral music on the radio and which takes for granted the boys' choir would be 'for the likes' of her two year old son. Although Diane does not speak explicitly about her feelings regarding musical mothering, we do gain a sense here of the pleasure between mother and son in music being 'what we do'. More than a useful way of pacifying a restless toddler, singing together is a pleasurable, meaningful and unique way of mother and child interrelating (Mackinlay, 2009a; 2009b). How these close exchanges between mother and son might shape the boys' emerging musical tastes, beliefs and abilities and how durable these musical dispositions may be in later life would be speculative. I am more interested in how the women accumulate cultural capital for their family through musical mothering and their substantial investments in their son's becoming choirboys.

What the women have in common is a middle-class approach to mothering that generates a range of resources and benefits for their sons. For example, these stories of musical mothering illustrate the dividends generated by the women converting their own educational capital (knowledge of the education system) into cultural capital for their sons (musicianship), which converts into social capital (network of choir friends). The form of capital that is central to these mothers' conversions is emotional capital, which feminist Bourdieusian scholars understand to be "emotionally valued assets and skills, love and affection…and the gratuitous expenditure of time, attention, care and concern" (Allat, 1993, p. 143).

Emotional capital investments are seen in the emotional guidance and support, particularly the promotion of persistence, which is a feature of musical mothering. Tim's story is emblematic of this as his pathway to becoming a choirboy is somewhat different to most in that his audition as a six year old was unsuccessful. The choir encourages those boys who require time for skills, such as the sense of pitch to further develop, but who may otherwise be suitable to reaudition at a later date. This was the case with Tim. Kerryn, his mother, says that he was "really disappointed" by this result and her response is characteristic of the mothers' way of approaching negative experiences.

> They said, "no, we'll call him back in a year's time" and then he didn't want to go for it. He was like, "no, no" and I said, "no, they've asked you to come back, so you go back" and he hasn't looked back since.

Tim's second audition the following year was successful and he entered the junior training choir with enthusiasm. However, a few years later Tim's motivation for music began to decline. To address this, Kerryn talks to his violin teacher at school to "let them know that he's hitting a bit of a wall".

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> I asked his violin teacher to just have a chat to him a few months ago and just let him know that it's not—you don't have to do medicine, you don't have to do science, you can actually study music, and that peaked his interest a lot as well. So, I'm sort of thinking, well, maybe he'll go that way, because at the moment all he wants to do is be a gardener…His violin teacher now is just sort of starting to introduce the idea that you can go to university and study music, which Tim wasn't aware of, so now he's—like, you can study books, you can study singing, you can study violin, it's not just academic things.

This indirect intervention educates Tim, via his teacher, about the 'bigger picture' of his music. It is clear the choir does not merely represent an enjoyable pursuit. Kerryn's advocacy of tertiary studies in music as opposed to gardening is an indication of the choir's vocational potential and Tim's newfound awareness about the professional possibilities in the field of music is effective in maintaining his interest in the choir. Kerryn fortifies the value of music by aligning the cultural capital of university qualifications in music to that of the 'academics' which she assumes her ten year old son will recognise. Kerryn's generation of emotional capital in this instance appears less about counseling Tim directly and more about shaping his relationship with music through his teachers. This suggests a middle-class approach to children's primary schooling similar to that demonstrated by Reay (1998) who found middle-class mothers are more likely to see a connection between home and school, hence feel more entitled 'to have a chat' with the teachers, whereas working-class mothers feel more distanced and excluded from their children's schooling.

Involving their son's teachers in problem-solving their children's emotional ups and down is one way the mothers help their sons to develop the persistence required in the long-term pursuit of this musical habitus. Another dimension of the mothers' emotional capital is balancing their own aspirations for their son's musical futures with their children's emerging interests, which is a source of tension the mothers work to overcome. Many of the mothers' narratives tell of their wish for their son's to continue music throughout adulthood at least as a hobby, if not as a potential profession. Although they are very cautious about 'pushing' their sons or casting their future in stone, their musical mothering nonetheless indicates the extent to which they go about facilitating certain kinds of musical opportunities and experiences through sensitive and complex emotional and educational maneuvers.

Jenny explains her son, Brian, started becoming more serious about his singing when he was in Year 4 at school. She says it was "maybe something that you could see that in the future he would like to be involved in". Like Kerryn, Jenny maneuvers her way around the education system to address her son's emotional needs, but she does so in a different way. She tells this story about how she supported Brian's interests around this time:

> Well he had a particularly bad teacher at school who refused to accept that he wasn't challenged by the work he was given in class— that he was bored out of his tree and she wouldn't even contemplate that idea. So basically I decided that it was worth challenging him in other ways, so we—I started taking him to the symphony orchestra performances and other opera and things like that to sort of…have him thinking about other sorts of things outside of school that broadened his education which he likes…we've been doing that ever since and he loves—loves that. He's very into opera, he has

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> a lot of recordings himself which he bought with his own pocket money.

Jenny, a teacher by training, has the confidence and skills to intervene in her son's education. She draws on her own educational capital to compensate for his school teacher in what appears to be a conscious aim to enrich Brian's education in general through music. This practice bears much in common with 'outsourcing' children's education through extra-curricula tuition and enrichment activities that is a feature of aspirational parenting, typical of the middle-class (Noble & Watkins, 2008; Reay, 1998; Vincent & Ball, 2007). The value of musical activities is not just about its pleasure as a past-time or its aesthetic education, but as a significant resource for providing children 'educational optimisation'. Participation in organised musical activities is a popular mode of cultivating certain enduring dispositions in addition to musicality itself, such as self-confidence and independence, which are considered vital to children's future success. "The child here is understood as a project- soft, malleable and able to be developed and improved, the 'good' parent presenting a myriad of opportunities and support for the child to have a range of learning experiences" (Vincent & Ball, 2007, p. 1065).
A defining disposition of the boys' musical habitus and what enables them to inhabit the 'genre world' (Rimmer, 2006) of this choir is their love of western art music. Aspirations within the field appear most strong; take Brian's enthusiasm for the oboe and opera and Tim's interest in conservatoire training in violin for example. The boys' mothers have had a key role in this disposition. Diane for example is upfront about her aspirations and strategising for Ben's future musical prospects:

> I would have liked him to have done piano, because of the singing and the usefulness of doing piano if you're doing singing, but I don't force my kids; they decide what music they want to do, and he's chosen guitar, which is fine. I'm sort of starting to encourage him to think about another instrument. I've been suggesting piano, but we'll see how that goes…I don't know what prospects there are with singing as such, but I guess if you're good at singing and good at music, if you can play piano, you can combine the two…The other thing I've suggested is cello, because that moves on nicely from the guitar, and you can be part of an orchestra. I'm sort of thinking when his voice breaks, he might want to be doing music, but more with a group. I've sort of said to him 'cello could be another thing to look at, because it seems to follow on well'. I don't know a lot about the cello, but I've heard a lot of people who do guitar do go on to cello and be part of an orchestra. So just these suggestions; whether or not he will, I don't know.

Diane scaffolds Ben's interests by 'suggesting' things to him which she supports with arguments she has deduced from 'listening' to others and thinking through options. This illustrates the 'behind the scenes' work that goes into shaping Ben's musical future. Clearly the boys' musical agency is not independent of its context as some of the boys' choices receive more support, either directly or indirectly, than others. Nevertheless, the mothers diminish their intensive involvement in their children's education because to declare the significance of musical mothering would rupture the 'natural' accomplishment of their son's musical habitus.

Conclusion

I have argued that musical mothering is a significant part of what enables these boys to

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become choirboys. The mothers‘ narratives show the tremendous level of consideration that occurs, often over several years, in managing their son‘s musical pathways. The mothers in this study work hard to generate emotional capital for their children to draw on, seen in their stories of commitment, thinking, decision-making, strategizing, counseling and worry about their son‘s musical development. The confidence the boys gain in themselves by being afforded this kind of support is how the mothers also build emotional capital within their children. I demonstrated these capacities contribute to the process of making the choirboys‘ musical habitus, which is strongly influenced by middle-class approaches to mothering. This opens up a new conversation about the ways gendered and classed distinctions are played out in and through music education.

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What predicts long term commitment to actively engage with music?

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Abstract

There has been considerable research considering what motivates young people to engage and persist in learning to play a musical instrument. Much of that research has been relatively small scale. This paper aims to explore what predicts intention to engage with music throughout the life span with a large sample of participants at different levels of expertise playing a wide range of different instruments. 3325 young people ranging in level of expertise from beginner to conservatoire level, aged 4-19, representing all of the common western classical instruments completed a seven point rating scale questionnaire focused on motivation, practising strategies, organization of practice, motivation to practice and musical aspirations. Factor analysis revealed five factors. Factor 1 had high weightings in relation to self beliefs, valuing music, enjoying performance, support from family, friends and teachers, social activities involving making music, and enjoyment of listening to music. Factor 2 had high ratings relating to the organisation of practice, Factor 3 the adoption of effective practising strategies, Factor 4 enjoying playing an instrument, lessons and practice, and Factor 5 the adoption of ineffective practice strategies. Multiple regression analysis revealed that long term commitment to engaging with music was best predicted by Factor 1. Love of making music, being supported, enjoying performing and musical social activities along with self-beliefs about being a competent musician seem to be key to long term commitment to musical engagement rather than the level of expertise attained or length of time learning.

Keywords
expertise, practising, motivation, musical instruments, lifelong learning

Current theories of motivation are broadly framed within behaviourist or social cognitive paradigms (Maehr, Pintrich and Linnenbrink, 2002; Martin and Dowson, 2009). Reviews of research on musical motivation have led to the development of models which recognise the complex interactions which occur between environmental (cultural, institutional, familial, educational) and internal factors (cognition and affect) in enhancing or reducing motivation (see Asmus 1994; O'Neill and McPherson, 2002; Austin et al., 2006; Hallam, 2002; 2009; Sichivitsa, 2007). The elements that previous research has identified as contributing to motivation to continue playing an instrument or engage in vocal activities can be conceptualised in relation to four main themes: music acting to satisfy personal needs; developing and maintaining a positive musical identity; acquiring appropriate approaches to learning music; and having a supportive environment. These are set out below.

Music Acting to Satisfy Personal Needs Includes:

- the satisfaction derived from music itself (a love of music) which seems to

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meet emotional and hedonistic needs and leads to music being valued (Nagel, 1987; Persson et al., 1996; O'Neill, 1999; Asmus and Harrison; 1990; Pitts et al., 2000; Martin, 2008);
- fulfilment of the need for achievement, curiosity and self-actualisation (Motte-Haber, 1984; Persson et al., 1996; Chaffin and Lemieux, 2004);
- autonomy in determining engagement with music (Burland and Davidson, 2004; Austin et al., 2006; MacNamara et al., 2006; Creech et al; 2008a); and
- the satisfaction derived from positive social responses to successful playing and performance (Nagel, 1987; Persson et al., 1996).

Developing and Maintaining a Positive Musical Identity Includes:
- setting and achieving high musical standards (Burland and Davidson, 2004; MacNamara et al., 2006; Creech et al., 2008a);
- the acquisition and retention of a positive musical self-concept (Austin 1991; Wigfield et al., 1997; Eccles et al., 2002; 2005; Austin and Vispoel 1992; Martin, 2008);
- sustaining self-efficacy in relation to making music (McPherson and McCormick, 1999; 2000; 2006);
- maintaining self-belief (MacNamara et al., 2006; Creech et al., 2008a; 2009; Long et al., 2010); and
- demonstrating resilience when there is frequent negative feedback (Duke and Henninger, 1998) and developing the capacity to manage strong feelings and impulses (Werner, 1995).

Acquiring Appropriate Approaches to Learning Music Includes:
- the adoption of mastery goals (a focus on constant improvement, the desire to learn new skills, master new tasks or understand new things) (Chaffin and Lemieux, 2004; Schmidt, 2005; Smith, 2005; Martin, 2008);
- seeking autonomy in choice of repertoire (Renwick and McPherson, 2002);
- the adoption of appropriate attribution strategies which focus on effort, practice and strategy use to explain success or failure (Asmus 1986; Vispoel and Austin,1993; McPherson and McCormick,1999);
- being able to make realistic plans (Burland and Davidson, 2004; MacNamara et al., 2006; Creech et al., 2008a; Coulson, 2010); and
- having a range of practice strategies, an understanding of how to practice effectively, and being able to manage practice (Manturzewska 1990; Jorgensen, 2004; Jorgensen and Hallam, 2009; McPherson and Renwick, 2001; McPherson and Zimmerman, 2002).

Having a Supportive Environment Includes:
- the support of family, friends and colleagues (Howe and Sloboda, 1991; Davidson et al, 1996; Moore et al., 2003; Burland and Davidson, 2002; MacNamara et al., 2006; Creech, et al., 2008a; Creech, 2009; Patrick et al., 1999);
- the support of excellent teachers (Asmus, 1989; Sosniak 1985; Sloboda and Howe 1991; Lamont 2002; Szubertowska, 2005; Duke et al., 1997) who also act as role models (Manturzewska 1990); and
- a positive, supportive institutional ethos (Jorgensen 1997; Hallam and Prince 2000; Papageorgi et al., 2010).

Research within the expertise paradigm has suggested that the amount of time an individual spends in 'deliberate practice' is monotonically related to the level of expertise attained (Ericsson, Krampe and Tesch-Romer, 1993). While there is considerable evidence that the length of time

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learning predicts the level of expertise attained, when practising time is considered there are wide individual differences (Ericsson et al., 1993; Sloboda et al. 1996; Hallam, 1998). Addressing this issue some research has focused on the quality of practice undertaken, the belief being that if practice is effective and focused less time will be needed to achieve particular goals (for reviews see Jørgensen, 2004; Jørgensen and Hallam 2009). Such research has shown that practice tends to become more effective as expertise develops, although this is not always the case (Gruson, 1988 Hallam, 2001a, b; McPherson, 2005). Practice time is also not consistently related with the quality of learning outcome at any specific level of expertise (Williamon and Valentine, 2000; Hallam, in press) suggesting that what takes place during practice sessions may be important in determining learning outcomes. Overall, whatever the specific relationship between practice time and attainment, there is agreement that the time commitment required to develop high levels of expertise requires musicians to be highly motivated, even though they may not enjoy practice itself (Chaffin et al., 2002; Hallam, 1995a; McPherson and Davidson, 2002; Hallam, 2001a, b).

Despite the considerable research focusing on the quantity and quality of practice, its relationship to the level and quality of expertise attained and what motivates learners to spend the many hours required to attain high levels of expertise there is little research which focuses on the aspirations of learners. The research reported here aims to assess the relative importance of factors relating to motivation and practice in predicting musical aspirations and long term commitment to engage with music.

Method

A questionnaire was designed based on findings from the existing literature which sought information about the factors which have previously been identified as contributing to motivation to learn and continue to play an instrument including: self-beliefs; enjoyment of musical activities; enjoyment of performance; level of support received from parents, friends and teachers; attitudes towards playing an instrument and perceptions of its value; beliefs about the importance of musical ability; and future musical aspirations. Statements were also included based on the existing literature relating to the detailed practising strategies adopted and the way that practice was organized and managed. The questionnaire consisted of statements relating to the above based on a 7 point Likert scale. The questionnaire also sought information about the level of expertise attained (assessed by the highest graded examination taken) and the quality of performance at that level of expertise as assessed on the category of outcome (fail, pass, commended, highly commended). Learners were asked to indicate the length of time that they had been learning to play an instrument and the time that they currently spent practising each day and how many days each week.

The sample consisted of 3352 young musicians. 1225 were male (38%) 2027 were female (62%). They played a wide variety of mainly classical instruments and their level of expertise ranged from beginner through to Grade 8 level. Sixty percent played at least one other instrument. Eighty one percent played in a musical group at or outside school. To ensure inclusion of a wide range of instruments and levels of expertise data were collected from junior conservatoires, local youth orchestras and bands, extra-curricular music schools and state secondary schools.

Results

Table 1 sets out responses to the questionnaire by level of expertise and indicates the statistical significance of the linear relationship between them.

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Table 1. Responses to questionnaire statements by level of expertise

Grade	**Pre**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**	**Linear Sig**
Number of participants	490	284	196	253	245	495	296	269	354		
Practising strategies											
I try to get an overall idea of a piece before I practise it	4.9	5.0	4.7	4.9	4.7	5.0	4.8	4.9	5.3	4.9	.031
When I practise I only play pieces from beginning to end without stopping	3.5	3.8	3.4	3.3	3.3	2.9	2.8	2.7	2.3	3.1	.0001
I work things out just by looking at the music and not playing	3.9	4.0	3.6	3.6	3.6	3.4	3.4	3.4	3.5	3.6	.0001
I try to find out what a piece sounds like before I begin to try to play it	4.8	5.1	5.1	4.8	4.8	4.8	4.6	4.7	4.7	4.8	.0001
I work out where the difficult sections are when I'm learning a piece of music	4.9	5.2	5.2	5.3	5.3	5.2	5.2	5.4	5.6	5.2	.0001
I practise small sections of the pieces I am learning	4.9	4.9	5.2	5.1	5.2	5.3	5.4	5.5	5.7	5.2	.0001
When I make a mistake, I stop, correct the wrong note and then carry on	4.9	5.2	5.1	4.8	4.8	4.7	4.8	4.8	4.8	4.9	.003
I try to get a recording of the piece that I am learning so that I can listen to it	3.7	3.5	3.7	3.9	3.8	4.0	4.2	4.5	5.1	4.1	.0001
I analyse the structure of a piece before I learn to play it	3.9	4.2	4.1	4.2	3.8	3.9	3.6	3.6	3.6	3.9	.0001
I practise things slowly	4.9	4.9	4.9	4.7	4.7	4.9	4.9	5.0	5.2	4.9	.0001
I know when I have made a mistake	5.5	5.8	5.8	5.6	5.6	5.7	5.8	5.8	6.1	5.7	.0001

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When I make a mistake I practise the section where I went wrong slowly	5.3	5.5	5.6	5.3	5.3	5.5	5.6	5.7	5.8	5.5	.0001
When something is difficult I play it over and over again	5.6	5.6	5.4	5.4	5.3	5.5	5.5	5.7	5.8	5.6	.004
I learn by playing slowly to start with and then gradually speeding up	5.0	5.1	5.0	4.8	4.9	4.9	5.0	5.1	4.8	5.0	NS
When I make a mistake I go back to the beginning of the piece and start again	4.0	3.9	3.7	3.7	3.5	3.3	3.2	3.2	2.6	3.4	.0001
When I'm practising I mark things on the part to help me	4.0	4.3	4.5	4.7	4.8	4.9	5.1	5.2	5.4	4.8	.0001
I practise with the metronome	3.1	3.1	3.3	3.4	3.4	3.7	3.9	4.1	4.5	3.6	.0001
When I make a mistake I carry on without correcting it	3.0	2.9	2.9	3.3	3.1	3.0	3.1	3.0	2.8	3.0	NS
I record myself playing and listen to the tapes	2.8	2.7	2.9	2.9	2.8	2.9	3.1	2.9	3.4	2.9	.0001
I think about how I want to make the music sound	4.5	4.6	4.7	4.6	4.6	5.0	5.0	5.3	5.8	4.9	.0001
Organisation of practice											
I start my practice with scales	3.7	4.3	4.2	4.5	4.3	4.2	4.0	4.4	4.1	4.1	.006
I start my practice with studies	3.5	3.5	3.6	3.5	3.6	3.7	3.8	4.0	4.2	3.7	.0001
I do warm up exercises at the start of my practice	4.5	4.6	4.6	4.6	4.5	4.8	4.8	5.1	5.3	4.8	.0001
I make a list of what I have to practise	3.5	3.8	3.7	3.7	3.8	3.3	3.3	3.2	3.1	3.5	.0001
I set myself targets to achieve in each practice session	4.2	4.3	4.1	4.1	3.9	3.9	3.9	3.8	4.2	4.1	.002
Concentration											
I am easily distracted when I practise	3.8	3.7	3.9	3.8	3.9	3.7	3.9	3.6	3.6	3.8	NS
I find it easy to concentrate when I practise	5.2	5.4	5.1	5.2	5.0	5.1	5.3	5.2	5.2	5.4	NS
Role of performance											
Playing in concerts gives me a real thrill	4.50	4.96	5.19	4.88	4.80	5.23	5.21	5.63	5.69	5.10	.000
I find it very satisfying to play in concerts	4.83	5.26	5.66	5.33	5.27	5.60	5.61	5.88	5.96	5.46	.000
Support from family, friends and teachers											
My relations (for example grandparents, aunts and	5.51	5.91	5.97	5.83	5.86	5.89	5.76	5.80	5.75	5.79	NS

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uncles) like me playing a musical instrument											
My parents want me to play an instrument	5.63	5.88	5.94	5.69	5.73	5.59	5.46	5.58	5.43	5.63	.0001
My brothers/sisters like me playing a musical instrument	4.48	4.79	4.76	4.39	4.41	4.60	4.59	4.71	4.78	4.61	NS
My teachers at school like me to play musical instrument	5.04	5.40	5.33	5.03	4.98	5.22	5.14	5.38	5.56	5.22	.0001
I have a lot of friends who play musical instruments	5.03	5.17	5.07	5.30	5.16	5.59	5.61	5.71	6.13	5.43	.0001
Social activities											
I enjoy playing in musical groups, orchestras and bands	4.61	5.21	5.13	5.25	5.36	5.67	5.75	5.93	6.14	5.43	.0001
Playing an instrument is an important part of my social life	4.67	4.88	4.97	4.78	4.71	5.24	5.16	5.41	5.76	5.08	.0001
Enjoyment and value											
I enjoy my instrumental lessons	4.77	5.18	4.99	5.23	5.12	5.24	5.19	5.31	5.44	5.15	.0001
I enjoy playing my instrument very much	5.69	5.83	5.81	5.68	5.55	5.89	5.92	6.14	6.34	5.88	.0001
I think it is valuable to play a musical instrument	5.23	5.56	5.58	5.66	5.38	5.81	5.68	5.98	6.21	5.67	.0001
I hate having to play a musical instrument	2.52	2.24	2.30	2.55	2.41	2.08	2.13	2.07	1.68	2.21	.0001
I find practice boring	3.34	3.38	3.47	3.89	3.88	3.53	3.93	3.31	3.34	3.54	NS
I like practising	4.89	4.90	4.73	4.44	4.39	4.57	4.49	4.78	4.90	4.69	NS
Self belief											
I can achieve anything I want on my instrument if I practise enough	5.52	5.76	5.72	5.58	5.37	5.53	5.46	5.47	5.55	5.54	.027
I am usually successful in what I attempt to do on my instrument	5.14	5.31	5.31	5.52	5.09	5.37	5.26	5.32	5.44	5.27	.016

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I have the potential to be a good musician	5.01	5.17	5.08	5.28	5.05	5.41	5.36	5.57	5.64	5.29	.0001
To succeed playing an instrument you need musical ability	4.60	4.74	4.45	4.72	4.84	4.94	4.89	5.05	5.35	4.86	.0001
I have musical ability	5.00	5.40	5.34	5.19	5.31	5.52	5.43	5.56	5.68	5.37	.0001
Most people think that I am play my instrument well	5.22	5.48	5.64	5.48	5.54	5.59	5.54	5.7	5.69	5.52	.0001
Listening to music											
I enjoy listening to music	5.97	5.94	6.02	6.07	6.10	6.15	6.12	6.24	6.41	6.12	.0001
I enjoy going to concerts to listen	4.94	5.11	4.90	4.96	4.87	5.20	5.24	5.45	5.87	5.18	.0001
Aspirations											
I will always want to be involved in musical activities	5.17	5.18	5.27	5.26	5.18	5.64	5.67	5.93	6.29	5.53	.0001
I think it will be useful to my future career to play a musical instrument	4.75	4.91	4.79	4.89	4.94	5.17	4.92	5.08	5.48	5.00	.0001
I would like to become a musician	4.62	4.72	4.68	4.59	4.41	4.84	4.71	4.71	5.17	4.74	.001

Factor Analysis

To explore the relationships between the variables a principal components analysis was undertaken with a varimax rotation. The Kaiser-Meyer-Olkin (KMO) test was 0.93 greater than the 0.5 required to assess the adequacy of the sample and an anti-matrix of covariances and correlations showed that all elements on the diagonal of these matrices were greater than -.5, the necessary requirement. The analysis indicated that a five factor solution was most appropriate.

Factor 1 had an eigen value of 9.9 explaining 19.4% of the variance and had high ratings relating to:

Self beliefs **–** having the potential to be a good musician (.686), most people thinking that the instrument is played well (.632), having musical ability (.622), usually being successful in what is attempted on the instrument (.614), achieving anything which is wanted on the instrument if sufficient practise is undertaken (.594), and belief in the necessity of musical ability (.410);

Valuing music **–** believing it is valuable to play a musical instrument (.658);

Enjoying performance – finding it very satisfying to play in concerts (.651), getting a thrill from playing in concerts (.550);

Support from others **–** relations (grandparents, aunts and uncles) liking an instrument to be played (.608), parents wanting an instrument to be played (.541), having friends who play musical instruments (.484), school teachers

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liking an instrument to be played (.482), brothers/sisters liking a musical instrument to be played (.430);

Social life – enjoying playing in musical groups, orchestras and bands (.590), playing an instrument as an important part of social life (.562);

Listening – enjoying going to concerts to listen (.579), enjoying listening to music (.554);

Enjoyment – enjoying instrumental lessons (.395); and

Practising factors – knowing when a mistake has been made (.376), thinking about interpretation (.354), liking practising (.336).

Factor 2 had an eigen value of 2.97 explaining 5.8% of the variance and had high ratings related to:

Organisation of practice – practising with a metronome (.629), starting practice with studies (.590), doing warm up exercises (.481), starting practice with scales (.434), marking things on the part to help practice (.409), making a list of what is to be practised (.388), analysing the structure of a piece before learning to play it (.351); and

Developing musical ideas – trying to get a recording to listen to (.573), recording playing and listening to the tapes (.572), thinking about interpretation (.450),

Factor 3 had an eigen value of 2.42 explaining 4.76% of the variance and had high weightings on elements which contribute towards:

Effective practising – when making a mistake practising the section slowly (.688), when something is difficult playing it over and over again (.594), practising things slowly (.555), learning by playing slowly to start and then speeding up (.550), practising small sections (.499), working out where difficult sections are (.471), and when making a mistake stopping to correct the wrong note and then continuing (.460). Two variables had negative weightings, not correcting mistakes (-.394), and knowing when a mistake was made (-.311),
Organisation of practice – setting targets in practice sessions (.385), getting an overall idea of a piece before it is practised (.335).

Factor 4 had an eigen value of 2.07 explaining 4.1% of the variance and high mainly negative weightings relating to:

Liking playing, lessons and practice – finding practice boring (-.765), being easily distracted when practising (-.578), hating having to play a musical instrument (-.547), not wanting to practise on some days (-.508), liking practising (.447), finding it easy to concentrate when practising (.426), and enjoying instrumental lessons (.392).

Factor 5 had an eigen value of 1.8 explaining 3.57 of the variance and had high weightings for statements relating to practising strategies typically adopted by beginners and disliking playing an instrument:

Ineffective practice – When making a mistake returning to the beginning of the piece and starting again (.575), and when practising only playing pieces from beginning to end without stopping (.557);

Analysing music without playing – working things out just by looking at the music and not playing (.448), analysing the structure of the piece before learning to play it (.423);

Disliking playing – hating having to play a musical instrument (.398); and

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Organisation of practice – setting targets to be achieved in each practice session (.318).

Multiple Regressions

A series of multiple regressions was undertaken which included the level of expertise attained, the length of time learning, weekly practising time, and the five identified factors.

The analysis relating to the statement „I will always want to be involved in music' revealed a Multiple R of .705 with an adjusted R^2 of .498 (F (9, 2228) = 245.26, p > .001). The strongest predictor was Factor 1 (motivation) (.647) followed by Factor 2 (well organised practice) (.208) and Factor 4 (liking playing an instrument) (.105). This suggests that motivational factors are the best predictors of lifelong engagement with music, greater than the level of expertise attained, the length of time learning or weekly practice.

The analysis relating to the statement „I would like to be a musician' revealed a Multiple R of .679 with an adjusted R^2 of .461 (F (9,2228) = 211.6, p > .001). The strongest predictor was Factor 1 (motivation) (.567) followed by Factor 5 (ineffective practising strategies) (.2), Factor 2 (organisation of practice) (.185), Factor 4 (enjoying music) (.159), while Factor 3 (effective practice) had a negative weighting of -.129.

The analysis relating to the statement „I think it will be useful to my future career to play a musical instrument' revealed a Multiple R of .631 with an adjusted R^2 of .396 (F (9,2228) = 163.86, p > .001). The strongest predictor was Factor 1 (motivation) (.567) followed by Factor 4 (enjoying playing) (.227) and Factor 2 (well organised practice) (.101).

Additional regression analyses were undertaken relating to the level of expertise attained and the quality of that expertise. The analysis relating to the most recent graded examination taken revealed a Multiple R of .69 with an adjusted R^2 of .485 (F (7,2231) = 302.1, p > .001). The strongest predictor was the number of months learning with a beta weight of .387. The next strongest predictors were Factor 2 (organisation of practice (.172), Factor 1, (motivation) (.116), weekly practice (.113) and Factor 5 (ineffective strategies) which had a negative weighting of -.315. Analysis relating to the quality of learning outcome as assessed by the category of mark awarded (fail, pass, commendation or special commendation) revealed a Multiple R of .44 with an adjusted R^2 of .193 (F (7,2231) = 70.4, p > .001). The strongest predictor was the number of months learning with a beta weight of .201 suggesting that the category of pass was higher the longer individuals had been learning. The next strongest predictors were Factor 2, (organisation of practice) (.156) and Factor 1 (motivation) (.136).

Discussion

There are limitations to this research based, as it is, on self-report. It also does not take account of those learners who have ceased to play. However, it is possible to draw some tentative conclusions. The findings suggest that the motivational factors identified in previous research are inextricably linked together and that collectively they lead long-term commitment to engage with music. What the research was unable to do was identify whether some motivational elements occur prior to others. For instance, it may be that early enjoyment of playing leads to more practice and early success in examinations and performance which then engenders the support of teachers, parents and other relatives. Reports of family support seem to peak at around grade 2 while having friends who make music gradually increases as expertise develops suggesting that friendships are developed through music making and that an identity as a musician is internalised which requires less familial support. The data also indicate that around grade 3 and 4 responses to a number of the motivational and practising

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statements dip. It may be that at these levels of expertise students make decisions about whether to continue to play an instrument and engage in active music making and that this is reflected in the responses. There are a number of possible reasons for this decrease in motivation including increased pressure of school work, different hobbies taking priority, changes in friendship groups or unfavourable comparisons being made with more successful peers. Certainly, the responses indicate that enjoyment of playing is considerably lower at these levels of expertise and responses to hating playing an instrument are much higher. Further analysis of the data in terms of examination success or failure and the age at which the changes occur may elucidate some of these issues.

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Practice-Centred Research Training in Music: An Emerging Community of Practice in the Conservatoire

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Abstract

Research training could be considered the cradle for developing research culture in the conservatoire. Following the alignment of music schools with universities in Australia there is an increasing expectation that research degrees be available for high-level practitioners best located in tertiary music-making environment. This paper investigates the ways in which the Queensland Conservatorium at Griffith University in Australia has enabled a community of practice in the field of research training. This conservatorium has offered a Master of Music since 2000 and a Doctor of Musical Arts from 2005. Both are classified as research degrees with a major practice-centred component and a text-based component, supported by coursework in the early stages of the programs. The programs have recently undergone an extensive review the paper draws on this and data gathered from research students, graduates, academic supervisors and administrators.

Using the community of practice literature as a basis, the paper reflects on three elements of the review outcomes: i) a domain of knowledge which defines a set of issues; ii) a community of people who care about this domain; and iii) the shared practices that are developing around the issues. These elements are brought together in terms of the community of practice lifecycle: potential, coalescence, maturation, stewardship, and transformation.

Implications for research within the tertiary music setting are argued in terms of institutional imperatives, development of supervisor skills and the enhancement of the student experience. In particular, the paper offers insights about delivery modes (including distance, blending learning and face to face), course content, and the potential for varied practice-centred formats that prepare graduates for professional life beyond their university studies.

Keywords
research, research training, practice-centred, community of practice

Context

This study is located at Queensland Conservatorium Griffith University (QCGU) in Australia. Established in 1957, the Conservatorium achieved autonomous status as a College of Advanced Education in 1971 and became part of Griffith University in 1991. Prior to the establishment of the Conservatorium Research Centre in 2004, a small number of research candidates enrolled in Master of Music (MMus) and PhD programmes. The Doctor of Musical Arts (DMA) was introduced in 2005. This offering focussed on practice-centred research, complementing the research centre's research supervision capacity in four clusters: artistic practice, music technology, community music; and music education and training.

The MMus and the DMA are structured around practice: 75% of the course work is dedicated exploring practice

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in text-based, creative and other formats, with the remaining 25% allocated to coursework. Learning experiences include traditional supervision, practical lessons with experienced practitioners, interaction with visiting scholars and participation in an online, blending learning site locally referred to as —RDs@theCon.” The site provides a wide range of coherent resources for students including links to administrative resources at the graduate school, suggestions of suitable texts and videos of presentations. There are also student wikis (comprising drafts, diagrams and posts on progress) and the opportunity to collaborate in virtual online colloquia through the site. With a number of distance students and busy practitioners enrolled in the degrees, this site has become critical to the ongoing development of the research community.

More than half of the 80 strong cohort of research students is enrolled in the practice-centred degrees. The first major cohort of 12 students graduated in 2011, and a further group of close to 20 students will complete their programs in 2012. To date the design, progress and saliency of the MMus and DMA have been the subject of a number of peer reviewed publications. Formal review was undertaken in 2011/2012 to reflect on the strengths and weaknesses of the programs to date, and to ascertain the potential future directions for research and research training in the institution. The review process revealed the emergence of a community of practice in research training.

Theoretical Framework: Communities of Practice

This paper draws on the work of Lave and Wenger (2002) and uses their definition of community of practice: —…a set of relations among persons, activity and world, over time and in relation with other tangential and overlapping communities of practice” (p. 115). Wenger, McDermott and Snyder also note that such communities are comprised of —…group(s) of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al. 2002, p. 4). These have three common elements —.a *domain* of knowledge, which defines a set of issues; a *community* of people who care about this domain; and the shared *practice* that they are developing to be effective in this domain” (Wenger et al. 2002, 27).

A relatively limited amount of literature exists about practice-centred degrees in music, with a handful of studies emerging the last five years (Bresler, 2009; Draper & Harrison, 2011; Hannan, 2008; Harrison & Emmerson, 2009; Polifonia, 2007; Schippers, 2007). This paper seeks to address the paucity of material and comment on perspectives of building a community of practice for supervisors and candidates in practice-centred programs. The aim is to examine the conditions that enabled this community to develop. The central questions explored in the paper are:

1. What are the characteristic features of this community of practice?
2. How did the community of practice evolve?
3. What are the implications for the local and international trends in music research training?

Research Design, Data Generation and Analysis

The methodology draws on the author‘s experience as a research supervisor and academic manager of research programs at the research site. The formal review process provided an opportunity to interrogate the international landscape in music higher degrees, the national policy and local university setting, and the views of supervisors and candidates in the programs. A mixed method approach (Creswell, 2003) was employed: in addition to reflecting on the developmental insights published in earlier papers, data were gathered from candidate surveys, forums and focus-group interviews across the conservatorium in the period 2008 – 2011. Policy documents, notes and email logs were used to refine the emerging themes, as were informal meetings to discuss

student research projects and supervisory issues. Specific conditions for the data generation included:

- Candidate surveys: Two surveys were conducted. The first focused on the one-to-one supervisory aspects of the student project and the second focussed on the communal activities such as weekly colloquia and course work.
- Forums: Two supervisor forums per semester were conducted over the period 2009 to 2011. Initially designed as a form of staff development, the forums became an opportunity for dialogue about managing the practice-centred nature of the DMA and MMus.
- Focus group interviews: Students and supervisors attended two focus group sessions in July 2011 at which the findings of the earlier academic papers were presented, along with survey data. The provision of these artefacts provided a means of member checking (Lincoln & Guba, 1985).
- Policy documents, notes and email logs: Reference to policy, and analysis of email discussion gave further insight into the developing community of practice.

Analysis was carried out via a constant comparative method (Glaser, 1993). Emergent themes were examined against the theoretical frame of communities of practice (Lave & Wenger, 2002; Wenger et al., 2002) and used to identify the emerging community. What follows is a description of themes that emerged in relation to the three common elements (domain of knowledge; community of people who care about the domain; shared practice), followed by conclusions that pertain to the five stages in the life-cycle of a community of practice: potential; coalescence; maturation; stewardship; and, transformation (Wenger et al., 2002).

A Domain of Knowledge

Music research is the domain of knowledge for this study. The institution embraced practice-centred music research programs at the turn of last century: in 2000, the MMus program was the first foray by the conservatorium into the research domain. The program submission indicated that

> The Conservatorium believes that the advancement and extension of knowledge through collaboration is an important aspect of research achievement in music. This subject aims to progressively develop in the student the highest possible skills in musical practice and research by providing training in advanced musical scholarship, promoting reflective professional activity, and providing opportunities for innovative research and creative accomplishment (Master of Music program catalogue entry).

Similarly, when the DMA was introduced in 2005, it sought to

> …provide musicians with extensive experience the opportunity to upgrade their skills and qualifications through research based on their practice. Graduates of the Doctor of Musical Arts program will be able to position themselves within their field of expertise with authority; apply the skills gained to similar contexts; conceive, initiate and conduct substantial artistic research projects independently; provide leadership and authoritative feedback to research of others (Doctor of Musical Arts program catalogue entry).

One of the concerns expressed by students in the early stages of the program was that

> There is no trodden path for methodology and format and this is

> one of the disadvantages as opposed to doing a more traditional PhD where you use the methodologies that fit the problem (Student comment 2009).

As the programs have matured, the type of knowledge being explored has transformed, as evidenced in the quality and diversity of final submissions. There was initial uncertainty as to what the terms —practice-based", —practice-led", and —artistic practice as research" implied. This has been replaced by a sense of the centrality of music to the project, and the ways in which other aspects are placed in relation to the creative product. Students reflected in these early stages that the programs were

> …trying to adapt practice-based thinking into previously existing, formal academic moulds. I don't think there is 100% compatibility there yet (Student comment, 2008).

The term —practice-centred" has been borrowed from other disciplines (Woods & Christoffersen, 2001; Rust, Roddis & Chamberlain) but has not yet entered common usage in the music domain. By embracing this term in relation to the DMA and MMus, the potential exists for a fluidity of organization (Antonacopoulou, 2007) while acknowledging the ambiguity, uncertainty and discontinuity of moving from unknown to the known (Clegg et al., 2005). Since taking this approach, new forms of knowledge dissemination have emerged that are not necessarily linear, and serve to ensure that the practice itself, rather than the talk about the practice, is assessed.

Supervisors and students have acknowledged that there are risks involved in such an approach, as reflected in this comment from a supervisor, who found that their stewardship of the students' projects could be put in jeopardy by pushing the boundaries:

> We negotiate our project together and that's what I find the most challenging part. It's actually standing up as a supervisor and being accountable for that innovation with the student… That's what I feel personally is the largest challenge, is taking that risk with the student as a supervisor, it's a huge step (Supervisor comment, 2009).

As the programs developed, students noted that the institution accepted and understood that diversity was necessary for the submission. This process was assisted by

> Agreement on formats and most propitious ways of achieving best practice/ methodologies [that] were apparent early in the degree, including support for performances and technology (Student comment, 2011).

A Community of People

The people in this domain are the students and supervisors and, to a lesser extent, the academic managers. The programs were initially attractive to students, with relatively high enrolment numbers. By 2008 a more stable enrolment pattern was established as some candidates withdrew due to matters of workload, lack of basic research training skills and/or suitability for research undertakings (Draper & Harrison, 2011). Since 2008, the DMA candidate profile has continued to increase. This appears to align with the coalescing phase of the community. At the time of writing, around 80 students are enrolled in research degrees, representing 11% of the total university higher degree population and more than 10% of the conservatorium student body. This is in contrast to pre-2003 picture in which the MMus was the small, niche research program supplemented by a handful of PhDs.

The number of staff qualified to supervise projects has remained static at around 15. This represents a logistical challenge for managers of the programs. Each student is required, by university policy, to have two qualified supervisors representing the need for more than 160

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supervision allocations. Most supervisors work with between 4 and 8 students, but one has responsibility for 11, and another for more than 20. Reflecting on this level of engagement, supervisors were asked to comment on Leder's (1995) assertion that in practitioner research "inexperienced personnel [were] being drafted prematurely" (p. 7).

> …staffing levels have not matched the growth of research culture and existing supervisory strengths are tested by the nature of the cohort and the range of projects being undertaken (Supervisor comment, 2009).

Students were also aware of the limits of human resources with comments such as "I feel that I was mismatched with my principal supervisor in my first year." Conversely, others commented that, as they entered the later years of the program:

> Supervisory relationships have developed into valued professional and personal relationships despite occasional differences of opinion, perspective and expression. In an environment where DMA students have significant professional background, this seems a healthy thing (Student comment, 2011).

Another aspect of the programs' maturity is that there has been a more realistic recognition of the workload involved in supervising research students. The institution recognised the need to grow the research programs, and successfully argued for a commensurate increase in workload allocation. In music schools where expensive one-to-one instrumental and vocal tuition is the norm, the opportunity to invest in research training (which brings substantial financial reward to the institution) made sense in terms of stewardship of funds. For new staff recruits, research supervision is built into the job description from commencement and the knowledge of existing staff members passed on through orientation, mentoring and formal supervisor accreditation.

A Shared Practice

The research agenda, including the acknowledgement of the role of research students, has gained currency in the institution. An increasing number of performance teachers have enrolled in doctoral studies, and have also submitted both traditional and creative works in the national research assessment exercise. In addition to the 15 staff members who supervise students, the number of core staff closely involved in the management of research students has expanded to six, each of whom take responsibility for program co-ordination, teaching research methods courses, attendance at colloquium and providing online resources for the RHDs@the Con site. As a consequence, there has been an increase in student engagement: for example, 2011 saw a 33% increase in attendance at weekly research colloquium. In addition, in response to the question "Overall, how effective was the colloquium in supporting you in your HDR program, " 14.3% of students said "excellent"; 14.3% said "very good"; 42.9%" said "good"; and 28.6% said "average" (Student survey, 2011).

There has been a mixed reception to the development of online resources in 2010. As one student noted:

> I spend so much time doing admin for my job that the second last thing I want to do at home is log on to access materials for my studies, or contribute to a blog: the very last thing is log on to social networking sites (Student comment, 2010).

The online resources feature a podcast of the weekly colloquium session, and this is the medium through which many students are choosing to interact, instead of via text-based lecture notes or attending in person. This web-based community draws together the

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disparate elements of supervision and demonstrates the advantages of reciprocal peer teaching for both supervisor and student. In this way, distributed supervisory teams work together with higher degree students in coursework and colloquia using different modes of communication. A number of students share documents with their supervisors (and others) through supervision wikis. This is one way to manage the project, check version control, and track contributions students and supervisors have made. Some supervisors also meet through virtual supervision meetings. Distance candidates have particularly benefitted from this approach.

Students in the DMA also take a course in the use of information technologies to shape and disseminate their work. Many students have been initially reluctant to engage in this process, some even transferring to the PhD to avoid enrolling in the course. One of the assessment tasks is to undertake setting up and contributing to a blog. In reflecting on his blog later in his candidature, one candidate stated:

> It was originally developed to fulfil a component of my doctoral course work. I had only intended to write a few entries, achieve a good mark and move onto more pressing concerns. This blog has remained with me into my post-doctoral life and I hope that it will continue to educate, inspire and challenge all of us (Student survey, 2011)

The site also houses exemplars of student work. As Hockey & Allen-Collinson (2002) note "With our area, those models are not really around at the moment, so I'm busy nicking proposals from people in other areas, and then trying to use my imagination, and saying to the student look you can adapt this'" (p. 348). Students have found the "nicking/adapting of proposals" to be one of the most useful aspects of the online environment, one in which practice is genuinely shared.

Regular supervisor forums have provided an opportunity to discuss positive and challenging aspects of supervision. Many supervisors have informally noted that the forums were the first opportunity they had to engage in reflection and co-operative problem solving of supervision-related concerns. As away of consolidating the community and sharing practice, the institution has established an annual research festival in which local and international students and staff participate in presentations, performances, lectures and social events.

Conclusion

For music institutions formerly known for training high level performers, the expectation of research activity from both staff and students is a pressing concern. Conservatoire teachers are typically ill equipped for the task of research supervision and, as a result, the student experience can be variable. The emerging community of practice documented here is characterised by students and supervisors who have a desire to embrace new approaches, who have set up structures to enhance delivery and engagement, and who constantly reflect for improvement. The community has evolved, in part, through external influences requiring universities to invest more heavily in research and research students. The willingness to explore innovative approaches, often borrowed from other disciplines, has increased the enrolment levels and levels of interaction. This has brought pressure to bear on human and physical resources while providing a critical mass recognised as exemplary by the university and beyond.

The implications of this study for the broader music education environment can be found in the embracing of web based technologies and the investment in people. In addition, national and cross-national collaboration on research training approaches and resources are explored through the sharing of staff expertise and exemplars of student work.

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The community of practice described in this paper is still emerging. In terms of community of practice life cycle stages, the potential is still being realised. The academic managers of the program, including this author, have witnessed the coalescence and maturation of the program in many respects. As outcomes from the formal review are implemented, further maturation is anticipated. Stewardship of online and human resources has been evident, though the provision of appropriate physical resources and performance opportunities has yet to be realised. Transformation has been taking place in relation to delivery, provision of exemplars for practice-centred-exegetical models. The first graduates from the programs have begun to take their place in the academic and musical communities, replacing those who have taught them. As such, this community of research training is becoming a vital mechanism for regenerating music education.

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Sharing Promisingness: Teaching and Learning Relationships between Emerging and Eminent Composers in an Orchestral Composers School

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Abstract

As composition has become an established component of curricula internationally, the learning opportunities for students have expanded, as has research into classroom-based composition learning and teaching. This study sits in the gap between research into neophyte or school-age students' composition learning, and studies of eminent composers. For those students who are more than neophyte, but not yet expert, the professional workshop has become a prime space for learning. Drawing on expertise theory, this case study examines the working practices of a group of eminent composers working with student-composers in a professional orchestral workshop environment. Observation and interview methods were used during and after the workshop to gain insight into outward manifestations of teaching and learning and longer-term perceptions and reflections. Following on from Barrett's (2006) and Barrett & Gromko's (2007) studies of eminent composers' studio teaching, in which the compositional teaching and learning process was described as a form of collaboration, this study examines the collaborative relationship in a group context: a masterclass in which several eminent composers engaged with each other and the student cohort around issues emerging from the first rehearsal of students' works. Analysis of data generated in the study suggests that in this environment the distinctive teaching and learning strategies are characterised by *promisingness*-sharing processes characteristic of expertise-development (Bereiter & Scardamalia, 1993). The concept of *promisingness* – knowledge of what is likely to work in an untried context – provides a way to look at expert decision-making in creative pursuits. By sharing from their more extensive experience, eminent composers led students to consider additional dimensions in compositional decision-making, extending students' understandings of composing for orchestra. Greater understanding of processes of transferring *promisingness* and agency to learners may inform teaching and learning at other levels and in other contexts.

Keywords
music composition, expertise, orchestra, composer-teacher, student-composer

This paper draws on a larger study of the pedagogy of creative thought and practice in music and explores learning that occurred for a small cohort of emerging composers during and after a week-long school with a professional orchestra, conductor and eminent composers[1]. It sits in the gap between research into neophyte or school-age students' composition, and studies of eminent composers (Camphouse,

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2002, 2007; Csikszentmihalyi, 1996; Ford, 1993; Gardner, 1993; McCutchan, 1999). As a group of eminent composers work together with student-composers on students' orchestral works, distinctive teaching and learning strategies emerge. Following on from studies of eminent composers' studio teaching (Barrett, 2006; Barrett & Gromko, 2007), the collaborative relationship is examined further, proposing *promisingness*-sharing processes characteristic of expertise-development (Bereiter & Scardamalia, 1993).

Theoretical Background

The establishment of composition and song writing as core components of music education may be attributed to the pioneering work of educators such as Paynter (1972, 1982, 1992) in England, Schafer (1965, 1967, 1969, 1976) in Canada, and D'Ombrain (1969) in Australia. Composition teaching and learning has subsequently become the focus of research, predominantly in the classroom. Researchers have: investigated the evaluation of products (Kennedy, 2002) and processes (Bamberger, 2003) such as problem-finding and problem-solving (Berkley, 2004; Burnard & Younker, 2004; Younker, 2000); trialled pedagogical models (Lupton & Bruce, 2010); investigated tools, such as computers (Airy & Parr, 2001; Seddon, 2006) and strategies, such as group composing (Fautley, 2005); interrogated composition's effectiveness in developing general musicianship or creativity (Byrne, Halliday, Sheridan, Soden, & Hunter, 2001; Odam, 2000; Savage & Fautley, 2011); and, examined teacher attitudes, philosophies, and training needs (Berkley, 2001; Odena & Welch, 2007). Researchers have also probed the influence of instrumental proficiency on composition (Martin, 2005; Seddon, 2003; Stauffer, 2002). Most of this classroom-based research focuses on novice students, performing researcher-designed tasks. Few studies address non-novice composers undertaking real-world projects. Notable exceptions are Barrett's (2006) and Barrett's and Gromko's (2007) studies of eminent composer-teachers working one-to-one with students in university settings.

This study moves beyond the university studio to investigate teaching and learning processes of non-novice composers (participants had completed or were undertaking postgraduate study in composition, composing for performers beyond university), beginning their free-lance careers. It explores what many emerging composers regard as the next stage: *ensemble*-based schools in which works are workshopped under the guidance of eminent composers. Specifically, the study investigates learning within an intensive Orchestral Composers School (OCS).

Creative Expertise

Expertise theory provides one lens for examining the phenomenon of the Orchestral Composers School, a professional development initiative of the Australian national orchestra network. While there have been numerous studies of performer expertise (Ericsson, 2006; Hallam, 2001; Lehmann & Gruber, 2006; Papageorgi, et al., 2010; Postema, 2008) few have addressed developing composer expertise.

What is required to become an expert? Some suggest extensive knowledge and skill (Feltovich, Prietula, & Ericsson, 2006), developed over 10 years, or 10,000 hours of practice (Ericsson, Krampe, & Tesch-Römer, 1993; Gardner, 1993; Simonton, 1991). Yet many who have done the hours are not considered experts. What distinguishes *experts* from *experienced non-experts* (Bereiter & Scardamalia, 1993)?

Experts, for this discussion, are those who work beyond proficiency, continually extending both their personal competence and their domains (Bereiter & Scardamalia, 1993; Ericsson, et al., 1993). Rather than simply acquiring skills and performing faster and more efficiently, *expertise* is a distinctive way of thinking and doing (Feltovich, et al., 2006). Studies concluding that experts simply think and work faster have usually compared experts with *novices* performing simple, measurable tasks (Chi, 2006; Lehmann &

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Gruber, 2006) rather than with *experienced non-experts* performing complex heuristic tasks (Amabile, 1996). Whilst automation and knowledge-chunking produce efficiency (Feltovich, et al., 2006), an automated process is no longer exposed to reflective evaluation, and thus not accessible to the kind of attention needed for devising new strategies for improvement (Ericsson, 2006).

Contemporary Western scientific understandings of creativity include two aspects: innovation and appropriateness. Appropriate new ideas or products depend on expert-quality knowledge (Gruber, 1989). Creative practice occurs within sociocultural systems: a *domain* which includes accumulated knowledge, work, and practices of a discipline; a *field* of judges, users and expert practitioners; and *individuals* who generate new ideas or products (Csikszentmihalyi, 1988, 1996; Gardner, 1993; Glavea nu, 2010; Moran & John-Steiner, 2004; Sawyer, 2006).

Promisingness: Domain-Specific Wisdom

Generating new ideas —divergent thinking— is one thing (Runco, 2008); choosing which to try is another. Bereiter and Scardamalia (1993) call the quality that makes an idea worth trying *promisingness*: wisdom specific to the domain of activity. Grounded in extensive knowledge and experience, creative experts are better at picking good ideas —those which, although not directly matching previous successes, are likely to work. Paynter similarly suggests recognising —rightness" is —possibly the most important technique in composition" (2000, p. 20).

A *promising* idea will match the task-goal and one's capabilities. To make these judgements, one needs domain knowledge and self-knowledge, acquired through reflecting upon extensive experience.

Experts working on large projects such as orchestral compositions can't waste time and effort on ideas that won't work; they must be able to judge *promisingness*. That ability is developed through practice: making choices and learning from consequent successes and failures (Bereiter & Scardamalia, 1993; Paynter, 2000). Can eminent composers (who are experts in their field)help emerging composers develop this ability?

We argue that eminent composers have accumulated rich *promisingness* knowledge. By modelling judgement-making, handling success or failure, devising new strategies, and encouraging creative risk-taking and reflection (Dreyfus & Dreyfus, 2005), they can help students become independent learners (Ericsson, Prietula, & Cokely, 2007; Folkestad, 2006). Students can use experts' experience-generated wisdom while they bank more of their own experience.

When composers hear their works played they accumulate data for future *promisingness* judgements. A composer's score is a set of instructions for others; only upon hearing it performed can one evaluate one's efforts and intention (Broege, 2002). Eminent composers can help interpret this aural feedback, discerning which aspects are what was written and which are performer contributions.

Barrett (2006) proposes that the relationship between eminent teacher and advanced student can be viewed as a kind of collaboration. This paper proposes that the sharing of *promisingness* judgements further illuminates such relationships: sharing expertise while preserving student agency.

Method

Qualitative case study approaches are characteristically used to explore complex, particular phenomena (Freebody, 2003), which may then illuminate general issues (Stake, 1995). A case study of this Composers School offers useful insights into the phenomenon of teaching and learning composition.

The case under investigation, a Composers School, includes a range of learning experiences for diverse participants with varying backgrounds and viewpoints. Having submitted an orchestral work, five students were selected to attend the week-

long intensive School. Learning experiences included rehearsals and orchestration demonstrations with a professional symphony orchestra, and individual and group lessons led by four eminent composers and conductor. This paper examines expert/student relationships in the masterclass following the first rehearsal.

The study employed observation and interview methods to examine teaching practices and beliefs of eminent composer-teachers and learning experiences of emerging composer-students. Composer-students, composer-teachers (including the composer-conductor) and representative players were interviewed to explore individual beliefs, experiences and self-understanding (Kvale, 1996), and, later, to interrogate interpretations emerging from observation data.

Musical interaction also occurs in sound and physical gesture. In addition to making comprehensive field notes during observation, rehearsals and masterclasses were videoed and transcribed to enable careful and informed reflection and analysis (Clancey, 2006). Interview statements were interpreted in relation to actions, and in light of physical and social contexts.

Analysis

Analysis continued throughout data generation and informed subsequent phases of data collection. Because this study explores relatively unresearched territory and may be viewed through various lenses in education, creativity, and expertise theory, it is important to stay close to the data (Charmaz, 2006), holding emergent themes and categories lightly. While this paper trials an expertise theory lens, the data must also be permitted to interrogate the theory.

Themes and strategies emerge from integrated processes of thick description (Geertz, 1993; Stake, 1995) and interpretive interactionism in which, through careful and thorough writing, meaning located in the experience of interacting individuals (Denzin, 1989) becomes visible. Analysis of observed action and dialogue focuses on identifying teaching and learning processes and content areas (formal knowledge). Accounts of observed action and dialogue were sent to participants for checking and confirmation.

The interpretation offered is one understanding of this case. As all participants experience the case differently and give sometimes competing accounts (Lincoln & Guba, 2000), so also, analysts will find differing interpretations. We aim to offer an account that is faithful, coherent and believable (Denzin & Lincoln, 2000).

Results

This paper reflects upon two types of teaching and learning events from the second day: the first rehearsal of students‘ original works and subsequent masterclass.

Upon acceptance into the Composers School, students‘ works were proofread by a composer-teacher. On the first day, students attended individual lessons with composer-teachers in which additional concerns about pieces were raised, and met with the composer-conductor to address tempo, rhythm, dynamic, and balance issues. He explained that in the first rehearsal the orchestra is finding out what‘s there; they won‘t begin interpreting until the second.

The First Rehearsal

This was the first of three rehearsals with orchestra. Each student‘s seven- to nine-minute work was allocated 20 to 25 minutes, including set up, questions and clarifications. The second work included unconventional notation and numerous extended techniques. Although the orchestra read through it without stopping, the remaining time was taken with questions and clarifications. Before the third work, the composer-conductor briefed the orchestra about a section with awkward tempo changes —I‘ve spoken with the composer about this.” They completed the read-through with one re-start. After clarifications about mutes and notation, the composer-conductor rehearsed the tempo-changing section and another rhythmically challenging passage. Immediately after each

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reading, composer-teachers briefly went over the work with the composer-student.

What is the learning occurring in the first reading: when a composer's plan encounters realisation; when notation has to cue musical behaviours that generate pre-imagined sounds?

The Masterclass

Later, in the masterclass, two composer-teachers, the composer-conductor, orchestra education officer, and students met to discuss each work. The primary discussion was between composer-conductor and student-composer, augmented by the other composer-teachers —a rich environment with three experts working together on each composer-student's work. Pragmatic discussion focussed on revisions for subsequent rehearsals. Composer-teachers also shared general advice about composing for orchestra.

Five general teaching-learning themes were identified: communication, lore, modelling, developing student capacity, and adjusting student concepts.

> *1. Communication* includes music notation issues such as whether to use abbreviations, e.g. *c.l.b*. for *col legno battuto,* whether to convey intended intensity changes through tempo or articulation markings, and how to write harmonics for harp. Communication also included orchestral protocols: how to consult with players in advance, how and when to make revisions in parts, being mindful of limited rehearsal time.
>
> *2. Lore* includes instrument-specific knowledge such as the contrabassoon's limited agility, or range and embouchure considerations for low brass articulation. It also includes knowledge of instrumentalists —how orchestral players prefer to approach playing their instruments, e.g., whether a harpist will really use coins on the strings when requested; and players' understandings of their role— —don't overmark parts", —leave some interpretation to the performers", —they present messy rhythms that make it sound like they are making mistakes".
>
> *3. Modelling how composers think* includes offering solutions to present problems, and exploring possibilities for future compositions. The expert composer-teachers shared their ability to make *promisingness* judgements regarding problems in students' pieces. Two examples are presented below.
>
> *4. Developing student capacity*. includes offering possible solutions, whilst always leaving implementation decisions with the students. Compsoer-teachers challenged composer-students to consider *Communication* and *Lore* for later revisions or future pieces, to reflect, —Do you hear?" and, to imagine sightreading players' parts. They affirmed the overall quality of students' works and complimented specific passages.
>
> *5. Adjusting composer-students' concepts of composing for orchestra* included citing examples from the repertoire. Composer-teachers put forth principles idiomatic to the orchestra such as: —use few layers", —consider harmonic resonance", and —reinforce rather than add gestures".

Examples of Theme 3

Modelling: Finding solutions

> (CT: composer-teacher, CS: Composer-student, Cond: composer-conductor)
>
> String players expressed confusion about SC1's instruction to circle between s*ul ponticello* and *sul tasto.*

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CT1: So have you sorted out the circular bowing thing with the strings?
CS1: Yeah, I think I'll just take off the *sul tasto* and *sul pont* because ultimately it's going from *sul pont* to *sul tasto* in the circular motion.
Cond: Did you hear it that way when they did it today?
CS1: Unfortunately, I couldn't. I couldn't hear the effect. It wasn't [loud] enough.
Cond: We'll try again tomorrow but I have my doubts whether it's going to come off.
CT1: It could probably work better if actually marked where in the bar it goes.
CT2: Yeah, because if it's not coordinated, you're not going to get that *sul pont* to *sul tasto* effect. If they're all doing it random, it'll probably sound like "nothing's happening" texture.
CT1: And *tremolo* will probably also help the effect
CT2: So you need them all moving to *sul pont* at the same point in the bar and all moving away from it.

Modelling: Generating possibilities

Although the main point was to avoid superfluous instructions on parts, CT2 takes up another curiosity.
Cond: No need to be writing *non vib* on a harmonic. Ok everyone? It's superfluous.
CT2: Could you write *vib* on a harmonic?
Cond: You can write *vib* well, sometimes they do them. If they get a really choice, juicy one. I just wrote a violin piece, with orchestra, and there's one spot at the end he plays the melody in harmonics, and there's one he finds, it's just right at the height of the phrase
CT1: And he can do a *vib* on it?
Cond: *Molto espressivo* and it's gorgeous, but you can't do that on all of them,
CS: Is it a natural or stopped?
CT1: You can't do it on a natural harmonic.
Cond: No, it's a stopped. It's a touch four.
CT1: They can do that?
Cond: Yeah, they can, and he did it at the right time, so they are able to do it, but it's nice to leave these things to the individual performer too.

Learning Reported by Composer-Students

In follow-up interviews, these first-time compser-students reported several kinds of learning:

- To be meticulous, clear and accurate in score and parts. "[With the next piece] I went through every single part and matched it against the score; thought about the difficulties of what this player would be hearing and what they'd need to play".

- To be respectful to orchestra and conductor, mindful of limited rehearsal. "They don't have a lot of time. What can I sacrifice without sacrificing my idea? I think it is a different set of skills, managing orchestral musicians who are a different breed of muso".

- Improved ability to perceive and evaluate what they hear: "I feel much more capable of looking at the accuracy of the performance rather than just being confronted with this wall of sound and going, "Oh, wow. This is incredibly vivid'".

- Writing for orchestra is different. "The difference between writing even for

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> achamber orchestra and a 'real' orchestra is so enormous, that I don't think it would be unreasonable in terms of skill sets to classify composition into two types: writing for orchestra, and not".

Discussion

Teaching/Learning Processes

In the masterclass, composer-teachers and conductor approached each composer-student's work intent on a good performance at the end of the school. With this pragmatic short-term focus, the masters' vicariously worked on compser-students' problems. In some instances, such as the *sul tasto–sul pont* example, composer-teachers jointly built a possible solution; in others they offered contrasting solutions. In all cases, they left implementation decisions to the composer-student.

If one composer-teacher put forth a rule' another might question it and provoke considering an exception. They modelled learning from each other, as with putting *vibrato* on a harmonic (See above). Composer-teachers drew attention to new possibilities, constraints and affordances. Their extensive knowledge makes thinking at higher levels and outer edges possible. Yet all was considered in light of the real orchestral context which they had just been in together and would return to for the next rehearsal.

Teaching/Learning Content

The composer-teachers and composer-conductor drew attention to aspects and implications which composer-students hadn't adequately considered. Many, such as limited rehearsal time and revision opportunities, are inherent in the orchestral context. Compser-students were encouraged to think not just of instruments, but of instrumentalists: what players are able, willing, or happy to do. Composer-teachers consistently depicted the orchestra as a particular kind of ensemble that needs to be handled in particular ways: use clean and simple textures, reinforce gestures, be aware of harmonic resonance.

In addressing these orchestra-specific issues, they model adding dimensions to judgement processes and experience banks. When one evaluates *promisingness* in terms of more dimensions, one can understand and craft works of greater appropriateness, clarity and innovation.

As the eminent composers interacted, students observed multiple ways to approach problems. This encouraged them to take responsibility for their ongoing learning, and for their creative practice with performers.

Conclusion

The combined analysis of observations and interviews from the Composers School has revealed a rich set of teaching/learning interactions between composer-teachers and composer-students. Expert practice requires extensive knowledge and experience. These eminent composers shared not only formal and tacit knowledge of orchestral communication practices and compositional lore; they modelled judging *promisingness* as they suggested solutions and generated new possibilities in dialogue with each other over problems in students' works. By sharing from their more extensive experience, they led students to consider additional dimensions in compositional decision-making, extending students' understandings of composing for orchestra.

This study has endeavoured to extend our understanding of the complex teaching and learning processes for eminent composer-teachers with emerging composers in transition to professional free-lance practice. Greater understanding of processes of transferring *promisingness* and agency to learners may inform teaching and learning at other levels and in other contexts.

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The Effect of Purposeful Distractors Placed in an Excerpt of Puccini‟s *La Bohème:* Replication and Extension

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Abstract

This research represented a replication and extension of original research (Southall, 2003) designed to determine if audio distractions would have an effect on the aesthetic experience of undergraduate and graduate music majors listening to an excerpt of Puccini‟s *La Bohème.* Participants in this study were randomly assigned to two groups: one control and one experimental. The Control Group listened to an uninterrupted 11 minute 23 second excerpt of the stimulus. The Experimental Group listened to the identical excerpt with purposeful distractions. In the distraction group there were four distractors, all telephone sounds, placed at strategic points within the excerpt. Participants listened while manipulating the Continuous Response Digital Interface. A posttest questionnaire was given following the listening activity. Aesthetic responses of individual and group CRDI data were graphed. Results of this study were almost identical to the original study, and indicated that while all listeners were distracted in the Experimental Group, almost all participants evidenced a quick recovery and continued to have an aesthetic experience following the periods of distraction. Results from the questionnaire indicated that participants in the distraction groups were indeed distracted, that all participants had what they considered to be an aesthetic experience, and that almost all of the participants indicated that the movement of the CRDI dial roughly corresponded with variations of their aesthetic experience.

Keywords
distraction, listening, aesthetic

Focus of attention and perceived aesthetic response are integral components in research investigating human behavior; specifically, past research has analyzed meaningful participation in aural music activities. Madsen and Geringer (2000)

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proposed a focus of attention model for meaningful listening that combined the emotional aspects of music listening with heightened discrimination of sound events. This model is based on the idea that enhancing a listening event is dependent on successive programs intended to teach effective discrimination, while concurrently relating these aural skills to music events that can possibly elicit a strong emotional response.

Focus of Attention and Distraction in Music

Listening to music is prerequisite to all other musical pursuits, and focus of attention combined with developing a high level of aural discrimination provides the basis for meaningful music listening (Madsen & Geringer, 2000). A continuing line of research indicates that focus of attention is perhaps the most important attribute of actively "participating" in meaningful music listening. Music teachers are especially concerned with this ability when having students attend carefully in order to discern important elements or attributes of music. Presumably, this knowledge also contributes to musical understanding and/or enjoyment, as well as increasing one's "aesthetic" sensitivity (Madsen & Geringer, 2000, pg. 103).

Several studies have been conducted that questioned the concept of —background music" in relationship to situations that require a person to concentrate (Madsen, 1987). Data indicated that, though a person can go back and forth from one task to another much as a computer "timeshares," simultaneous input or the ability to concentrate on both tasks may not be possible. Madsen suggested that all aspects concerning background music should be carefully examined in order to determine precise effects. This type of music may actually be detrimental to what is perceived as the primary task (i.e., when a person phases music out of awareness in order to concentrate on a more important task). Also, music listening skills (e.g., aural discriminations) might suffer from repeated situations where music is not "listened to" with a high degree of concentration, thus diminishing the enjoyment of music listening.

Another study focused on the "attentiveness" aspect of performance and was specifically designed to determine if the application of a distraction index would improve attentiveness during practice sessions and subsequently improve musical performance (Madsen & Geringer, 1981b). It would appear that the distraction index serves to teach students to discriminate. The index not only provided a record of off-task interruptions; the act of marking the distraction also served as a reminder to begin practicing again.

Madsen, Brittin, and Caparella-Sheldon (1993) first examined the "aesthetic experience" (as defined by each participant) using the CRDI. Results from their study suggested that there were different responses throughout the excerpt by all subjects and that heightened aesthetic responses were evident during certain parts of the excerpt.

Defining aesthetic responsiveness has been a long and changing process in the course of history. On the basis of these limited data, further specificity and some speculation seem necessary for further research. The —peak aesthetic" experience that musicians encounter may be temporally short. However, it is speculated that one must spend several minutes in highly concentrated focus of attention, especially immediately preceding the peak experience, in order to fully experience the —peak aesthetic" experience. If the concentration is broken, especially by an obvious competing distractor such as talking or other superimposed sounds, the listening, while enjoyable, does not seem to evoke an aesthetic response (pg. 66).

Madsen examined issues regarding focus of attention to musical elements in an attempt to ascertain which elements are perceived as most prominent in relation to aesthetic response as demonstrated in previous work (Madsen, 1997c). One hundred experienced musicians listened to the last 20

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minutes of Act I of Puccini's *La Bohème*. Fifty musicians indicated via the CRDI which of five musical elements (Melody, Rhythm, Timbre, Dynamics, or Everything) commanded their attention as they listened throughout the excerpt. Additionally, another 50 subjects, divided into five groups of 10 subjects each, registered their degree of attention for each specific musical element; these subjects had only one element presented on the CRDI dial with instructions to register their degree of attention to this specific element throughout the selection. Results from those subjects who tracked all elements simultaneously indicated that the highest percentage of attention throughout the entire excerpt was registered for Dynamics, followed closely by the elements Everything, Melody, Rhythm, and Timbre. For those subjects who responded to only one element, the highest degree of attentiveness was registered for Melody, followed by Dynamics and Everything. Timbre was next in degree-of-attentiveness rating, and Rhythm was by far the lowest. The element Melody was most closely related to aesthetic responsiveness for this Puccini excerpt.

Continuing studies in this line of investigation have been conducted to ascertain deeper understanding regarding the aesthetic response to music, and focus of attention to various music stimuli (Madsen, 1997c; Madsen, Brittin et al., 1993; Madsen & Coggiola, 2001; Madsen & Geringer, 1990; Madsen, Geringer, & Fredrickson, 1997; Madsen & Geringer, 2000). This is not a unique line of work as psychologists have examined the role that distraction plays in a person‘s focus and overall experience in a particular activity for years (James & Hardardottir, 2002; Parente, 1976; Singer, Cauraugh, Murphey, & Chen, 1991). However, these studies generally provided a controlled listening activity, where participants‘ —on-task” behaviors and —emotional responses” are recorded, responding either via paper and pencil or a device, and are of particular importance to the present investigation regarding focus of attention and distraction.

Madsen and Coggiola (2001) were among the first to bring together the study of attentiveness and aesthetics. Their study examined the effect of manipulating a device (the CRDI) on the focus of attention and aesthetic response of musicians and non-musicians to determine if attentiveness and subsequent aesthetic response to music would be heightened through manipulation of the music via the CRDI device. Results indicated a significant increase in the focus of attention and aesthetic response of subjects who manipulated the CRDI as opposed to subjects who did not. While many studies have investigated the effect of distraction on the ability to focus attention, it is apparent that further study is warranted regarding how distractors affect a person‘s level of attention and response to music.

The purpose of the original study (Southall, 2003) was to determine if superimposed distractors had any effect on the aesthetic experience and focus of attention of undergraduate and graduate music majors while listening to an excerpt of Puccini‘s *La Bohème.* The importance of this work was to illustrate empirically a response to what musicians consider to be their aesthetic experience, to ascertain —peak” and —nadir” focus of attention elements, and to determine if distractors may possibly hinder one‘s aesthetic experience in certain musical circumstances.

The purpose of the present study was to replicate and extend the original investigation by using different distractors and locations of the distractors, and by increasing the sampling rate of the CRDI to 10 times per second (from the original sample rate of 2 times per second). While this rate was determined to be sufficient for the original study, the present replication was designed to investigate participants‘ reaction to purposeful distractors with greater precision.

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Method

Participants

Participants were 64 undergraduate and graduate music majors at two universities representing the following disciplines: Music Therapy, Music Education-Vocal/Instrumental, Music Education-General, and Music Performance.

Stimulus

The musical material used in this study was an excerpt of Puccini's *La Bohème,* which was consistent from the original investigation (Southall, 2003). This particular excerpt, as recorded by the London Philharmonic Orchestra (RCA Records, 1974), has often been used in previous CRDI research. It was selected for its distinctive musical qualities, particularly in the solo arias (George Solti, conductor, Montserrat Caballè, soprano, and Placido Domingo, tenor). This excerpt was selected based on an analysis of listener responses to recordings as evidenced in previous research (Geringer & Madsen, 1995/1996; Madsen, Brittin et al., 1993; Madsen et al.), and from stimuli used in previous empirical studies to measure focus of attention in music, emotional response to music, and music preference (Byo, 1993; Duke & Prickett, 1987; Geringer & Madsen, 1987; Geringer & Madsen, 1995/1996; LeBlanc & McCrary, 1983; LeBlanc et al., 1996; Madsen, 1997c; Madsen & Coggiola, 2001; Madsen & Geringer, 1990; Madsen et al., 1997).

In the present study, the stimulus consisted of the first act's final four selections played in their original sequence: *Che gelida manina*, tenor solo, *Mi chiamano Mimi*, soprano solo, *Ehi! Rodolfo!*, transition interlude, and *O soave fanciulla*, soprano and tenor duet. All excerpts were used for this study in their entirety, with the exception of *O soave fanciulla,* in which only the first minute and 34 seconds were used. The total time of the entire stimulus was 11 minutes and 23 seconds, truncated from the original to include only the main arias from Act I in a non-interrupted sequence.

Design

The design for this study included 64 volunteer participants who were randomly divided into two groups: one control and one experimental. Participants were randomly assigned to the Control Group (*n*=32) and the Experimental Group (*n*=32). In the original study (Southall, 2003), there were two distraction groups: a telephone distractor group (with two interruptions), and a pink noise distractor group (also with two interruptions). In the present study, the (one) Experimental Group had four interruptions: the first two telephone distractions occurred in the tenor solo, *Che gelida manina* (from 2:06 through 2:20, and 3:30 to 3:48); the third telephone distractor occurred in the soprano solo, *Mi chiamano Mimi* (from 7:17 to 7:33); and the final distractor occurred in the soprano and tenor duet, *O soave fanciulla* (from 10:02 to 10:20). In the original study, numerical ratings were recorded twice per second. In this replication study, the sampling rate was set to register 10 times per second.

Procedure

Upon entering the experimental environment, and after agreeing to participate, participants were welcomed, seated, and instructed to read the following instructions that were placed in front of them:

> This study is an attempt to provide ongoing information concerning what you define as the aesthetic experience. You are going to hear an 11-minute excerpt from Act I of Puccini's *La Bohème*. As you listen to the music, move the dial corresponding to your aesthetic response. Keep your hand on the dial at all times. Move the dial as little or as much as desired. Please move the dial from one side to the other

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to test the device. Now get ready to listen to the music.

Each participant in the present study listened to the excerpt while simultaneously manipulating the CRDI dial to indicate perceived aesthetic level in this study. As in past research, no attempt was made to define —aesthetics," or —aesthetic experience" to the participants. At the close of the listening session, participants were given a questionnaire and a pencil, and were asked to provide feedback relating to their experience. This questionnaire was designed to provide listeners estimates of frequency and magnitude of perceived aesthetic experiences, level of distraction, and whether dial manipulation roughly corresponded to these experiences.

Results

Results of the study are summarized in the following Figure, which shows the composite aesthetic responses of participants in both Control and Experimental groups. The Control Group listened to a non-interrupted recording that has been used in many previous studies. The Experimental Group heard the same music with the four distractions described above.

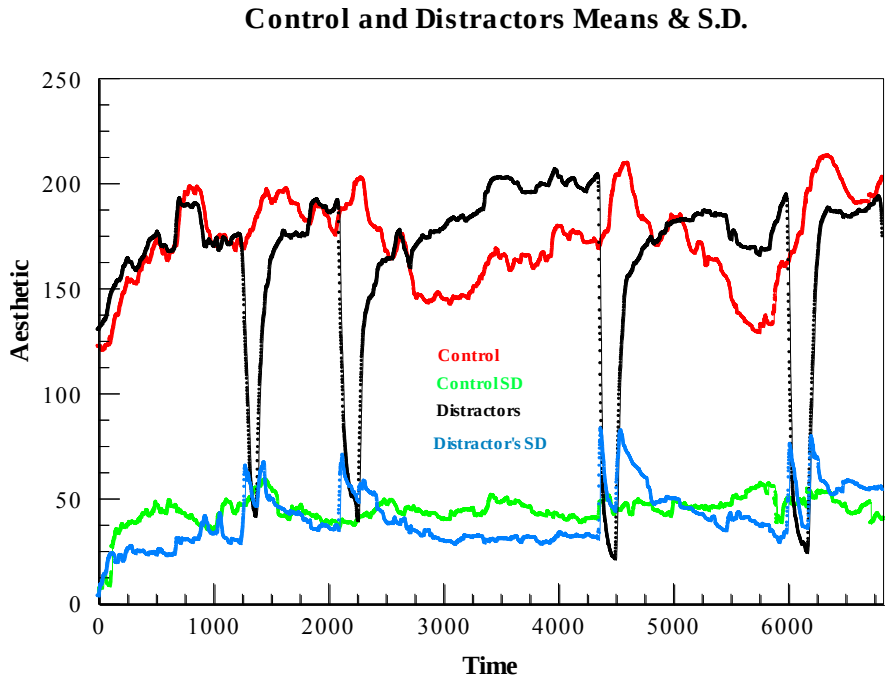

Figure 1. Control and Distractors Means and S.D.

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The Control (red) Group's graph is similar to all previous graphs of this excerpt appearing in separate previous studies (Madsen, 1997c; Madsen, Brittin et al., 1993; Madsen & Coggiola, 2001; Southall, 2003). Aesthetic responses of the Control Group almost exactly correspond to Southall's controls. Visual inspection of the graph for the Experimental Group indicates that each distraction functioned as intended; listeners were indeed distracted. It is also apparent that the standard deviations for the distraction group also corresponded to these distractions. Noteworthy also in the Figure is the rapid recovery period following the distractions, and in some cases, aesthetic response exceeds that of the control group (which had no distractions at all).

Analyses of the exit post hoc questionnaires indicated that responses in the present study were almost identical to the original study (Southall, 2003). Control Group responses to the question "What was the highest magnitude (intensity) of this experience compared to others you have had?" in this study (M = 7.37, sd = 1.79) were very similar to the original study (M = 7.25 sd = 1.87). The original distraction group responses (M = 6.84, sd =1.66) were also almost the same as the present replication distraction group (M = 6.97, sd = 1.62). A one-way *Analysis of Variance* across the four distributions showed no significant difference between groups. This indicates that all groups in both studies (control and experimental) did not vary on this important measure.

Discussion

Since the beginning of the digital revolution, many aspects of everyday life have changed. One of those changes is the pride that many young people take in "multi-tasking." Within the activity of this project, there are sundry questions relating to music listening and more specifically to active on-task listening. Indeed, the propensity to shift foci seems ubiquitous. This study specifically addressed the issue of active on-task listening by purposefully inserting distractors within a familiar opera excerpt. Results indicate that most persons returned to their original emotional state after just a few moments of intense disruption. This was the most surprising result of this line of research. Previously, it was assumed that 17 seconds of a very loud telephone ringing would destroy subsequent aesthetic enjoyment. However, both the previous study (Southall, 2003) and the present replication and extension demonstrate that these young people, while intermittently very distracted from the music, returned quickly to their previous level of enjoyment. It is also interesting that statistical analysis of the questionnaire data also indicate that *post hoc* enjoyment was not significantly different between and among all groups. Also, it is extremely interesting that post interruption responses are actually *higher* than what can be assumed would be attributable to non-interrupted listening. The one place during the listening where this does not appear to be the case is with the very last distraction where students never regained their previous level of aesthetic responsiveness.

Implications for music education are manifold, as the data would indicate that students can be interrupted and quickly return to prior levels of attentiveness. There are also implications for how quickly students can change activities and return even to previously achieved states of emotion at previously experienced levels.

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Overt Behavior to a Video Experience at Very Early Age: Three Illustrative Cases

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Abstract

A video has the potential to elicit emotional responses, comprehension and understanding in very little children when music and visual image share perceptual salience, temporal alignment, syntactic congruence, redundancy and grouping. The theory behind this presupposition is rooted in cognitive psychology: specifically, cross modal, multisensory integration, ‗like me' model, inter-sensory redundancy, enactive and embodied cognition. This paper analyzes the behavior of three children (12 months old) as viewers/listeners of a commercial video. The questions to be researched are:

1. Is it possible to identify in infants, the following behaviors:
    - paying sustained attention
    - moving the body with the music
    - imitating actions
    - gesticulating words with or without sound
    - recognizing film and/or music structures
    - expressing emotional reaction to the plot
    - anticipating scene actions and expressions
2. In what extent are the different responses a function of the length of exposure?

The observed responses were assigning to five categories: attention; body actions; vocal responses; emotional reactions; and structural responses. Comparisons between the children indicate similar responses: children demonstrate selective and sustained attention, enjoyment, communicative interaction with the video and matching musical structure with actions. Moreover, an interesting observation was the child's intention and efforts to share enjoyment with relatives, which was indicated by turning the head and/or pointing to the screen.

Attitudes demonstrated by the three children in the study, display active interaction and pleasure provoked by the plot and a sort of interaction between the child and the video.

Analysis of the anticipatory and imitative responses observed in one girl who had more time of exposure compared to the other two children suggests that longer lengths of exposure to the video

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enhances anticipation and imitation. In a similar sense, the responses in the other girl and the boy show more covert responses. Less exposure to the stimuli perhaps increases receptive attitudes more than the imitation of movements. That is, the degree of anticipation and imitation may be explained in terms of the time of exposure. An essential trait is the degree of structural and temporal congruence between the syntaxes.

Keywords
early infancy, cognitive models, music

Theoretical Framework

The world of imagination and the abstract representation in art, are considered hallmarks of human cognition (Tooby & Cosmides, 2001), involving emotion capabilities able to generate similar imagined responses to those of experienced in real life. It seems that human beings are endowed with cognitive machinery that allows them to participate in imagined worlds (Levitin & Tirovolas, 2009).

A longstanding question has been related to the perception of simultaneous events. In particular, what happens when information from receptors in different sensory modalities affects action?

Researchers agree that selective attention plays a fundamental role in perception, action and memory to unify conscious experience (Kandel, 2007:1). Bolivar et al (1994), consider that various mechanisms by which attention is aroused are based on structural similarities and temporal contiguity between Music and other arts, ideas taking from the Gestalt Theory. According to Kahneman (1997), attention involves a selection of the stimuli and filtration of irrelevant information.

Structural and metrical musical models affect the action of the listeners , as observed in tapping feet on the floor; these can be understood as signals of attention, strategies for comprehending and maintaining alertness (Lerdahl & Jackendoff, 1983; Parncutt, 1994; Malbrán, 2008b).

Bahrick et al. (2006: 3.4) provides a rationale for this phenomenon, an Intersensory Redundancy Hypothesis (IRH). In IRH, highly salient events in Music direct attention selectivity in young children. In early development, information experienced as redundant across two or more sensory modalities (amodal information) maintains attention to redundantly specified properties. Synchronous alignment of the visual and auditory stimulation appears necessary for intersensory facilitation.

Reybrouck (2005) believes that music is more than merely imagined or represented: music must be heard and enacted, producing in the listener an experience that is engaging to the extent that the listener is involved in the sound‘s production. The author postulates the existence of an endogenous phenomenon located in the central nervous system: a motor component that activates the brain areas in the action is also activated when it is observed in others, or when only imagined (effect of mirror neurons). He adds that while not all perception can be reduced to motor components, they are always involved as an integral part of the perception of the virtual image. This image formed in the mind is called an ideomotor simulation. According to the author (2005:3), music experiences offer the opportunity of sonic exposure and effect. The fixation of the child‘s gaze provides some indication of the way they are engaged in the musical experience.

Folk tradition assigns importance to providing a variety of sensory stimuli in early childhood. However, relatively new findings suggest that stimuli simultaneously activate different responses; multisensory neurons are activated only by multiple stimuli, but unimodal stimuli fail to activate these multisensory neurons (Wright, 2002). Stein and Meredith (1993) identified multisensory neurons that respond to interactions of stimuli from more than one sensory modality. These neurons are integrated and transformed,

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producing a larger reaction, in a gestalt form, transcending the sum of its parts (Wood, 1998). Levitin et al. (2000), suggest that perceptive and processing information includes complex mechanisms such as —anticipation, comparison, feedback and recursion".

The role of imitation has received a new impulse with the contribution of Meltzoff (2006) who has developed a model called —like me": children from eight months imitate gestures of their careers and feel enjoyment when adults imitate their own gestures. Massen and Prinz (2010), consider that —the perception of another's actions and its remote effects can trigger the same action in the observer (pp. 2350). Such behavior called ideomotor movements is characterized as —the spontaneous occurrence of body movements in a person watching another's movements". The similarity between what is being perceived and what is induced is called by the authors ‗perceptual induction'.

The multisensory integration of Music and video images contributes to a more deep perception, to a more acute, subtle discrimination in the action, as well as language comprehension and identification (Deneve & Pouget, 2004).

Trevarthen (1998) describes early communicative language intentions as ‗pre speech': movements of lips and tongue that resemble adult's articulating actions coupled with expressive movements of head, eyes and hand.

Film theorists agree that concurrent perceptual salience of features between music and film helps to narrate clarity and emotional attachment. A key factor is the frequency of occurrence of musical salient events in congruence with important moments of the scene. Cohen (2000, 2001, 2005) and Vines et al. (2006) have shown that these components affect the emotion of the listener-viewer. Emotional reactions such as tremors, embarrassment, expressions of bashfulness or shyness have been described as signs of emotion by Juslin and Sloboda (2001).

In music, discourse segmentation helps the auditor to determine the starting or ending of a segment. Trehub (2003: 5) suggests that —perceptual grouping principles that are relevant to Music are operative in infancy". In music and film, redundancy is achieved through the use of repetitive gestures, themes, situations. "A certain amount of redundancy is considered essential for communication; it contributes to the clarity, predictability and efficiency of the message" (Wingstedt, 2005: 20-21).

The cross-modal model coming from cognitive sciences includes the role of multisensory integration prompted by discourses that combine different artistic disciplines, particularly those of the temporal arts. In the model, a fundamental principle is the syntactic congruence understood as the alignment between the syntax of different arts, particularly the structure and time alignment between music and scene. That is, the correspondence between the timing and formal groupings of the image with the metrical and structural groupings of the music (Cohen, 1998, 2001, 2005; Lipscomb & Kendall, 1994). Perceivers can recognize internal groupings in a dance, in a dramatic scene, and in music (Bolivar et al. 1994; Lipscomb & Kendall, 1994). Then, groupings appear as an important guide and resource for perceiving the congruence between the syntaxes of different artistic discourses (Malbrán, 2008; Malbrán 2010a; Malbrán 2010b; Malbrán & Menéndez, 2009).

In summary, when music and visual image in a video share perceptual salience, temporal alignment, syntactic congruence, redundancy and grouping, the video has the potential power to elicit emotional responses, comprehension and understanding in very little children.

The paper analyzes the behavior of three children (12 months old) as viewers/listeners of a commercial video. . This paper analyzes the behavior of three children (12 months old) as viewers/listeners of a commercial video. The questions to be researched are:

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1. Is it possible to identify in infants, the following behaviors:
    - paying sustained attention
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    - expressing emotional reaction to the plot
    - anticipating scene actions and expressions
2. In what extent are the different responses a function of the length of exposure?

Method

A previous study was made with an Argentinean child (Girl 1) who lives in France and had access to a video og teaching English by sign language (Baby Einstein). The first author observed that after two months of the interaction, a video of the girl‘s response was worthy of studying. The experience suggested the need to widen the experience to other children while maintaining control of the action and situations of recording, and providing different exposure times to the stimulus.

Selected Sample: 3 children, 12 month old. The responses were filmed in a quiet room of their home. The children were seated in high chairs throughout the duration of the film. The videos were filmed by the members of the immediate family of children with a familial camera. All children watched the film produced by the Baby Einstein Co. (2007), —My first signs.”

Evaluators analyzed the recorded behavior of each of the three children. The method was the triangulation of observers: i) expert panel; ii) members of the immediate family; iii) research team.

A checklist was primarily used, but the evaluators broadened the scope of analysis with individual comments. Later on, the researchers complete the observation based on these comments. In this way a robust list to compare the responses of the three children was obtained.

Family members administered the video, filmed the responses to the test and evaluated the children‘s reactions. The panel of experts completed the checklist and added suggestions not taken into account in the original checklist.

The team of researchers completed the checklist based on the family and experts‘ suggestions, and analyzed the responses and completed the observations harmonizing the contributions.

The children‘s responses were assigned to five categories: 1) Attention; 2) Body Actions; 3) Vocal responses; 4) Emotional reactions; 5) Responses according to the musical structure.

The analysis of the type of resources used in the video may be taken as indicators to design strategies for Music Education in very early childhood.

Results

The results of the analysis between the three kinds of inter-rater reliability show agreements in their observations (85%). The inclusion of the closest member of the family in the team increased the obtained data. Also, anecdotal comments from the experts and from the family enriched the information coming from the checklist. For detailed description of each child‘s response see the Appendix.

1. Attention

The estimation was made by successive seconds of sustained gaze on the screen. The greatest lapse of time between the three cases varied:
Girl 2: 1‘13” and boy 1‘04” (range of 9”)
Girl 1: 1‘31“ (range of 18” with the girl 2 and 27 —with the boy)
The observed signals of attention included continuous movements such as rocking following the Music, gripping, leaning, jumping in the chair and showing a certain degree of bodily tension due to apparent expectations.

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2. Body Actions

The three children constantly moved a part of their body: the foot, the toes, the arms or hands. Imitations included cradling, protruding the lips as a kiss, exaggerating the opening of the eyes and the mouth, looking sideways and shaking the head without stopping and jumping in the chair.

The recording of responses showed body preferences. Each child repeats a particular movement again and again. Girl 1 leaning; Girl 2 moves the foot and the toes of her foot; Boy: moves his hands. Another important observation was the preference of moving only to the beat with ternary subdivision (structural features).

3. Vocal Responses

Children exclaim vocal sounds with and without words (as a trial). The children pronounced only two words naming the preferred character: Girl 2: daddy and Boy goal (ball). The verbal fluency was varied between the three children: the boy constantly shouted. Girl 1 repeated —daddy," and Girl 2 did not vocalize.

4. Emotional reactions

The families agree that the emotion and fascination provoked by the material was continuous.

Feelings and behaviors identified were surprise, expectation, embarrassment, sighs, smiling and laughing, pointing at the screen, and looking at others to share the pleasure of the experience.

Preferred characters/objects of the plot: Girl 1 father; Girl 2 a puppet; Boy the ball.

An interesting observation was that scenes with child actors making movements or signs did not provoke reactions. When the child actors interacted with the parents or toys, the children in the study expressed enjoyment.

5. Structural Responses

The children were able to perceive when a scene was beginning or ending or starting by demonstrating a lack of attention at the end of segment and heightened attention when the music returned, and a new scene began.

The children also demonstrated response to the musical structure by moving and rocking the body with the beat. Other imitative movements, such as cradling, demonstrated anticipation of the action and response to the musical closure. Preference to moving was restricted to the beat with ternary subdivision (a structural feature).

Major differences were identified between Girl 1 and the other two children and included the magnitude of the following two responses: 1.) Anticipatory responses and 2.) Imitative responses. The anticipatory responses were different between Girl 1 and the other two children in terms of

- names of the characters;
- body action or movements in the film (such as cradling);
- end of the scene based on musical cadences and melodic closure.
- The imitative responses Girl 1 copied
- the actor‘s movements;
- Movements from the —sinal language".

Conclusion

Parents are usually warned about the perils of excessive TV exposure. The results of this study may provide some reasons for exception. Children may be enriched by multisensory information provided by audiovisual-art. When a video is based on internal organization, cross-modal equivalence and multisensory integration, viewing value may be justified. This statement is founded on principles derived from the theories mentioned above. In this study, the video provided varied scene sequences, puppets with intensive colours, segments closing with black or white screen,

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adults using language with expression , and repetitious association of music with actors functioning as a "leit motiv" type of organization. The value of obtaining such affects in a child's video production should be applauded, but the public should be aware of these affects and their positive effect on the developing senses of children.

Attitudes observed in the children of the study include enjoyment of the plot and interaction with the video. Children expressed delight when a preferred character or toy appears.

Meltzoff (2007) asks "What is the basis for infants' preferences'? Two candidates are temporal contingency and structural equivalences". Both conditions are met in the video A supramodal code "provides infants with an interpretive framework for understanding the behavior they see". The parents provided explanations of their child's empathetic response to each scene. The infant's attentive responses to the redundancy could be explained by Flom and Bahrick (2009): "intersensory redundancy is highly salient to young infants and selectively recruits their attention".

Analysis of the anticipatory and imitative responses observed in one girl who had more time of exposure compared to the other two children suggests that more video exposure enhances anticipation and imitation. In a similar sense the responses in the other girl and the boy show more covert responses. It is possible that less exposure to the stimuli increases receptive attitudes more than imitation. That is, anticipation and imitation may be explained in terms of exposure.

In the field of temporal arts, an essential characteristic is the degree of structural and temporal congruence between syntaxes.

Discussion

A previous practice of the first author was a project sponsored by the National University of La Plata that took place in a center for early childhood. Integrated experiences with music and diversity of resources in close agreement with the musical syntax were put into action. This initiative included the building of original music instruments suitable for the motor capabilities of children (Malbrán et al., 2000; Regla, 1999). Further research has shown the value of strategies of using music, puppets, toys, games of light, etc implies multisensory integration, cross modal model, intersensory redundancy and "like me" approach.

Maintaining the attention of children in the early years is considered a difficult task. However, the video shows sustained attention by the children. Some resources used in the video may suggest guidelines for designing similar tools for early music education. They are: i) dividing the whole musical experience into micro segments ii) using many and brief subjects for each micro segment (three/four) ; iii) putting into action different resources such as moving mechanical toys, puppets with actions temporarily aligned with the music; iv) managing the internal segments with minor variations, repetitions of known musical themes and clear "closures" of each segment; v) varying the spatial location for each segment ; vi) changing resources for each segment.

If it is true that young children perceive the world as an essentially multimodal universe, music educational experiences need to be provided according to this condition.

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How Do Young People Sing in Everyday Life and at School?

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Abstract

The present study aims to provide theoretically grounded accounts of the relationship between young people's singing activities in everyday life and at school. *The* questionnaire was designed to gather information about the style and attitude of singing by questioning where they sing, who they sing with, what they sing, why they sing and how they sing. A total of 185 university students from Portugal and Japan volunteered for the study. The participants were asked to answer their singing behavior/attitude at the time when participants were in secondary school (Portugal: 12 to 15; Japan: 10 to 15 years-old). The questionnaire was organized in three parts. The content of Part 1 and 2 was the same. However, the questions of Part 1 were asking participants' singing behavior/attitude which occurred in everyday life (outside school) and the questions of Part 2 were asking participants' singing behavior/attitude which occurred during their secondary school life (in school). The questions of Part 3 are general questions, in which participants' positive and negative singing episodes were asked. In the present study, positive attitudes towards singing were observed both in everyday life and at school. It has become evident that many participants in both countries actively engaged in singing in and out of school. However, it has to be noted that singing activities were not always enjoyable for young people. Many young people were sensitive about showing their singing performance in public, which may lead to the negative experiences as well as positive experiences for singing.

Keywords

singing activities, everyday life, school, karaoke, music education

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In modern society, music forms an essential part of young people‘s lives (Behne, 1997; Fitzgerald, Joseph, Hayes and O‘Reagan, 1995; Garton and Pratt, 1991; Larson, 1995; Larson, Kubey and Colletti, 1989; Zillman and Gan, 1997). A growing body of studies has revealed that young people are deeply involved in musical activities, and that pop music listened to in daily life plays a central role in their lifestyle (Boal-Palheiros & Hargreaves, 2001; North, Hargreaves, and O‘Neill, 2000; Tarrant, North, and Hargreaves, 2000).

As has been pointed out in many studies, the enrichment of everyday life through musical activity is underpinned by the rapid technological developments in listening equipment, such as CDs and iPods. The spread of portable and low-priced musical devices enables young people to listen to music everywhere. Studies that have investigated listening experiences in daily life have shown that people spend much of their time listening to music in various places and forms (North, Hargreaves and Hargreaves, 2004; Sloboda, O‘Neil and Ivaldi, 2001). It can be said that music has become a ubiquitous presence in their lives.

Although the characteristics of daily musical activities have been investigated through people‘s listening experience, there have been few attempts to specify the characteristics of singing behavior in everyday life. It has been recognized that, in modern society, involvement in musical performance was not popular as compared with listening to music. In Japan, Masuda and Taniguchi (2005) have explained the dominance of listening in daily musical life as a result of the fact that, in contemporary society, the balance of listening and performing has changed due to the development of recording technology, so that digitally recorded music produces vast numbers of copies, and enables people to listen to music everywhere. Barthes (1986) also pointed out that engagement in musical performance has declined in contemporary European society, in spite of a culture in the19th century in which amateurs enjoyed performing music.

In these twenty years, however, the participation in musical performance has become popular among the majority of young people thanks to the popularity of karaoke. The enrichment of current technological development has large influence not only on listening devices but also on karaoke machines. For example, as a result of the popularization of i-mode (a mobile phone Internet access system), karaoke can be enjoyed with various kinds of mobile systems and has become portable and ubiquitous. This opens up karaoke to new users such as primary and secondary school students, who could not easily go to karaoke-boxes and bars.

The contribution of such development is that the majority of people can enjoy singing everywhere all the time in their lives with luxurious accompaniments. Although there was previously a performing culture among young people such as the garage band boom and folk music boom before the emergence of karaoke, the population for such activities was still limited. One of the

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most important aspects of karaoke culture is that engagement in musical performance has become popular among the majority of young people.

In Japan, a variety of demographic data shows that many young people go to karaoke. In a survey by the Statistics Bureau (2002), the participation rate is shown for each generation separately, and this indicates that the rate for the young generation was 62.4% for ages 15-19 and 70.7% for ages 20-24, in contrast to the older generation, with 41.8 % for ages 40-44. Niimi (1992) investigated the karaoke behavior of college students, which showed that almost all participants had experienced karaoke at some stage in their lives. The popularity of karaoke is not limited to Japan. Although the demographic data for karaoke participation for young generation is still limited in western countries, there have been considerable studies which reported that many people living in western countries are also absorbed in karaoke singing (Xun and Tarocco, 2007).

Empirical data shows that such popularity of karaoke has been reflected in the singing behavior of young people. Mito (2010) investigated the singing behavior in everyday life using the diary method, in which the frequency for the occurrence of singing behavior was counted. The results showed that 70% of all participants reported a singing episode at least once a week, with an average frequency of 2.5 a week.

It can be concluded that in the modern society young people are deeply involved in singing as well as listening activities on a regular basis, which means that many young people have an opportunity to sing outside school as well as at school music lessons. The enrichment of the singing activities in everyday life might have a large influence on music education at school.

One of the most crucial problems of music education has been the lack of relationship between music activities outside school and those at school. Especially in secondary school, it has long been reported that the positive attitudes towards music at school declines (Ross, 1995). While many studies showed that interest in music in general grows at the age of adolescence, interest in school music in particular declines at secondary school. It seems that the degree of interest in music at school seems to be in inverse proportion to that of music outside school (Boal-Palheiros & Hargreaves, 2001).

Although there has been considerable research that investigated the cause of such phenomenon, few studies focused on addressing this problem through the investigation of singing activities in and out of school. As has been discussed, there is a broad range of singing experiences in everyday lives open to young people, and these can have both positive and negative effects on the way that young people approach music at school. However, it is still unclear how singing activities in these two venues have influenced each other. Given that singing forms the central part of music education in school, the characteristics of singing behavior in everyday life and at school have to be investigated.

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Method

The present study aims to provide theoretically grounded accounts of the relationship between singing activities in everyday life and at school. The questionnaire method was employed. The questionnaire was designed to gather information about young people‘s style and attitude of singing by questioning where they sing, who they sing with, what they sing, why they sing and how they sing. On top of these questions, general questions for singing activities were asked, which included questions about the most positive and negative singing experience of the participants‘ lives.

The present study was also intended to reveal singing behavior and attitudes through the investigation of singing experiences in different cultures. Although singing activities in everyday life seem to have gained popularity in a broad range of countries, the degree of participation and the style of singing may differ across countries. For example, the literatures that describes the karaoke singing style clearly shows a difference in singing style among different countries.

In Japan, singing in karaoke facilities (karaoke box, karaoke bar) is concentrated on the activities of singing itself, in contrast to western countries, where participants often enjoy karaoke as part of socializing (Mito, 2007). Karaoke singing ‗has been distilled in pure form – karaoke for karaoke‘s sake – in karaoke-boxes and like venues‘ (Kelly, 1997, p. 242). In Japan, solo performance is one of the most important karaoke singing styles, in contrast to other countries, where karaoke is often conducted in the form of group singing (Kelly, 1997). In the UK and the USA, karaoke is often conducted in the form of a show, and all the participants often sing a famous song together at the end of a ceremony (Kelly, 1997, 1998; Noguchi, 2005). In contrast, karaoke in Japan is not conducted in the form of a show, and group singing rarely happens.

The main purpose of the present study is not to compare the singing activities between Asian and Western countries, but rather to illustrate singing behavior through the investigation of singing behavior/attitude in different cultures. In the present study, participants from Portugal and Japan were recruited.

Participants

A total of 185 university students from Portugal and Japan volunteered for the study. 82 non-musician students in Porto and 103 non-musician students in Tokyo participated in the research.

Questionnaire

The questionnaire has questions about the participants‘ singing behavior and attitude (Table 1). The participants‘ were asked to answer questions about their singing behavior/attitude at the time when they were in secondary school (Portugal: 12 to 15; Japan: 10 to 15 years-old). The questionnaire was organized in three parts. The content of Part 1 and 2 is the same. However, the questions of Part 1 were asking participants‘

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singing behavior/attitude which occurred in everyday life (outside school) and the questions of Part 2 were asking participants' singing behavior/attitude which occurred during their secondary school life (in school). The questions of Part 3 are general questions, asking about participants' positive and negative singing episodes.

Table 1. Questionnaire

	Questions for Part 1 and 2
1	How often did you sing?
2	Where did you usually sing?
3	How did you sing? (e.g. with CD, with instruments, with Karaoke, no accompaniments)
4	How much did you like singing? Please indicate your response on a scale from 1 (not at all) to 5 (very much)
5	Why did you sing?
6	What kind of music did you sing?
7	With whom did you sing?
8a	Did you prefer to sing on your own or with somebody?
8b	Why did you think so?
9	When you sing what did you feel?
10a	Did you practice a song (e.g. for memorizing the new songs, prepare for karaoke singing, etc.)
10b	If yes, for what purpose did you practice a song?
11a	Did you think you were a good singer?
11b	What kind of person did you think is a good singer?
	Questions for Part 3 (general questions)
1a	What was the most positive singing experience in your life?
1b	How and why it was positive?
2a	What was the most negative singing experience in your life?
2b	How and why it was negative?

Results

The participants' answers for each question were divided into 2 to 7 categories, except for the question 4 in which the participants were asked to express their preference for singing on a 5 point scale, ranging from not at all [1] to very much [5]. The categorisation system was devised by the researchers on the basis of the responses of all the participants. Table 2 shows the percentage of each category, which was calculated by dividing the number of responses for each category by the total number of participants. Since some participants gave plural answers for one question, one participant's answer for one question was sometimes categorized into several categories. Therefore the percentage of each category does not always add up to 100%.

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Table 2. Percentage of Responses to Each Category

Part 1 and 2			Category						
			everyday	several times a week	several times a month	several times a year	rarely/not at all	others/did not answer	
Q1	P	OS	50.0%	18.3%	13.4%	3.7%	12.2%	2.4%	
		IS	15.9%	29.3%	9.8%	8.5%	25.6%	11.0%	
	J	OS	37.9%	26.2%	13.6%	4.9%	15.5%	1.9%	
		IS	19.4%	71.8%	2.9%	0.0%	2.9%	0.0%	
			Karaoke	at home	outside	music room	class room	other place in the school	others/did not answer
Q2	P	OS	4.9%	75.6%	30.5%	7.3%	14.6%	0.0%	28.0%
		IS	0.0%	0.0%	0.0%	39.0%	18.3%	29.3%	34.1%
	J	OS	59.2%	62.1%	13.6%	0.0%	0.0%	0.0%	0.0%
		IS	0.0%	0.0%	0.0%	90.3%	19.4%	16.5%	0.0%
			with karaoke	with CD, iPod, TV	with instrument	no accompaniment	others/did not answer		
Q3	P	OS	20.7%	61.0%	18.3%	51.2%	18.3%		
		IS	4.9%	35.4%	40.2%	40.2%	24.4%		
	J	OS	57.3%	47.6%	7.8%	24.3%	2.9%		
		IS	1.9%	42.7%	76.7%	14.6%	4.9%		
			1	2	3	4	5	others/did not answer	
Q4	P	OS	6.1%	1.2%	20.7%	31.7%	32.9%	7.3%	
		IS	12.2%	2.4%	23.2%	18.3%	26.8%	17.1%	
	J	OS	4.9%	11.7%	21.4%	20.4%	41.7%	0.0%	
		IS	4.9%	10.7%	30.1%	23.3%	31.1%	0.0%	
			enjoyable	relieved stress	like music /singing	obligation	social relations	no reason	others/did not answer
Q5	P	OS	31.7%	25.6%	35.4%	7.3%	3.7%	9.8%	14.6%
		IS	0.0%	0.0%	0.0%	47.6%	6.1%	0.0%	48.8%
	J	OS	19.4%	17.5%	13.6%	0.0%	1.9%	25.2%	15.5%
		IS	9.7%	0.0%	6.8%	72.8%	0.0%	1.0%	5.8%
			J- pop or P-pop	rock	foreign pop	classic	school text books	choir	others/did not answer
Q6	P	OS	36.6%	18.3%	37.8%	1.2%	4.9%	1.2%	73.2%
		IS	19.5%	2.4%	19.5%	2.4%	20.7%	0.0%	67.1%
	J	OS	89.3%	11.7%	9.7%	2.9%	0.0%	9.7%	8.7%
		IS	21.4%	1.9%	1.9%	2.9%	19.4%	52.4%	7.8%
			alone	with sombody	both	others/did not answer			
Q7	P	OS	41.5%	20.7%	18.3%	41.5%			
		IS	6.1%	84.1%	0.0%	31.7%			
	J	OS	29.1%	42.7%	26.2%	0.0%			
		IS	1.0%	96.1%	1.9%	0.0%			

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			alone	with sombody	both	others/did not answer
Q8a	P	OS	31.7%	42.7%	15.9%	9.8%
		IS	7.3%	59.8%	8.5%	24.4%
	J	OS	39.8%	42.7%	26.2%	0.0%
		IS	4.9%	88.3%	1.9%	0.0%

			enjoyable	sing as I like	not confident	concentrate	listen to my own voice	confortable	others/did not answer
Q8b (participants who answered „alone")	P	OS	2.4%	7.3%	14.6%	2.4%	1.2%	8.5%	2.4%
		IS	0.0%	1.2%	2.4%	0.0%	0.0%	1.2%	2.4%
	J	OS	1.9%	16.5%	8.7%	1.9%	1.9%	1.9%	9.7%
		IS	0.0%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%

			enjoyable	excite	not confident	sing harmony	don't want to sing alone	others/did not answer
Q8b (participants who answered „with somebody")	P	OS	18.3%	6.1%	15.9%	2.4%	1.2%	1.2%
		IS	18.3%	2.4%	26.8%	1.2%	4.9%	7.3%
	J	OS	12.6%	4.9%	7.8%	10.7%	2.9%	3.9%
		IS	14.6%	0.0%	25.2%	28.2%	10.7%	12.6%

			enjoyable	excite	not confident	sing harmony	others/did not answer
Q8b (participants who answered „both")	P	OS	3.7%	1.2%	0.0%	1.2%	12.2%
		IS	0.0%	0.0%	0.0%	0.0%	8.5%
	J	OS	5.8%	1.0%	0.0%	1.0%	8.7%
		IS	1.0%	0.0%	0.0%	1.0%	2.9%

			enjoyable	relieved stress	emotion	pleasant	unconfortable	no feeling	others/did not answer
Q9	P	OS	17.1%	11.0%	12.2%	39.0%	1.2%	6.1%	30.5%
		IS	11.0%	9.8%	8.5%	34.1%	6.1%	4.9%	34.1%
	J	OS	47.6%	5.8%	7.8%	21.4%	3.9%	7.8%	5.8%
		IS	41.7%	0.0%	2.9%	18.4%	11.7%	5.8%	17.5%

			yes	no	others/did not answer
Q10a	P	OS	41.5%	52.4%	6.1%
		IS	43.9%	35.4%	20.7%
	J	OS	56.3%	42.7%	0.0%
		IS	74.8%	23.3%	0.0%

			karaoke party	school choir competition	memorize new songs	master the songs	enjoy further	improve singing skill	others/did not answer
Q10b	P	OS	0.0%	0.0%	19.5%	9.8%	4.9%	0.0%	11.0%
		IS	0.0%	0.0%	14.6%	18.3%	2.4%	0.0%	14.6%
	J	OS	23.3%	2.9%	19.4%	4.9%	2.9%	9.7%	6.8%
		IS	0.0%	57.3%	2.9%	0.0%	0.0%	5.8%	9.7%

			yes	no	normal	others/did not answer
Q11a	P	OS	13.4%	64.6%	18.3%	3.7%
		IS	12.2%	53.7%	11.0%	23.2%
	J	OS	11.7%	67.0%	21.4%	0.0%
		IS	11.7%	65.0%	21.4%	0.0%

			singing skill	good voice	musical expression	karaoke	emotion	attractive	others/did not answer
Q11b	P	OS	58.5%	23.2%	3.7%	2.4%	22.0%	9.8%	19.5%
		IS	48.8%	17.1%	1.2%	0.0%	8.5%	2.4%	40.2%
	J	OS	67.0%	22.3%	16.5%	1.0%	2.9%	7.8%	15.5%
		IS	60.2%	27.2%	13.6%	0.0%	1.9%	4.9%	19.4%

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Part 3

Q1a		choral competition	ceremony at school	sing with friends	karaoke	garage band	did not have	others/did not answer
	P	0.0%	4.9%	12.2%	12.2%	0.0%	25.6%	50.0%
	J	61.2%	11.7%	1.0%	8.7%	6.8%	7.8%	4.9%

Q1b		enjoyable	good relationship	won the price	lyrics, music	could sing in public	could sing well	others/did not answer
	P	31.7%	19.5%	0.0%	1.2%	1.2%	6.1%	53.7%
	J	2.9%	39.8%	22.3%	2.9%	4.9%	13.6%	13.6%

Q2a		choral competition	ceremony at school	singing examination	karaoke	music lesson	did not have	others/did not answer
	P	0.0%	0.0%	1.2%	1.2%	3.7%	50.0%	43.9%
	J	19.4%	5.8%	18.4%	10.7%	4.9%	35.0%	1.9%

Q2b		bad relationship	humiliated	forced to sing alone	could not sing well	don't want to sing in public	lyrics, music	others/did not answer
	P	0.0%	0.0%	0.0%	6.1%	0.0%	0.0%	93.9%
	J	16.5%	13.6%	14.6%	16.5%	11.7%	2.9%	3.9%

P: Portugal J: Japan OS: outside school IS: inside school
P-pop: Portuguese pop song J-pop: Japanese pop song

The results were divided into five categories: degree of preference and participation, reasons for singing, skill development, confidence, and others.

The degree of participation in singing activities was high in everyday life. Both in Portugal and Japan, more than 70% of the participants reported that they sang songs more than once a month, and 50% of the Portuguese participants sang every day. These results were consistent with the results of the preference for singing, in which more than 60% of the Portuguese and Japanese participants indicated positive attitude towards singing, with 41.7% of the Japanese participants answered ‗very much'. In school, the degree of participation was also high, where more than 90% of the Japanese participants sang songs several times a week. Their attitude towards singing at school was not negative. Although preference for singing at school was slightly lower than those outside schools, more than 40% of the participants in both countries showed positive attitudes towards singing in school.

The reasons for singing outside school were similar between the two countries. Many participants gave reasons such as ‗enjoyable', ‗relieve stress', and ‗like music/singing'. However, in Japan, some participants did not indicate particular reasons for singing, saying ‗no reason, just want to sing'.

In Japan, the participants' singing activities outside school were closely connected to karaoke singing. About 60% of the participants reported that they sang songs at karaoke facilities, and most of the participants (90%) sang J-pop (Japanese pop) songs, which are the most popular songs for karaoke. In contrast, the participation in karaoke of the Portuguese participants was lower than that of the Japanese participants. Only 4.9% of the participants reported that they went to karaoke for singing. As for the reasons for singing at school, many participants reported that they sang the songs because it was their obligation (Portugal: 47.6, Japan: 72.8). Given that most of the singing activities in school were conducted as music classes, this result seemed to be reasonable.

It became clear that many participants had clear intentions to develop their singing skills. Interestingly, many participants in both countries answered that

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they practiced singing not only at school but also outside school. Especially in Japan, more than half of the participants (56.3%) reported that they practiced singing in everyday life, and their reasons for practicing singing seem to be closely connected to karaoke singing, such as ‗prepare for karaoke party', ‗memorize new songs' ‗master new songs' and ‗improve singing skill'.

Although the participants in both countries positively engaged in singing activities, many participants were not confident about their singing ability. Both in everyday life and at school, more than half of the participants did not think they were a good singer. Furthermore, it became clear that, both in Japan and Portugal, the reasons for singing ‗alone' or ‗with somebody' were often based on their confidence of singing ability. For example, many participants gave the reason for singing alone such as ‗I want to sing alone and don't want my singing listened to by somebody else. I am not confident about my singing'. Interestingly, the reasons for singing with somebody also related to confidence about singing. Many participants answered that ‗I want to sing with somebody because I am not confident singing alone'. The lack of the confidence was also reflected in the answers for negative singing experiences. 18.4% of the Japanese participants gave ‗singing examination' as the most negative singing experience, in which they reported that they were humiliated because of insufficient singing ability.

In the general questions (Part 3), the most positive and negative singing experiences were asked. Surprisingly, in Japan, positive experiences were concentrated on choral competition. 61% of the participants considered that their most positive singing experience was a ‗choir competition,' which is the most important school ceremony in Japan.

Discussion

Although the style of singing, the purpose of singing and the genre of songs were different between in and out of school, the degree of participation in singing activities and the preference for singing were high both in and out of school. Furthermore, it has become evident that, even in everyday life, singing was conducted not only for recreational purposes but also for productive purposes. In everyday life, although singing seems to be conducted as a leisure activity, there were many comments that the participants in both countries practice singing for widening their singing repertoires and improve their singing skill.

Another interesting finding of the present study is that the participants are sensitive about their performance level, both in everyday life and at school. For example, many participants gave lack of confidence as the reason for ‗singing alone' or ‗singing with somebody.' Some participants preferred to sing alone because they did not want to perform in public, since (they thought) they did not sing adequately. Others preferred to sing with others because they want to rely on someone to make up for their insufficient skill. Lack of confidence was also reflected in the Japanese participants' reports of negative singing experience, where participants reported feeling humiliated when they were forced to sing alone in public.

In the present study, positive attitudes towards singing were observed both in everyday life and at school. It has become evident that many participants actively engage in singing, and that, especially in Japan, karaoke has a large influence on the young people's singing activities, even for students as young as secondary school age. However, it has to be noted that singing activities were not always enjoyable activities for young people. Many young people were sensitive about singing in public, which may

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lead to negative outcomes instead of positive ones.

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A Music Workshop in a Women‟s Prison: Crossing Memories, Attributing Meanings

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Abstract

In April/May 2011, the educational service from *Casa da Música*, a concert hall in Porto, Portugal, promoted a music workshop in a women‘s prison in the surroundings of Porto. This paper is a first report of the impact of this intervention on a group of 28 women offenders that participated in the workshop. It describes the preparation process in the context of a Recreational Music Program (RMP) for young musicians, under the leadership of two project leaders from the UK, and the actual intervention in the field. Subsequently, interviews were conducted by the author with the 28 women that participated in the music workshop, the director and educational and social workers from the prison, as well as the two project leaders and three musicians from the RMP. Literature on women‘s criminology studies, and on music programs in prisons, in particular, is reviewed to facilitate understanding of the environment where the intervention took place, and the discourses of the women about what they experienced during the music workshops. As a qualitative study, it takes a feminist research perspective, giving voice to the 28 women that participated in the workshop, while also addressing issues for further research concerning the impact of music-based projects in building a capacity of resilience.

Keywords
music and social inclusion, music and emotion, music improvisation, resilience, women‘s imprisonment

In the context of a research protocol signed between the educational service of *Casa da Música* (CM), a concert hall in Porto, and the Research Centre in Psychology of Music and Music Education (CIPEM) at the Porto Polytechnic Institute‘s College of Education, I participated in a project that took place in a women‘s prison during two weekends in April/May 2011, culminating in a presentation for the families of the prisoners involved. The intervention process was prepared during the third module of the Recreational Music Program (RMP), a program promoted by CM with the aim of training a group of musicians to work with diverse communities, and was directed by two project leaders from the UK, Paul Griffiths and Pete Letanka.

The following sections describe and discuss a first approach to the data collected during the music workshops and my subsequent visits to the women‘s prison in June 2011.

Women‟s Imprisonment: A History of Poverty, Race/Ethnicity, and Gender

While the object of this research was to address the memories and meanings attributed by the imprisoned women to their participation in a music workshop, I acknowledged that the institution itself had to be part of the effort to interpret their

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discourses. To discover part of the literature in the domain of criminology studies, (Carlen & Worral, 2004; Carlen, 2007; Cunha, 2002, 2005; Foucault, 1977; Matos & Machado, 2007; Torres & Gomes, 2002; Wacquant, 2003, 2009) was therefore an enrichment that I hope may help weave my first approach to the collected data.

Criminology studies in general, and women's imprisonment studies in particular, frequently cite a socially selective punishment process that contributes to a disproportional representation of certain social groups in prisons: lone mothers, ethnic minorities and very poor women (Carlen & Worral, 2004; Waquant, 2003, 2009). Two of the most prominent Portuguese scholars studying women's imprisonment, sociologist Anália Torres and anthropologist Manuela Ivone Cunha, are also unanimous in stressing the characteristics of today's women's prison population, i.e. from poor neighbourhoods, with very low level of literacy, and drug related crime being the "pivotal element" (Cunha, 2005; Torres & Gomes, 2002; Torres *et al*, 2009). In an interview in 2003, June 29th to the Portuguese newspaper *Público*, Anália Torres stressed that the social profile and the life stories of those women could be taken out of a Charles Dickens' novel.

Music Programs in Women's Prisons

The relationship between music and identity, music and emotion, and music and consciousness are themes that have been developed within new trends in music sociology concerned with how music is socially shaped taking into account the music worlds where it takes place (Clarke *et al*, 2010; DeNora, 2003; De Nora, 2011). The idea that music has a profoundly evocative power capable of producing highly beneficial outcomes in individuals confronted with adverse living situations, has been largely defended in studies describing positive music therapeutic effects as well as a potential to build resilience through engagement with music (Brader, 2011; DeNora, 2000, 2003; Dillon, 2006; Hallam, 2001; Lee, 2010; Sacks, 2006; Wiltermuth & Heath, 2008).

A women's prison certainly counts to one of those environments where lack of self-worth, depression, and negative feeling towards society, suggest interventions that may foster the construction of resilience, "a dynamic construct forever changing in response to external and internal conditions" (Lemerle & Stewart, 2011, p. 23). Music projects targeted to imprisoned populations have evidenced a positive impact both on the musical and extra-musical lives of the participants (Barrett & Baker, in press; Silber, 2005), and programs like the one offered by Anna Crusis in Philadelphia's women's prison system (Marvellous, 2004) or the replication of the Venezuelan *El Sistema* youth orchestras in a prison situated on the outskirts of Caracas (La Fuente, 2008), suggest that such interventions have a powerful effect on the participants, with significant gains in terms of building a capacity of resilience.

Developing a Methodology – Taking a Feminist Standpoint

The access to the setting was provided within the protocol of ethics that was taken care of by the Educational Service of CM. All women signed an informed consent giving permission to be photographed and videotaped, as well as accepting the visit during the final presentation of one of the Portuguese TV channels. Subsequently, CM secured my access to the prison and all women agreed to talk with me about this particular experience. As these issues were clarified, it remained the most delicate one, i.e. what would be my approach to the data collected in my conversations with the 28 participants in the workshops.

In reflecting about and developing my methodology I realised that I had to take a feminist research perspective. A view anchored in "the belief that as patriarchal societies are characterised by representations of the world as seen

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through male lens, it is the duty of feminist researchers to give women a voice in representing their own world-view" (Carlen & Worral, 2004, p. 166). I also realised that to interview the women in a one-to-one interaction could become for them ~~–n~~itimidating" and given the ethical dilemmas that I was posing myself as a researcher, I decided to use focus group interviewing from a standpoint of a feminist/postmodern approach (Madriz, 2000). As a qualitative study, I expanded the boundaries to include my own vulnerabilities in the text, and shifted the focus by letting ~~–n~~ew, previously oppressed or silenced voices enter the discourse" (Lincoln & Denzin, 2000, p. 1048).

Methods of Inquiry

Methods of inquiry were manifold: field notes from the participation in the workshops in CM and in the women's prison; 4 focus group interviews with the 28 women that participated in this project; 1 interview with the two prison's social and educational officers; 1 interview with the Director of the prison (D); 1 collective interview with three musicians enrolled in the RMP (Ana, Pedro, Manuel – pseudonyms), and 1 interview with Paul Griffiths and Pete Letanka.

In this paper, after a description of the RMP workshops, I will use mainly the voices of the imprisoned women and their memories of our time spent together.

The Process that Took Us to the Women's Prison

The third module of the RMP began in CM with a workshop under the leadership of Paul and Pete. Sixteen young musicians from various musical backgrounds participated in this module. On Saturday, April 30th we all joined in improvising vocally, with body percussion, and with instruments, singing and creating different melodic and harmonic patterns in a process where the input of each of the participants was strong elicited by the project leaders who always took part in the performances. Although we knew that this day was to function as the preparation for the first visit in the next day to the women's prison, we did not explicitly prepare in advance any program. Paul and Pete suggested that we would use similar processes and maybe some of the songs and instrumental patterns that were created in this workshop.

The Workshops in the Women's Prison – First Weekend

Twenty-eight women between 21 and 49 years old (average 33) participated in the music workshops. In the group there were 25% foreigners – 2 women from Brazil, 3 from Venezuela, 1 from Spain, and 1 from Poland. According to information from the social and educational officers, women had been selected to participate in the workshop of CM either through suggestion of their educators or through volunteered applications. A special attention was given to include foreigners as they, being displaced from their home countries, do not receive family visitors.

The social profiles in this sample matched the above descriptions from the literature, with 75% (19) convictions for drugs' trafficking.

On Sunday we all arrived early in the morning at the women's prison. Musical instruments (keyboards, big and small percussion of various natures) had already been put into place by CM in a big space where we were to work during the whole day with the 28 women who had enrolled for the workshop. For a start we all shook hands and told our names and Paul and Pete picked immediately on that to start the workshop. Everybody joined in a big circle and we presented ourselves in several ways, speaking, singing, moving, and creating different patterns to develop a better connection among the group. The work moved on with singing songs, accompanying

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with body percussion, and making groups to create several possibilities to be later explored in the big group. As we separated for lunchtime (unfortunately we did not have lunch all together) the ice was broken and a big smile on all faces indicated that the group was beginning to function as a whole.

In the afternoon, prior to the women's returning from lunch, we had a small meeting to talk about what had happened in the morning, and it was decided that we would start to work in groups and each make a song based just on 'questions' – no answers were to be allowed. Each group should include one to three musicians from the RMP with the task to arrive at a small "questions' song" that should fit into a C major eight bars' pattern. Amazingly, and against my own expectations, the women in my group immediately embraced this task and began to suggest questions intrinsically linked to their life's situation: "Why do we make life so difficult?", "Will we ever learn from our mistakes?" "Do we really love ourselves?" and so on. In the other groups things ran pretty much identically, and as we joined again in the big group Pete sat at the piano and accompanied the six small songs while between each one we sang a refrain proposed by Paul.

At the end of this day, we all sat on the floor, Pete played softly the piano to create a relaxed atmosphere, and everybody was encouraged to express whatever had been significant during the workshop. This was a highly emotional, creative, impressive moment. As we said goodbye, some had tears in the eyes, and hugs replaced the initial shaking hands. We were to meet again in three weeks time.

The Workshops in the Women"s Prison – Second Weekend

In our second meeting, Saturday 21st May, musical warm-ups ran naturally as we recalled the work done before, built new melodic and harmonic patterns, made body percussion accompaniments, and the women were asked to choose instruments to play along. Some of them were eager to sit on the piano which was done in a four hands scheme with some of the RMP's musicians.

The women knew that in the next day, Sunday, their families would attend to a final presentation in the afternoon. This was prepared on Sunday morning when we all together, under Paul and Pete's leadership, decided on the program and participated in short rehearsals before lunch. When we met again, the women appeared in their nicest dresses and makeup, prepared for the big moment, an exception in the prison's routines. As everything was in place we all gave the best of ourselves turning this moment into a magic event full of spirit, joy and pleasure.

Listening to Their Voices

In June 2011, I visited the prison once a week during four weeks to hold the focus group interviews. Each time I sat for about one and a half hours with 7 of the women that had participated in the music workshops[1]. At the beginning of our conversations I always began by remembering the "questions' songs" and we sang them together. Unbelievably, they all remembered words and music as well as the refrain.

What follows is a brief account of three significant themes that emerged from the four focus groups' encounters. Whenever my input (G) or quotations from the other above mentioned interviews appear in the context of the women's direct speech, they are noted in square brackets. All names are pseudonyms.

Flying Away

In all four focus groups the workshop's experience was remembered as something epiphanic, that made the imprisoned women feel as if they were out of time and space:

> Dina: those were unique moments. Most of us do not even smile here. It has been such a nice atmosphere, I

[1] All focus groups interviews were tape-recorded, and later transcribed, with the women's permission.

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forgot everything… especially the prison‘s routines.

Linda: I forgot I was imprisoned. I didn‘t look at the watch, I just heard sounds, I loved that Englishman and all the others… I forgot my family, my daughter…You know, your kids are the last thing you forget, I‘m sorry, but I was away… [Pete: I think they see, they feel, that we are genuinely excited…]

Antonia: I loved that moment of the —questions‘ song”. What we gave from us was our loneliness, sadness, longing for affection… Yes, our music came from our loneliness. [G: I was also caught by the magic and power of that moment]. It brought us some peace. I felt as I needed to stop to think about what I did, not to make the same mistakes… try at least to find my own self.

Isabel: Yes, we forgot *completely* that we were in reclusion.

[Paul: …what I have always found is the same thing that the ladies expressed, and that is that there is something about what we do that offers them the ability to open doors…I can‘t change lives but what it can do is just galvanize one‘s spirit, one‘s soul to reconnect with the communal act, with your sort of immediately tribe of people…].

[RMP – Ana, pianist: Yes, the women commented that those days had been *radically* different…but for me too it was the strongest musical experience I had in my life and I have been already playing a lot since I was 6, and in many different countries …]

A recurrent idea comes through in our conversations: the fact that in those days they felt we were one group, we acted like one group, and they were treated as equals.

Rosa: We were given a chance, and the director, the educational officers gave us a vote of confidence. I‘ll never forget that.

Luísa: Everybody called us by our names, not our numbers…Such an honesty from both sides! Even if I didn‘t understand what Paul and Pete said in the end we all understood each other.

[G: You know, I also felt so well in the way you received us. When we were working in groups it was so significant how close we felt, and how affectionate you were.]

Ema: I had never played the drums, and that opportunity deeply touched me. It was fantastic. [Paul: Always we try to create and make it humanistic and about the music but never anything less than ourselves…there is no hierarchy…you invite people…and you involve them in decision making.]

[RMP – Pedro, Double bassist: You know this is so significant for me to learn with ‗musically non-educated people‘. It took me such a long time to become ‗musically uneducated‘ (laughs).]

Tania: The fact that we were filmed and appeared in the TV news means a lot to me. I have felt as if I had a door open in society… people outside may understand better. Because we are in prison it mustn‘t mean that we will be forever excluded. People that saw it told us it looked really nice.

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> [D: one of our perspectives is of course to give these women an opportunity for later reintegration…to prepare them for future life in society…that is our intention when their daily routines are broken by creating these —spaces of freedom".]

Music in Their Lives

Knowing that in this prison a number of different educational programs is offered on a regular basis, I was curious to know what role music played in their lives.

> Cecilia: The meaning of music for me…music is the face of the soul…is in your life always.
>
> Cristina: I spend my time singing (begins to sing…). I get rid of my anxiety through music, I cry with music, when I am depressed I get into my cell and put the music on…there is always one song that touches you…there is music for all type of emotions.
>
> Antonia: It is very important, a moment of peace, tranquillity.
>
> Rosa: Yes, I am completely determined. When I go out I will learn to play the guitar. My son is learning music, and now after participating in these workshops I got such a desire to learn how to play the guitar.

Conclusion

The presented data suggests that programs as those developed in the women's prison may potentially contribute to a different cultural life as well as to the construction of resiliency pathways, a research domain that remains by large unexplored.

As the literature has shown repeatedly, the vast majority of these women are trapped in poverty. Rather than the crimes they have committed, it is the context that drew them to criminality that is determinant. Providing them with meaningful ways to gain respect while promoting confidence in their own, sometimes unimagined abilities, gives rise to new possibilities and opens doors for future reintegration far from the life situations that resulted in their imprisonment. These programs must be systematically addressed in order to understand how greatly they contribute to build resilience, increase self-worth, and open doors to future opportunities. This should include the relationship between the programs offered by CM and the sustained added value in the lives of the women offenders, as fostering any kind of post-incarceration self-sufficiency. Undoubtedly, the educational service of CM plays an important role here but, as they have repeatedly suggested, their intention is to spark new possibilities rather than involve themselves on a regular basis.

The participation of the young RMP's musicians seems to be one of the ways of producing that —infection". These interventions in the field have made them discover populations they rarely come in contact with, and to envision the possibility of making music in other contexts.

As Manuel told me, —this program is giving me the tools and the courage to make different things with music."

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On Meaning Making and Student Music Engagement

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Abstract

This study describes the development of a music engagement scale and a phenomenological mapping method for student engagement research with elementary and secondary school music students aged 10-18 years. Student music engagement focuses on motivation and meaningful participation in a music learning activity with a psychological component (e.g., values, meaningfulness, identity, sense of belonging), a behavioral component (e.g., effort, intensity, focused concentration) and a dynamic nature that is moderated by context-dependent, individual differences within an interrelated personal, social, and systemic cultural ecology. Individual interviews were conducted with 95 students (females = 45, males = 50) from three elementary and four secondary schools in Canada. Scale items were selected and adapted from the motivation and positive youth engagement literature. Confirmatory factor analysis and inter-item reliability revealed seven factors (values, artistry, community, learning, social support, challenge, competence). Using an integrated psychological-philosophical approach involving phenomenological interpretative analysis, we examined the nuanced and contextualized meaning making in students' accounts of the initiators, sustainers, and impacts of their music activity involvement. The findings indicated that students' positive emotional expressions, such as —feel happier when I am expressing myself" were central features of meaning making associated with positive and transformative music engagement at both the elementary and secondary levels. The findings also showed an apparent inherent complexity and fluidity in students' music engagement and a progression of intricate webs of music, media and social contexts involving meaning making and interconnections to other people, cultures, and perspective transformations, such as —[Music] helps me to connect and think differently about things".

Keywords
music engagement, motivation, phenomenological approach, transformative learning

On Meaning Making and Student Music Engagement

Engaging music students in music learning has long been recognized as a central concern for music educators. For example, in Buck's (1944) classic text *Psychology for Musicians*, he noted that —possibly the single most important fact" that psychology has to offer music educators is that the mind is always attending to something. Thus, if a teacher discovers that students are not engaged, the teacher should not —lay the blame on [students]", but rather —come to grips with your own soul and try to discover why and where you lost hold over them" (p. 54). In other words, successful teaching requires teachers who try

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to figure out how to engage their students. More recently, student engagement refers to a concept that focuses on motivation and meaningful participation in a learning activity from which students derive a sense of relevance, purpose, and fulfillment (Martin, 2009; Murphy & Alexander, 2000; Pintrich, 2003). According to Bryson and Hand (2007), engagement ~~–u~~nderpins learning and is the glue that binds it together" (p. 60).

Despite this recognition, student engagement remains a relatively underdeveloped and loosely defined construct (Martin 2007). Broadly conceived, it usually refers to a form of involvement or participation in an activity that has both a psychological component (e.g., values, meaningfulness, identity, sense of belonging), and a behavioral component (e.g., effort, intensity, focused concentration). It also has a dynamic nature that is moderated by individual differences and is context-dependent within interrelated personal, social, and systemic ecologies (Rose-Krasnor, 2000). O'Neill (2005, 2006) discusses music engagement within positive youth development frameworks that highlight the problems associated with an overly achievement-oriented focus on music learning. When we apply achievement or academic motivation models to the study of student music engagement, our expectations and the strategies we might use become limited to those that might ~~–fix~~" or solve performance-related problems only. No matter how good our intentions, there is something fundamentally limiting about viewing music learners in terms of their problems (or lack thereof) instead of their potential. There is also a need to address multiple pathways of youth engagement (Joselowsky, 2007; Lerner, Dowling, & Anderson, 2003) and declines in participation over the transition to secondary school (Gouzouasis, Guhn, & Kishor, 2007; Wigfield, et al., 1991; O'Neill, 2001). This study is the first step in developing the measures necessary for understanding changes in student music engagement within the context of connected and overlapping patterns of formal and informal music learning that take place in school and non-school contexts (Shehan Campbell, Connell, & Beegle, 2007).

It is also useful to explore the various conditions and contexts that promote, sustain, and enhance music engagement, particularly in relation to specific obstacles or barriers that music learners might encounter. Different sociopolitical agendas embedded in specific music learning contexts and practices obfuscate music learners' worldviews and challenge them in personal and compelling ways (O'Neill & Senyshyn, 2011). Music learners are not passive recipients but active constructors not only of knowledge, meanings, and identities but also the values that live within and among the musical communities they inhabit (Pitts, 2005). The current generation of music students have become increasingly immersed in a digital age that has altered their knowledge base to such an extent, many traditional frames and boundaries from even a decade ago no longer provide an adequate account of their contemporary musical landscape (Senyshyn & O'Neill, 2010). A recent report by the National Endowment for the Arts concluded, —the settings in which [people] choose to engage in arts activities have long expanded well beyond purpose-built arts facilities, moving into bookstores, community centers, schools, places of worship, and especially the home" (Novak-Leonard & Brown, 2011, p. 15). We need a better understanding of the multiple pathways through which youth are engaged in music if we are to challenge narrow conceptions and optimize music learning in generalized education to benefit the most students both now and in the future (Jorgensen, 1996, 2003).

A recent study of learners from eight different countries found that learners generally hold lower expectations for becoming competent in music and value music less than other subjects at school (McPherson & O'Neill, 2010). The meaning of music, the central role it plays in the emotional lives of music learners,

and informal learning strategies are often at odds with many formal or school music education agendas (Green, 2001). In a climate of public accountability and demands for improved standards of performance, "it is all too easy for the 'person' of the learner and the processes and relationships of learning to be eclipsed by a 'high stakes' focus on learning outcomes" (Deakin Crick & Wilson, 2005, p. 6). In a systematic review of research from around the world on the impact of summative assessment on students' motivation for learning, researchers found that this "over focus" on performance outcomes has a negative impact on what learners think and feel about themselves as learners, how they perceive their capacity to learn, and their energy for learning (Harlen & Deakin Crick, 2003).

In terms of motivation, values are associated with interest, importance, and usefulness, and they tend to predict the choice of activities that learners' pursue and their long-term involvement in music activities (Eccles, O'Neill, & Wigfield, 2005). However, not all music learners are engaged in music activities in a meaningful way. Some may merely 'show up' to participate in an activity, often because it is expected of them. They may have little understanding of the value and importance of such activities beyond any immediate or obvious benefit they might see. Others may seek opportunities for music participation with an *impassioned spirit* (O'Neill, 2011). They may take on leadership roles and/or become advocates for the value of music making. They may introduce others to the activity and gain a sense of empowerment and personal fulfillment by doing so. As Pittman (1992) points out, just because someone is involved in an activity does not mean that she or he is fully prepared to engage in the activity in any meaningful way. In other words, participating in music does not guarantee that an individual will be fully engaged in active learning—what Sternberg (2005) refers to as *purposeful engagement*—or agents in their own or others' growth and development (O'Neill, 2006).

Our theoretical approach to exploring youth music engagement requires theoretical braiding from multidisciplinary perspectives that explain the cultural ecology and variations in music engagement patterns, and the personal, social, and educational experiences of young people from across diverse music activities. One way of characterizing these interrelationships is through the metaphor of a "ripple effect" or "spheres of activity", which are found in ecological systems theories (Bronfenbrenner, 1986; Spencer, 1999). We have adopted this approach to emphasize how different contexts and social interactions can affect situations that are not directly related to the initial situation or interaction. We aim to explore both meaning and measurement in student music engagement across the elementary and secondary school years. We therefore used an integrated psychological-philosophical approach involving factor analysis and phenomenological interpretative analysis to explore the nuanced and contextualized meaning making in students' ratings on a music engagement scale and their detailed accounts of the initiators, sustainers, and impacts of music activity involvement. We also used data integration analysis strategies involving cyclical, recursive, and interactional processes (Johnson & Onwuegbuzie, 2004) to help us move understanding beyond the confines of a single method, address a broad range of predetermined and emergent research questions, and demonstrate the significance and impact of the findings through convergence and corroboration across diverse data sources (McGrath et al., 1982).

Method

Participants

Students from three elementary and four secondary schools took part in this study. The schools were located in an urban city in

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Ontario, Canada and included students from low and middle-income families. Participants attended grades 5-12 (aged 10-18 years) and included 45 females and 50 males. The majority of the students were White (79%), with others reporting their ethnicity as Asian (18%) and mixed-race (3%). Knowledge of a musical instrument was not a condition of a student's participation in the study, however all participants reported playing at least one musical instrument or singing activities. Other than listening to music, participants' first choice music activities were reported as follows: playing an instrument 42 (44%), taking music classes/instrumental music lessons 28 (30%), band 16 (17%), choir 9 (9%).

Measures

Music Engagement Scale. The 42 items used in the Music Engagement Scale were based on concepts from theories of youth engagement (Rose-Krasnor, 2009), positive youth development (Larson, 2000; Learner, Dowling & Anderson, 2003) and motivational concepts, such as competence and values from expectancy-value theory (Eccles, O'Neill, & Wigfield, 2005). All the items required participants to respond using 0-10 rating scales on which 0 represented —not at all" and 10 represented —a lot". Participants were asked to think about their first choice music activity (other than listening to music) when rating each item. All items were pilot tested to ensure that the questions were comprehensible and unambiguous to the target age group.

Phenomenological Mapping Method. We used the Music Engagement Map (MEM) to elicit open-ended accounts of ongoing events and experiences and detailed descriptions about all the music activities participants were involved in (type, form, frequency, mode, learning context), and their self-perceptions of the initiators, sustainers and benefits of each activity in relation to personal, social and systemic factors. For example, in relation to their first and second choice of music activity (other than listening to music, which was included as a separate activity), youth were asked specifically to describe their music learning experiences associated with the activity, what they learned about themselves (self-knowledge) and the emotions they experienced during their participation in the activity, the creative processes they used, what they connected with through the activity, and their musical learning relationships with family, peers, musicians, and peers (Larson & Brown, 2007).

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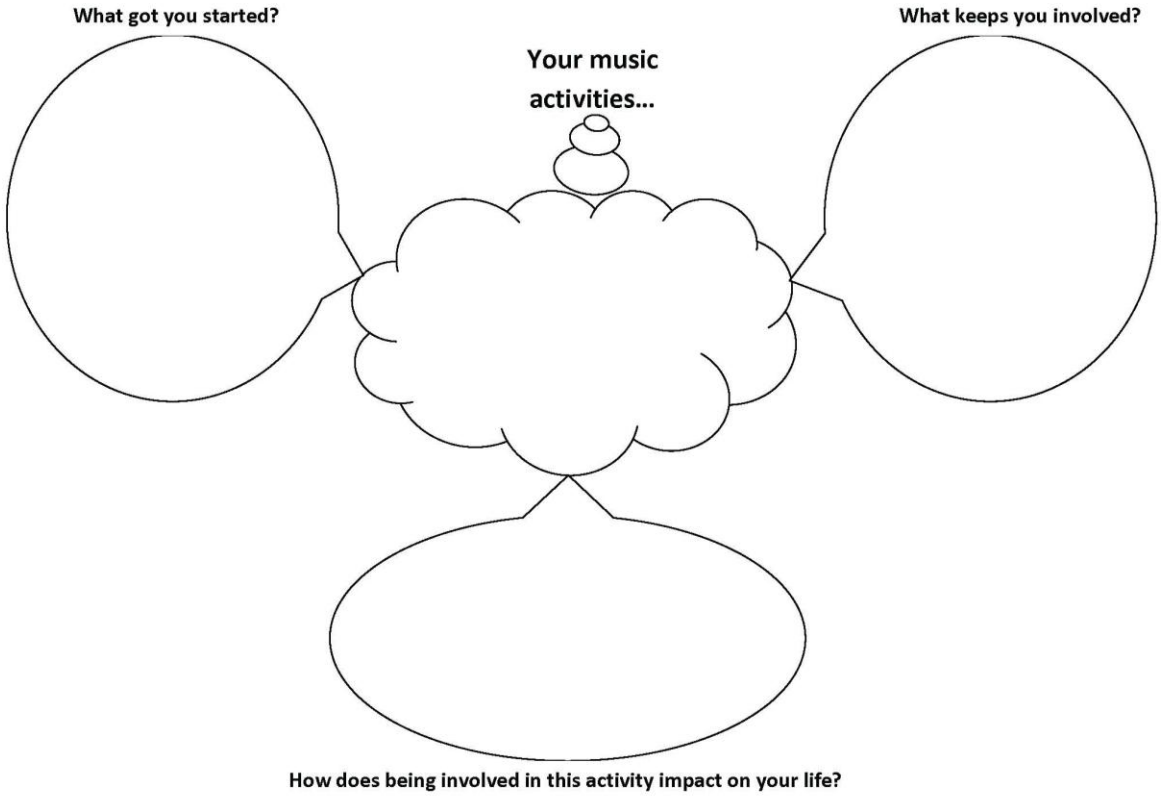

Figure 1. Music Engagement Map

Procedure

Individual interviews were conducted with each student to examine music activity involvement and the initiators, sustainers, challenges, constraints, and impacts of music engagement (Senyshyn & O'Neill, 2011). We focused on immediate and concrete impressions of experiences followed by questions that probed meanings and the significance of the phenomena or events being described using an Interpretative Phenomenological Analysis (Smith et al., 2009) and a critically reflexive methodological stance (Alvesson & Sköldberg, 2009).

All interviews were digitally recorded and verbatim transcriptions were produced. Consent to participate in the study was received from the District School Board, the administrators and music teachers from each school and informed signed consent was obtained from the students and their parent/guardian. Participants were informed that their responses would remain anonymous. The interviews took between 20-60 minutes to complete.

Results and Discussion

Confirmatory factor analysis using maximum likelihood estimation was used to analyze the Music Engagement Scale. In contrast to exploratory factor analysis, confirmatory factor analysis is appropriate when a scale is based on a strong theoretical foundation. The approach uses a chi-square test to examine the number of factors being extracted. We also used Cronbach's alpha levels greater than or equal to .60 as another goodness-of-fit criteria. This ensured that the entire scale contained at least 60% of the true variance of the theoretical construct, and relatively high item factor loadings (Kline, 1994). Varimax rotation of the principal

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components solution yielded seven factors with eigenvalues greater than one, and together these accounted for 93% of the variance in respondents‘ ratings. Factor loadings greater than .60 are presented in Table 1, together with their interpretations.

Table 1. Factor analysis of the Music Engagement Scale for first choice music activity

Factor 1 —Values” (importance and interest), alpha = .83	Loading
1. I enjoy this activity and have fun when I‘m involved.	.86
2. This activity is an important part of who I am.	.92
3. It would be very hard for me to give up this activity.	.94
4. I think this activity is an important part of my life.	.83
5. This activity helps give my life meaning and purpose.	.87
6. I would like to continue this activity when I am older.	.81
Factor 2 —Artistry” (accomplishment and creativity), alpha = .88	
1. This activity gives me a sense of accomplishment.	.92
2. This activity gives me the chance to be creative.	.91
3. I get to try out my own ideas when I am doing this activity.	.83
4. I feel good about myself when I am doing this activity.	.89
Factor 3 —Community” (connection and sense of belonging), alpha = .86	
1. This activity connects me to other people.	.91
2. I feel included by other people when I am doing this activity, or that I belong.	.85
3. If I am doing this activity with other people, I feel they value it as much as I do.	.78
4. I get along well with other people and make friends when I am doing this activity.	.78
5. This activity helps me get to know other people.	.89
Factor 4 —Engaged” (learning and well-being), alpha = .82	
1. I really focus on this activity when I‘m doing it.	.81
2. I am interested in learning more about this activity.	.87
3. I think about this activity even when I‘m not doing it.	.78
4. I feel happier when I‘m doing this activity.	.89
Factor 5 —Social Support” (acceptance and understanding), alpha = .76	
1. If I am doing this activity with other people, I feel they are supportive and caring.	.75
2. This activity helps me think about things in a different way.	.81
3. This activity helps me understand other cultures and ethnic groups.	.68
4. I think my friends are pleased that I‘m involved in this activity.	.78
Factor 6 —Challenge” (task difficulty), *r* = .72	
1. I think this activity is challenging for me.	
2. I think this activity is difficult to do well but worth the effort.	
Factor 7 —Competence”, *r* = .83	
1. I think I am good at this activity.	
2. Compared to other activities I do, I am good at this activity.	

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A t-test was carried out on the combined factor scores for each of the seven factors to test for any effects between students in elementary and secondary school. The results of these tests for each of the seven factors indicated no significant differences between students at elementary compared to secondary school, with the exception of Factor 1 —Values", t = -2.209, df = 92, p=.03. Elementary students indicated higher valuing of music activities (Mean = 7.7) compared to secondary students (Mean = 8.4). This finding is consistent with previous research demonstrating a decline in values among students following the transition to secondary school (McPherson & O'Neill, 2010; O'Neill, 2001).

Further exploration of each factor was done through the Music Engagement Map that explored students' meaning making in relation to their first choice music activities and the initiators, sustainers, and impacts of engaging in the activity. These findings are reported in more detail in Senyshyn and O'Neill (2011, forthcoming), however we have included two main themes here that emerged using this approach. The findings indicated that meaning making associated with positive emotional expressions, such as —I feel happier when I am expressing myself" were central features of positive and transformative music engagement for both elementary and secondary school students. Youth activities are a frequent context for developing emotional competence (Larson, 2011) and previous studies have found associations between youth perceptions of popular music and their social-emotional adjustment both concurrently and longitudinally (e.g., Bosacki et al., 2006; Hoge, Smit, & Hanson, 1990).

Meaning making associated with the students' accounts of music engagement also focused on connections to other people, cultures, and perspective transformations, such as —[Music] helps me to connect and think differently about things". The findings indicated that many young people are no longer engaging in music as a discrete activity or in a single context. Rather, they are increasingly involved in multimodal and multi-arts forms of communication and expression, as found in new media convergence and online participatory cultures (Jenkins, 2006). Youth are —remaking" and developing their own unique and multifaceted roles and personal meanings associated with music and media with increasingly fluid interconnections and their music learning ecologies show a progression of intricate webs of music, multi-arts, and digital media engagement that need further in-depth investigation.

Figure 2 provides an example of the types of meaning systems associated with student music engagement. In meaning system A, a student engages in several different music activities in different contexts, but the student views these activities as discrete and as taking place in contexts that have no connection between them. Meaning system B is associated with more —branching" notion of music engagement, whereby one activity such as playing the guitar is part of several different activities that are viewed as interconnected but the contexts in which these activities occur are still viewed as separate and not connected. Meaning system C is the most interconnected form of music engagement; with meaning making that forms an interrelated web between activities and contexts.

We also found indications that the ripple effect appears to be an increasing process in students music engagement, particularly through the affordances of digital media technology characterized by: (a) personal and —real world" learning approaches and —user-created" content, (b) the global and local reach of media and the increased blurring between the two, (c) the accessibility, connectivity, mobility, ubiquity of persons and information, and blurring of the distinction between information and knowledge, (d) convergence of old and new media and their representations, productive and communicative functions, and (e) use of

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multimodality or representations that incorporate different modes and are chosen and blended and braided to communicate particular meanings. We are currently exploring these features of student music engagement in a follow-up interview study.

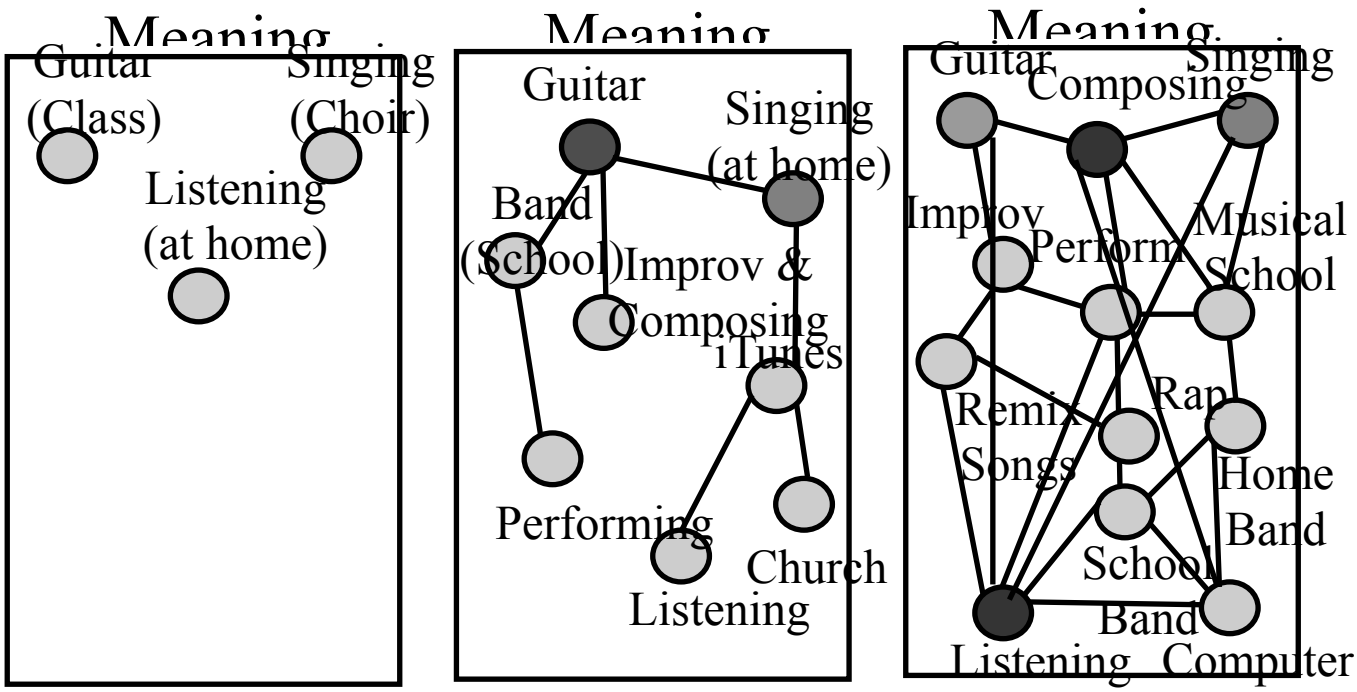

Figure 2. Examples of Meaning Systems Associated with Student Music Engagement

Conclusion

Over the past 15 to 20 years, a large body of literature, by a growing number of music education scholars, has emphasized the need for transformative changes in music education that take into account current shifts in what music learners do, what music learners need, what initiates and sustains music learning, what learners get out of music learning, and where they get their knowledge, values, and understandings from. In order to connect and complete the shifts in thinking that have already taken place, we need to examine more deeply what it means to prepare and engage music learners, and we need to shed more light on the meaning of these important goals. This study is a first step in mapping the meanings and developing the measures necessary for furthering our understanding of transformative music engagement (O'Neill, in press). Further research is needed that explores the various conditions and contexts that promote, sustain, and enhance music engagement, particularly in relation to specific obstacles or barriers that music learners might encounter. Both short- and long-term influences on motivation need to be identified, as well as the different pathways, factors, and strategies that foster the emotional and interconnectivity that helps to define the meaning of positive and transformative music engagement.

Acknowledgements

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(RYME). Further information can be found at www.rymeyouth.com

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Effect of Virtual Reality Exposure and Aural Stimuli on Eye Contact, Directional Focus, and Focus of Attention of Novice Wind Band Conductors

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Abstract

Research and noted authors‘ writings on conducting have addressed the issue of using a recording as part of score study; although, a dearth of experimental research on the effects of this technique exists. Studies have shown some expert conductors use audio recordings during score study while others do not (Buell, 1990; Ellis, 1994; Oertel, 1998; Toney, 2000). Laboratory studies outside of music (McDonald, Teder-Sälejärvi, & Hillyard, 2000) have shown that sound can enhance —early perceptual processing of visual stimuli” (p. 906) and that recognition of common objects was enhanced through paired visual and auditory stimulation (Bertelson & Aschersleben, 1998). In sharp contrast, there was a considerable amount of research literature on the necessity of conductor eye contact with performers. Fredrickson (1992) provided the most comprehensive review of eye contact including implications for conductors. Based on the extensive research findings regarding eye contact, Price and Byo (2002) concluded that conductors should work to enhance —non-verbal behaviors to include a large amount of eye contact and clear unambiguous conducting gestures” (p. 335).

Although various methods of improving eye contact could be employed, it seems the most realistic means would include time in front of a live ensemble. Rehearsals necessarily allow time for both the conductor and members of the performing group to improve, leading many to assert that rehearsal time is limited, precious, and valuable. However, immersion within a computer simulation or virtual environment of an ensemble could provide essentially unlimited time in front of an ensemble. This investigation is a replication and extension of a previous study (Orman, 2010) that utilized an identical design except no audio was present during treatment. Results of the previous study showed significant improvement in eye contact and directional focus for all groups of participants but no significant differences were found among those in virtual reality treatment groups or those who did not use virtual reality. This investigation, which includes audio, sought to determine the effects of virtual reality immersion and audio on eye contact, directional focus and focus of attention for novice wind band conductors.

Modal Song and Dance (Del Borgo, 1985) was the musical selection used throughout the study. This is a young band selection in AB form using 4/4 meter throughout. The A section is a slow —Song” (M.M. = 88) using the Aeolian mode ending with a fermata and B is a faster —Dance” (M.M. = 132) in Dorian mode. Participants (*N* = 34) were randomly assigned to a contact control group (*n* = 12) or a virtual reality group with (*n* = 10) or without head tracking (*n* = 12). Treatment consisted of 9–minute conducting/score study sessions twice a week for four weeks. Following each treatment session, participants answered questions addressing their focus of attention – what they had worked on during

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their session. No participants were aware of the purpose of this investigation; they were merely told this was a conducting study. Individually videotaped conducting sessions of each participant conducting a live ensemble before and after treatment were analyzed for amount of time spent looking at the ensemble and the direction of focus – ensemble left, right, and center. This data served as pre and post test measures.

Data analyses showed all groups increased their eye contact and directional focus from pre to post test but there were no significant differences ($p > .05$) in these changes due to virtual reality immersion. Focus of attention analysis showed that virtual reality participants indicated they worked on eye contact significantly more ($p < .05$) than those in the control group. Further analyses combined the dataset from this study, which included audio, with the dataset from the previous study (Orman, 2010), which did not include audio. Findings from the combined dataset ($N = 68$) showed those working with audio ($n = 34$) as compared to no audio ($n = 34$) significantly increased ($p < .05$) their use of eye contact for the fast portion of the musical selection. No other significant differences among audio and no audio groups were found. Although additional research is necessary, findings of this study indicate 1) a sense of reality was created for these conductors during virtual reality immersion and 2) the use of sound during score study may be beneficial for increasing conductor eye contact in a faster or more technically demanding musical selection.

Keywords

virtual reality, music, conducting, eye contact, audio, score study

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Underlying Mechanisms Linking *Mediated Music Lessons* and Language Proficiency among a Select Group of Kindergarten Children of Migrant Workers

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Abstract

This study attempted to evaluate the impact of music classes conducted as *Mediated Learning Environments* on the musical aptitude, general learning skills, and language proficiency of a select group of kindergarten children of migrant workers. *Mediated Learning* is a didactic approach intended to nurture quality and synchronized teacher-child interactions while specifically focusing on enhancing

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children's general learning skills (see Appendix 1). Extensive research has confirmed positive interactions between music education and general learning skills (Hallam, 2010), as well as between *Mediated Learning* and general learning skills (Feuerstein, 1988; Klein, 1987). This study adds to our understanding of the potential contribution of music education among at-risk populations. The participants included 63 kindergarten children of migrant workers growing up in an urban area of Tel Aviv, Israel. The children studied in two classes at two schools, which were assigned randomly to control and experimental groups. Children in the experimental group (n=31) studied music for two hours a week for a period of four months with a certified music teacher who was also a trained mediator. Children in the control group (n=32) studied music for the same period with a certified music teacher, who was not a trained mediator. Pre- and post-assessments evaluated the development of music aptitude (Gordon, 1979), executive functions (working memory, self-inhibition, and cognitive flexibility, Davidson et al., 2006) and language proficiency (Gorelnik, 1982). The findings indicate significant improvements for the research group in central aspects of the music aptitude, executive functions, and language proficiency assessments. These findings, while limited in scope, are meaningful in that they suggest that mediated music environments foster improved learning skills, and that skills acquired in music lessons may transfer to other contexts in a relatively short period.

Keywords

Mediated Music Lessons, language proficiency, executive functions, self-inhibition, working memory, at-risk children

This study focuses on the contribution of *Mediated Music Lessons* to the improvement of key learning skills—working memory, self-inhibition, and mental flexibility— coined —executive functions" (Davidson et al., 2006). Working memory involves holding or maintaining information in your mind's eye while mentally working with or manipulating that information. Inhibitory control refers to the ability to resist a strong inclination to do one thing in order to do what is most appropriate or needed. Mental flexibility enables one to adjust nimbly to changed demands or priorities, and to think —outside the box" (Diamond et al., 2007). Recent studies suggest that executive functions (EF) serve as prerequisites to all learning, may predict scholastic achievement in language acquisition and math, and constitute a particularly important component in determining readiness for first grade (Duncan et al., 2007). Indeed, Duckworth and Seligman (2005) concluded that —Discipline influences achievement more than talent does" (p. 944), and Nicholson (2011) contended that —. . . a focus on the content, without a focus on the skills required to use that content, will end up with children being left behind." Kindergarten children at risk because of economic disadvantage are disproportionately behind in EFs in comparison with children from middle-income homes. Hence, improving EFs is particularly urgent for at-risk children (Diamond et al., 2007).

Mounting evidence worldwide confirms positive interactions between music education and language development (Hallam, 2010; Catterall, 2002, 2009). Studies show that repeated exposure to sounds, including non-verbal sounds (e.g. music), contribute positively to improved linguistic skills, and that linguistic difficulties may arise from problems related to auditory working memory (including verbal and non-verbal sounds) (Shelter, 1990; Ho et al., 2003). Recent brain research explains these findings, showing that language and music data processing occur within the same region of the brain (Hallam, 2010).

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Positive extra-musical outcomes, as mentioned above, often have been found to depend on the quality of the teachers and good teaching practices (Hallam, 2010). *Mediated Learning Environments* constitute a pedagogical approach particularly conducive to the development of executive functions *(*Feuerstein, 1988, 2006; Klein*,* 1987, 1993, 1996*)*. Interconnecting content and approach, this research proposed to study whether and how *Mediated Music Lessons* may create a learning environment particularly conducive to the development of executive functions and language proficiency among a select group of kindergarten-age children of foreign workers growing up in Tel Aviv, Israel.

Method

Participants

Israel, an immigrant-absorbing state, serves as home for many children of migrant workers. Most of these children do not speak Hebrew fluently and have never acquired a single standard language. Their inability to communicate effectively often results in learning deficiencies and prevents them from successfully integrating into Israeli society. Moreover, national reports reveal severe behavior and disciplinary problems among children of migrant workers.[2]

For the purposes of this study, two kindergarten classes from two schools that serve immigrant populations in urban Tel Aviv were chosen for evaluation. One of the schools was randomly chosen as home for the experimental group (n=31 children), while the other accommodated the control group (n=32 children).

Research Tools

All assessments were conducted anonymously. The following assessment tools were chosen:

*Musical Aptitud*e: *Gordon Primary Measure of Music Audiation* suitable for children K-3 (1979) was used to determine music aptitude, and to compare individual aptitudes with the aptitudes of other children of similar age. The test consists of forty pairs of short musical phrases played consecutively on a computer. Administered individually, each child is asked to determine whether the phrases in each of the pairs are the same or different. The scoring accounts for the number of correct answers and the relative position of the child in comparison with other children. The scores subdivide into three groups: low, average, and high. High includes children who answered between 31-40 questions correctly, and rank among 91%-99% of the population. Average includes children who answered 21-30 answers correctly and rank among 23%-89%. Low includes children who answered 15-20 answers correctly and rank among 1%-17% .

Executive Functions: To assess the effect of the intervention on the children‘s working memory and inhibition, the children were tested with the *Hearts and Flowers* and *Flanker Fish* tests, administered individually using computer software and recorded responses (Davidson et al., 2006; Diamond et al., 2007, 2010). During both tests, the participants hold a button box in both hands and use their thumbs to press one of two response buttons. Each test includes three conditions, arranged progressively according to difficulty. The *Hearts and Flowers* Test includes congruent, incongruent, and mixed conditions. In the congruent condition, the children view a Heart and are asked to press the button on the same side as the Heart. In the incongruent condition, the children view a Flower and are asked to press the button on the side opposite the Flower. In the Mixed condition, Hearts and Flowers are randomly

[2] Thus, the State Auditor’s report (Report 58B, issued in May 2008), stated that the Ministry of Education had failed to deal with violence in this population from late 1999 to late 2006.

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intermixed. The *Flanker Fish* test also features three progressively more difficult tests. In the first test featuring Blue Fish, the participant is asked to relate to the direction in which the central Blue fish is swimming and *ignore* the flanking stimuli on either side. In the second test featuring Pink Fish, the participant is asked to relate to the direction in which the flanking stimuli are swimming, and to ignore the central fish. In the third Mixed test, the participants view Blue and Pink fish intermixed randomly. Scores document the percentage of correct answers obtained, the reaction time, and standard of deviation.

Language Assessment: Language proficiency was assessed using the Gorelnik language test, suitable for children aged two to six years (Gorelnik, 2005). The test subdivides into 6 sections (vocabulary, pronunciation, comprehension, imitation, expression, and storytelling), each scored separately. Professionally trained speech therapists administer the tests.

Procedures

Hypothesis

Children participating in the *Mediated Music Lessons* will do significantly better on music aptitude tests than children in the control group (test 1);

Children participating in the *Mediated Music Lessons* will do significantly better on executive functions tests than children in the control group (test 2);

Children participating in the *Mediated Music Lessons* will do significantly better on the language proficiency test than children in the control group (test 3).

Pre-tests

During January 2011, all of the participants were assessed for music aptitude, executive functions and language proficiency. No significant baseline differences were found between the scores of the children in the experimental and control groups.

Intervention

The intervention, conducted between February and June, 2011, included the following activities:

Professional training sessions: A supervisor attended and filmed the music lessons bi-weekly, focusing particularly on the teacher-child interaction. The supervisor and music teacher then analyzed the films according to the criteria of *Mediated Learning* (see Appendix 1). Specifically, the supervisor worked with the teacher in creating a teaching profile, determined by positive affect, eye contact, and implementation of the three basic criteria for mediated teaching. These include: *Focusing and Reciprocity*, *Meaning*, and *Expansion*. Thus, for example, the teacher might ask the children to *focus* on individual musical elements (sounds, rhythms, melodies), and then to re-create them in different modalities (performing on musical instruments, movements, drawings). The teacher designed *meaningful* experiences by selecting activities that were relevant to the children‘s world, and maintaining an enthusiastic attitude during the classes. Singing activities included text analysis, thereby helping the children to develop a richer Hebrew vocabulary and become better acquainted with Israeli culture. Finally, *expanding beyond the immediate*, the teacher demonstrated how concepts relevant to a specific piece might transfer to additional contexts, and encouraged the children to express their musical understanding in a variety of modalities (movement, drawing, mirrors). These activities provided opportunities to make connections and think flexibly about materials studied in class.

The mediated music classroom served as a context in which the children thought, questioned, and reflected on their feelings and ideas. Different aspects of performance were particularly important in developing a working memory. Thus, for example, children practiced recalling sequences of progressively more complicated rhythmic progressions,

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memorizing texts and matching kinesthetic gestures to musical events. In addition, while performing and composing short musical pieces in groups, the children became aware of features that defined opening, continuing, and closing functions as well as other compositional techniques, such as repetition and variation. Rotating performance parts enhanced mental flexibility. Moreover, following and creating graphic representations assisted them in developing a sequential and holistic understanding of a musical piece.

While engaged in the above activities, the children practiced waiting, thinking, choosing, reflecting, and taking turns. This process helped them to overcome impulsive behavior.

Post-tests

In June 2011, children in the experimental and control groups were reassessed with a repeat of the music aptitude, executive functions, and language proficiency tests.

Results

The children's music aptitude was measured by applying Gordon's *Primary Measures of Music Audiation* tonal test pre- and post-intervention. Our research hypothesis suggested that children in the experimental group would show greater improvement on the results of their evaluations than the children in the control group. The initial results indicated a very wide standard of deviation. To overcome this problem, the tests of children who scored above 95% were removed from the sample. Thereafter, a univariant analysis was conducted. The pre-intervention measurements showed no significant differences between the two groups. $F(1,51)=.62$, $p>0.05$.

The ANOVA 2x2 analysis was conducted to evaluate the research hypothesis (Group x Time) with repeated measurements concerning Time. The analysis showed a significant difference between the measurement of pre- and post-intervention of the experimental and control groups, $F(1,48)=9.50$, $p<0.01$, $Eta^2=.17$, and a significant interaction effect of Group x Time, $F(1,48)=4.33$, $p<0.05$, $Eta^2=0.08$. Table 1 demonstrates the changes that occurred in the number of correct answers obtained in the two groups, pre-post intervention, and the relationship between the children's score and the norm of other children their age.

Table 1. Gordon *Primary Measures of Music Audiation* (K-3)

PMMA		**Research Group**		**Control Group**	
		Pre	**Post**	**Pre**	**Post**
Score	Mean	24.13	27.57	23.41	44.7
	SD	3.91	4.82	24.07	46.00
Percentage	Mean	49.48	68.83	3.14	24.07
	SD	29.053	27.72	4.61	28.30

***Hearts and Flowers* and *Flanker's Fish* assessments for the evaluation of executive functions**

The pre-intervention measurements showed no significant differences between the two groups. $F(2,54) = 1.54$, $P<0.5$. Analysis of the pre-post intervention scores did not indicate significant differences between the groups in the *Hearts and Flowers* tests and the *Flanker Fish* Blue and Pink tests. However, an almost significant difference ($p=<0.7$) was found between the groups in the *Flankers Fish* mixed tasks, as the percentage of correct answers in the experimental group improved

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from 67% to 79%, while that of the control group improved from 74% to 78%.

As noted above (Tools), MIXFF are the most difficult tasks in the assessment, as the child must refrain from impulsive behavior, recall multiple rules, and match the appropriate rule with the specific task at hand.

Evaluating Language Acquisition

In the post-intervention assessments, a significant interaction (Group × Gorelnic Story Telling) was found in the storytelling component of the test, $F(1, 47) = 22.243$, $p < .001$, $Eta^2 = .321$ (see Table 3). The storytelling subsection is the last and most difficult subsection in the test. It contains two parts. In the first part, the tester and the child look at a picture book that tells a story about a family. They look only at the pictures and sometimes the tester points at the main figures in the story. In the second part, the child relays the story while looking at each of the pictures. The pictures contain a large number of details, requiring the child to focus on the most important events in each picture and interconnect them with the previous and future events of the story. The national norm for this subsection among children of comparable age, irrespective of socioeconomic conditions, stands at 21.20, SD 4.96. Our findings indicate that the children in the experimental group significantly closed the gap in relation to their peers, while those in the control group did not.

Table 2. The Averages (Mean) and Standard Deviation (SD) Measurements Pre- and Post-interventions for Experiment and Control groups in the Story Telling Subsection of the Gorelnik Assessment for Evaluating Language Acquisition

Gorelnik-Story	Mean		SD	
Group	Experiment	Control	Experiment	Control
Pre	12.75	13.56	6.14	5.13
Post	17.04	10.52	7.23	5.90

Discussion

This study attempted to assess the impact of *Mediated Music Lessons* on the musical understanding, executive functions, and linguistic skills of a select group of kindergarten-age children of migrant workers. The study is part of a series of research projects designed to explore and deepen our understanding of interconnections between music education and general learning skills, especially among at-risk children. Based on the positive results obtained from previous studies (Portowitz and Klein, 2007; Portowitz et al., 2009; Portowitz, 2010), this study addressed the question of whether skills developed within *Mediated Music Lessons* might transfer to other domains as well.

We initially feared that several of the working conditions of the study might have blurred the results of the study. Thus, for example, both groups studied with highly competent, certified music teachers, who, due to logistic problems, could only test the intervention for four months. In the end, however, these factors underscored the significance of the findings. Most importantly, it appears that even highly qualified and successful teachers will upgrade the quality of their teaching when they adopt a mediated learning pedagogical approach. In addition, the impact of these lessons will become evident in a relatively short time.

The research tools used in this study addressed difficulties often encountered when evaluating executive functions. Such tools often rely on caretakers (teachers, parents) to

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complete questionnaires that relay their impressions of the children's learning skills. The tools that are used here differ, in that they afford objective, neurocognitive measurements, obtained directly from the participants' performance.

Moreover, while the tests differed in their focus, success in completing them depended on the application of similar learning strategies. Thus, *Gordon's Music Aptitude* test depended on a child's ability to concentrate, focus, recall, and compare as prerequisites to being able to differentiate among musical sounds. Similarly, the *Flanker Fish Mix* tasks required that the participant exercise self-inhibition of an attentional tendency, as the children needed to recall and apply the appropriate rule based on alternating stimuli. Finally, the storytelling task called for the child to construct a coherent story by focusing, selecting, and highlighting the central characters and issues.

The limitations of the study, particularly the relatively small sample of participants and the short span of the intervention, require us to exercise caution in assessing its results. However, the findings seem to warrant further research, exploring the benefits of *Mediated Music Lessons* as a context in which at-risk kindergarten children may close achievement gaps and be better prepared to enter first grade.

Appendix 1

Mediated Learning Experiences provide contexts that are designed specifically for the development of cognitive functions. Criteria for mediated learning experiences, applied within a music classroom, include:

Focusing and Reciprocity—promoting student engagement as the teacher focuses the child's attention while encouraging him/her to respond actively, verbally or non-verbally. Listening to music is a particularly potent means of fastening a child's attention, as it fosters a need to concentrate on auditory input and ~~–m~~make sense" of it.

Expanding enables students to think beyond the immediate. When discussing the structural organization of a piece of music, for example, or defining musical patterns, teachers may expand the specific context to show how similar structures and procedures occur in other contexts. Expanding also facilitates connecting concepts and principles shared by different disciplines, such as rhythmic notation and concepts of fractions in mathematics.

Mediation of Meaning and Excitement: Such mediation includes, for example, defining terms, conveying respect and enthusiasm for unfamiliar practices and traditions, and explaining the value of things that may seem irrelevant. Defining and giving meaning to musical concepts also enriches language and communication skills.

For a full discussion of mediated learning within a music context, see Portowitz and Klein, 2007; Portowitz et al., 2009; and Portowitz, 2010.

Acknowledgments

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Effect of Conductor Expressivity on Ensemble Evaluations by Nonmusic Majors

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Abstract

This study continues the research examining the effect that conductors have on the assessment of ensemble performances, and is based upon the research study by Morrison, Price, Geiger, and Cornacchio (2009)[3]. They examined the effect that strict and expressive conducting has on the rating of the identical ensemble performances by college music majors. In the current study, the same four recordings (two strict and two expressive by two conductors) and orders were used, but the subjects were not music majors. In addition to assessing the conductor and ensemble performances, the subjects were asked to list one item for the conductor and one for the ensemble being evaluated. Similar results were found in this study, in that there were significant differences in the conductors' evaluations (strict v expressive), as would be expected. The conductors eta-squared values in the four orders ranged from .444 to .567. Additionally, there were also significant differences in the ensemble ratings depending on the conductor style, even though it was the same performance. The effect sizes for the ensembles were smaller, as was found previously, but still consequential, .121 to .450. Further, the non-music rater comments indicated a strong relationship between the strict and expressive conducting to involvement/leadership as well as gesture. There were fewer and more limited concepts mentions for the ensemble. Clearly, the conductor does have a strong affect on ratings. It does affect assessments of the conductors; however, it is quite stunning that the different conductors also affected the perception of the same performance. When assessing performances with other factors, such as live or videotaped concerts, we need to consider what affect this might have on our perception of the musical quality or the effect the performance has on the assessment of the conductor. More work needs to be done in this area to have a greater understanding of the effect music has on the conductor evaluation and the impact of conducting on evaluations of music. This Cross-modal sensory interaction is consequential in the fields of music.

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A Comparison of Pre- and Post-Student Teachers' Perceptions of Instrumental Music Educators"Verbal and Vocal Teaching Strategies

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Abstract

Vocalized strategies are vital for music educators. Inasmuch as gesture may be considered the essential element in ensemble instruction, verbalization is its critical counterpart. Most extant research does not account for how vocalized instruction affects perception of teacher effectiveness. The purpose of this study was to determine perceptions of efficacy in verbal instruction during instrumental music rehearsals by pre-service music educators without substantial teaching experience (Pre-Student Teachers, *n* = 35) and music educators with teaching experience (Post-Student Teachers, *n* = 35). Participants, using the Continuous Response Digital Interface (CRDI), listened to ten audio examples of secondary school band directors‘ vocalized instructions given during rehearsals and rated teaching effectiveness. Regardless of experience level, participants showed discriminated perception of teacher effectiveness as a function of vocalized instruction. Participants agreed on the effectiveness of many verbal strategies, but often Pre-Student Teachers indicated more positive perceptions overall while Post-Student Teachers appeared more discerning. Higher order instruction received mixed positive and negative ratings. Lower order instruction (including directives) was received most positively when coupled with an aural model. Both groups rated verbal feedback as effective when positive or when given as part of a complete teaching cycle. Negative feedback caused effectiveness ratings among Pre-Student Teachers to drop while Post-Student Teachers‘ perceptions held steady. When coupled with follow-up instructions, Post-Student Teachers considered negative feedback effective. Modeling caused differentiated responses between groups and decisions often appeared to be contingent on the quality of the model. Questioning and non-instructional verbalization did not seem to factor into effectiveness ratings by either group except in instances of sarcasm when scores for Pre-Student Teachers rose and Post-Student Teachers dropped. A triangulated instructional focus of gesture, verbalization, and complete teaching cycles may help pre-service teachers to develop effective processes in the rehearsal such that student musicians learn more deeply.

Keywords
verbalization, instrumental, rehearsal strategy, teacher effectiveness

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Effective teaching practice is critical in facilitating student achievement, involvement, motivation, and parental involvement and support (Stronge, et al., 2011; Topor, et al., 2010). Effective *music* teaching practice has been a subject of examination in the past several decades, measured by a number of behaviors through research largely focusing on time usage (Cavitt, 2003; Goolsby, 1996, 1997; Napoles, 2006; Worthy, 2005; Yarbrough & Price, 1989), conceptual instruction (Blocher, Greenwood, & Shellahamer, 1997), and critical thinking (Amdur, 1990; Sheldon & DeNardo, 2004, 2005; Sheldon et al., 2007, 2008; Standley & Madsen, 1991; Torff, 2003). Among these behaviors, vocalization (explanation, directives, questioning, and modeling) is prevalent (Goolsby, 1996; Napoles, 2006; Worthy, 2005). While it is certain that nonverbal instruction has tremendous import, teacher talk has an impact on students' development in critical thinking skills (Ivie, 1998; Sheldon et al., 2007, 2008) and should be emphasized in teacher training insofar as music education's contributions to students' intellectual development is one of many powerful reasons for its inclusion in school curricula.

Research concerning music teacher vocalization tends to focus on proportions of vocalizations compared to other strategies (Goolsby, 1996, 1997; Napoles, 2006; Worthy, 2005). More experienced educators seem to balance verbalization with other strategies (Cavitt, 2003; Colprit, 2003; Davis, 1998; Goolsby, 1996, 1997; Sheldon, et al., 2007, 2008, Worthy, 2005) while less experienced teachers rely on teacher talk more often than other strategies (Goolsby, 1996, 1999; Worthy, 2005). In instrumental music education, verbalization strategies have been shown to shift based on students' level of experience with more verbalizations used with less experienced student musicians (Davis, 1998; Kelly, 2003; Napoles, 2006; Sheldon et al., 2007, 2008; Worthy, 2005).

While frequency of vocalization strategies is subject of much research, other scholars have categorized vocalizations (Carpenter, 1988; Cavitt, 1993; Goolsby, 1997; Yarbrough & Price, 1989). Musical performance goals often yield a preponderance of directives compared to other types of teacher talk (Carpenter, 1988; Colprit, 2000; Sheldon et al., 2007, 2008; Watkins, 1993). Negative comments generally outweigh positive and questioning techniques are rare (Sheldon, et al., 2007, 2008). Most often specified in instrumental music teachers' verbal instruction are issues of rhythm, articulation, and intonation (Carpenter, 1988; Cavitt, 2003; Goolsby, 1997, 1999; Sheldon, et al., 2008).

Proportion of rehearsal time spent using vocalized and gestural instruction can be an indicator of teaching effectiveness or probable student ability level. Instrumental music instructors generally default to brief directives and seldom engage in verbalization that promotes higher order thinking and independent learning (Colprit, 2003; Sheldon, et al., 2007, 2008). Most studies do not account for how vocalized instruction may affect perception of teacher effectiveness. Since verbal behaviors occupy a considerable portion of teaching time in instrumental music, systematic inquiry as to how such instruction contributes to the perception of teaching efficacy is important. The purpose of this study was to determine perceptions of efficacy in verbal instruction during instrumental music rehearsals by music educators of varying degrees of experience.

Method

Undergraduate and graduate music education majors from two universities, one in the Northeast US and one on the West coast (N = 77), participated voluntarily. They were identified as *Pre-Student Teacher* (no internship or professional teaching) or *Post-Student Teacher* (internship or professional teaching).

In a previous study (Sheldon et. al., 2008), the middle 15 minutes of rehearsal

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videos from 38 secondary school band directors from the Philadelphia area were used for review. In the current study, ten audio samples were extracted from videos of the *More Experienced* group in the 2008 study.

Two-minute segments were derived from the 15-minute rehearsal videos. Segments consisted of director vocalizations and ensemble responses during rehearsals that had occurred halfway through the rehearsal cycle. Examples had high instances of verbal/vocal instruction, ranging from 35 to 52 (*M* = 41.6; *sd* = 5.78). Audio was extracted using *Quicktime 7 Pro* and imported to *GarageBand 5.1*. Ten examples were compiled into two randomly ordered test recordings. One 60-second practice example was derived from the original video recordings. Recorded instructions between each example reminded subjects to return the dial pointer to the middle position and prepare for the next example. Participant groups were assigned to a stimulus recording order as they entered the test area (Order 1: *PrST*, *n* = 16, *PoST, n* = 19; Order 2: *PrST*, *n* = 19, *PoST*, *n* = 16).

Subject data files were randomly selected to balance sample size in each group at 35. Participants were asked to show perception of teaching effectiveness by manipulating the pointer on a CRDI dial with *least effective* being the leftmost point on the dial and *most effective* being the rightmost point. CRDI technology has been used extensively in music research since the late 1980s. Its reliability and validity in the collection of continuous music behavior during temporal events has been well documented (Geringer, Madsen, & Gregory, 2004). The dials connected to a MacBook Pro (OSX 10.6.6). Data were sampled at two per second (Brittin, 1996; Killian, 2007) and response range was 0 (leftmost dial position) to 254 (rightmost dial position). Duration of stimulus examples was 2min 00s (240 data points). Participants returned the pointer to the neutral middle position after each example. Ten seconds separated examples; included were instructions and silence.

Participants were tested in groups of up to six. Subjects sat at individual, partitioned carrels equipped with a CRDI dial. An Altec Lansing iMT325 compact speaker system connected to the MacBook Pro amplified the audio examples. Subjects were instructed to listen to audio examples of secondary school band directors engaged in ensemble rehearsal and, using the CRDI, continually rate teaching effectiveness from least effective (leftmost pointer placement) to most effective (rightmost pointer placement). CRDI software was engaged simultaneously with the stimulus examples. After each testing session, data files were saved and settings were prepared for the next session.

Results

Categories for test example vocalizations were based on previous research (Carpenter, 1988; Cavitt, 2003; Colprit, 2003; Goolsby, 1997; Sheldon, 2008) and expanded for strategy specificity. Main categories and sub-strategies were:

- *Higher Order Instruction:* (Explanations Using) Figurative Language, Inferential Statements, Instruction Verbalizations, Problem-Solving
- *Lower Order Instruction:* Descriptions, Directives-General, Directives-Musical
- *Feedback:* Negative Nonspecific, Negative Specific, Positive Nonspecific, Positive Specific
- *Modeling*
- *Questioning:* Information, Reinforcement, Teach
- *Non-Instruction (non-music related):* Verbalizations, Questions, Answer Questions

Table 1 shows the distribution of vocalization categories for examples in this study. Vocalization categories not observed (*Figurative*

Language, Inferential Statements, Problem-Solving) were omitted.

Table 1. Vocal/Verbalization Distribution by Example

	Example Number									
Category	1	2	3	4	5	6	7	8	9	10
Higher Order										
Instruction Verbalization	3	3	0	2	7	8	3	6	11	3
Lower Order										
Directive - General	6	8	5	9	12	6	12	3	4	8
Directive - Musical	0	6	3	12	3	4	14	2	1	9
Description	3	2	0	2	0	2	0	1	3	1
Questions										
Information	2	0	0	1	0	0	4	4	0	0
Teach	0	2	2	6	0	2	1	7	2	4
Reinforce	3	2	0	1	2	3	1	1	3	0
Feedback										
Negative Non-Specific	0	1	5	0	4	1	0	1	0	1
Negative Specific	7	2	6	1	4	7	1	0	0	4
Positive Non-Specific	2	5	6	3	1	0	7	3	1	3
Positive Specific	1	0	0	1	3	0	1	4	3	3
Modeling	0	6	2	2	2	7	5	1	6	6
Non-Instructional										
Verbalization	8	4	11	7	0	4	3	3	1	1
Question	0	2	0	1	1	0	0	0	0	0
Answer Question	0	0	0	1	0	0	0	0	0	0
Total	35	43	41	49	39	44	52	36	35	43

CRDI data included response direction (positive/negative) and magnitude. Mean response graphs allow comparisons between groups. Perceptions of teacher efficacy for all examples are shown in Figures 1 and 2. Graph contours show perception similarities and differences between *PrST* and *PoST* groups. In six of the ten examples, effectiveness magnitude was different between groups. Generally, Pre-Student Teachers rated teacher effectiveness higher than Post-Student Teachers. *PrST*s gave teacher in examples 1 and 6 lower ratings overall, compared to *PrST*s but contour between both groups remained consistent (i.e., groups responded similarly to verbal instruction).

At times, instances of higher order instruction (verbalizations that included inference expectations) were rated negatively or neutrally by *PrST*s and positively by *PoST*s (e.g., Ex. 1: 1-41, 130-150; Ex. 2: 160-180; Ex. 6: 10-25, 50-60, 200-220; Ex. 8: 150-160). Other instances of higher order instruction evoked positive or neutral responses from both groups. Lower order instruction generally evoked positive responses from both groups. General directives (~~-d~~o it" statements) and musical directives (counting off, breathing in preparation, etc.) were mostly regarded positively or neutrally by *PrST*s while *PoST*s were more discriminating (e.g., Ex. 2: 86; Ex. 4: 40-60, 120-130). When directives were given coupled with a model,

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both groups' scores rose (e.g., Ex. 3: 220-230; Ex. 6: 115-130, 220-240).

Verbal feedback provided interesting results, the most striking of which are found in Examples 5 and 10 where Pre- and Post-Student Teachers' ratings were closely related. Graph spikes corresponded specific positive feedback immediately coupled with instructional verbalization, then a directive (appropriate teaching cycles: *instruction-student response-teacher evaluation-feedback-new instruction).* Such clearly sequenced instruction was not as prevalent in other examples. Sequences of specific negative feedback followed by instructional verbalization and a directive were also considered effective by *PoST*s (e.g., Ex. 1: 1-50; Ex. 6: 210-230) but *PrST*s' effectiveness ratings dropped, while non-specific and specific negative feedback *not* followed by instructional verbalization was often considered effective by *PrST*s and ineffective by *PoST*s (e.g., Ex. 4: 36-50, Ex. 7: 32-50). Specific positive feedback generally caused both groups' scores to rise even when not coupled with an instruction or other follow-up (e.g., Ex. 4: 130-150; Ex. 5: 48-55, 148-161; Ex. 7: 214-232; Ex. 9 36-81).

Modeling evoked differentiated responses. Although several instances of modeling evoked positive responses from both groups, (e.g., Ex. 2: 1-20; Ex. 3: 208-222; Ex. 6: 46-70), *PrST*s and *PoST*s were not always consistent in how they rated modeling; decisions appeared dependent upon model quality and whether it was coupled with additional instruction (e.g., Ex. 5: 75-83, 176-182; Ex. 9: 1-39; Ex. 10: 1-10, 150-163).

Questioning went largely unnoticed (no changes in perception were demonstrated) except when directors asked students to use inferential thought (e.g., Ex. 3: 184; Ex. 4: 238; Ex. 8: 225; Ex. 9: 46; Ex. 10: 144). In these cases, *PoST*s were more likely to respond favorably and with greater magnitude compared to *PrST*s.

Non-instructional verbalization, like questions, did not seem to factor into changes in effectiveness ratings for either group except in three circumstances that were peppered with sarcasm. In those cases, *PrST* scores rose and *PoST* scores dropped (Ex. 2: 76, 92; Ex. 3: 188).

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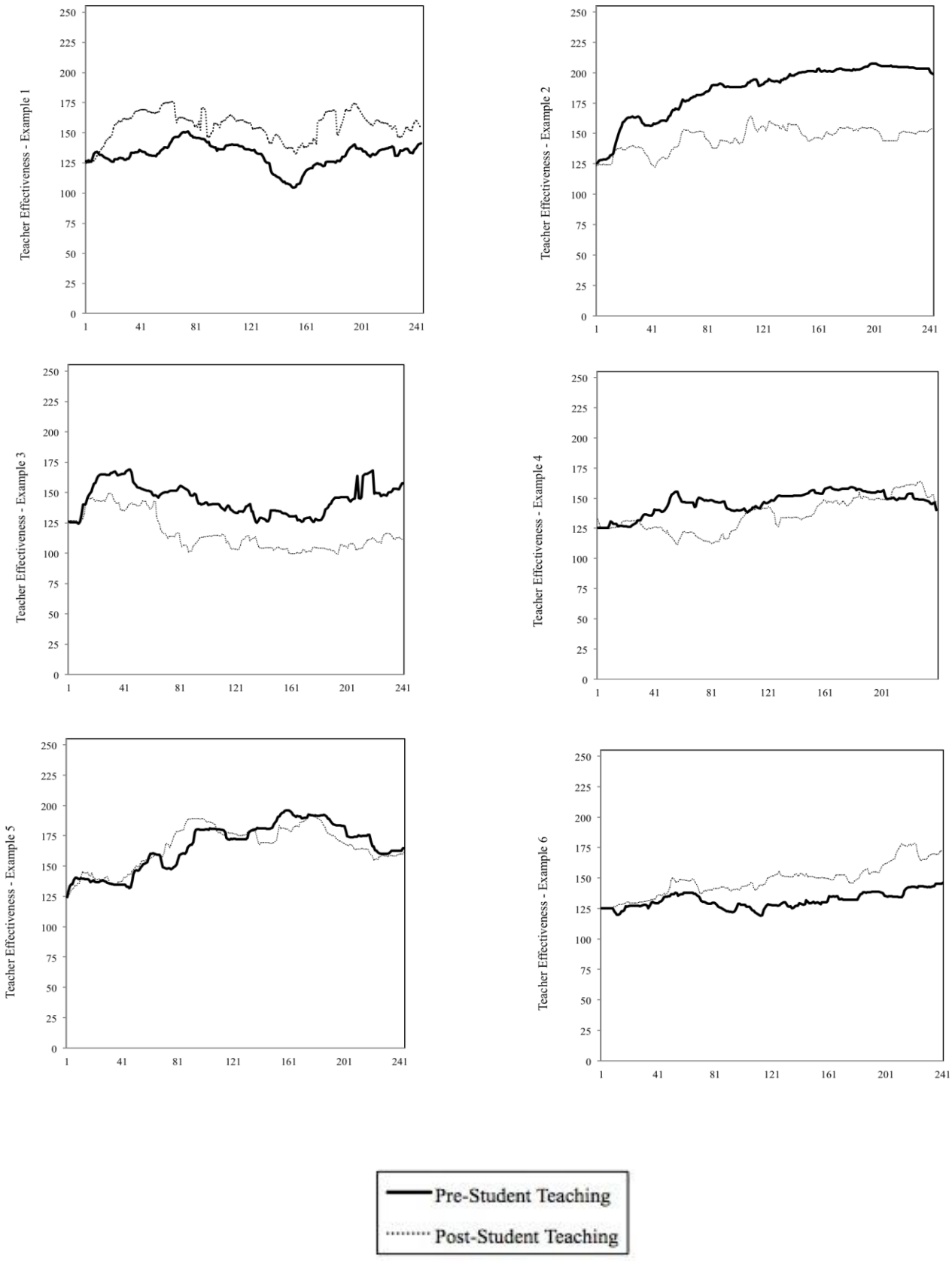

Figure 1. Teacher Effectiveness Group Comparisons – Examples 1 - 6

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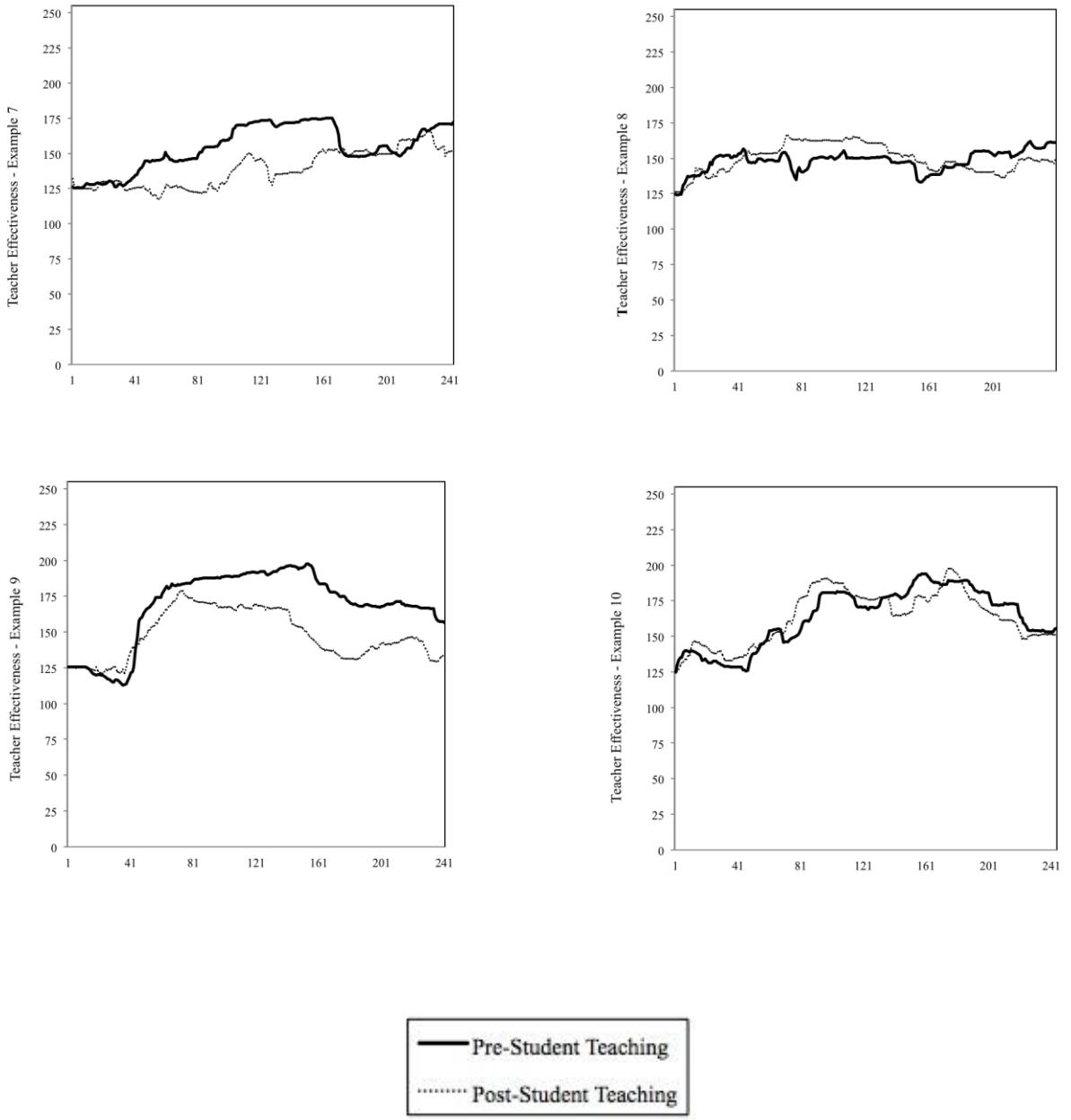

Figure 2.

Teacher Effectiveness Group Comparisons – Examples 7 - 10

Discussion

This study revealed that observers, regardless of experience, showed discriminated perception of effectiveness as a function of teachers‘ vocalized instruction. Compared to less experienced participants, the more experienced showed more positive perceptions of teaching styles that focused on critical thinking skills and teaching cycles (characterized by specific feedback and additional strategies for improvement). Participants agreed on the effectiveness of many verbal strategies, but often Pre-Student Teachers indicated more positive perceptions overall while Post-Student Teachers appeared more discriminating.

Vocalized strategies are vital for music educators. Inasmuch as gesture may be considered the essential element in ensemble

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instruction, verbalization is its critical counterpart. Music teacher preparation must include focus on gestural skills in addition to vocalized strategies lest candidates' development be skewed and, therefore, less than optimal. This study showed that perceptions of instrumental music educators' effective verbal and vocal teaching skills are differential based upon observers' level of teaching experience, and certain strategies are perceived as more effective than others. Pre-service music educators should be taught appropriate vocalized techniques as they apply to ensemble rehearsing. So equipped, teachers may become more efficient in advancing their teaching skills thus providing students with better educational experiences.

Although intuition and research underscore benefits from instruction focusing on development of students' critical thinking, higher order strategies in this study showed mixed results. This could indicate lack of training in use and consequences of such techniques. It is likely that participants, having had typical school music and music teacher training experiences, had greater expectation for more directive forms of instruction and, therefore, indicated incongruent perceptions of higher order strategies by incident and across groups. It is interesting that there were times when these instructions were viewed favorably, primarily by experienced teachers, perhaps indicating that, with experience, teachers consider higher order strategies valuable in instrumental music education.

Teaching experience seems to function as a filter in evaluating ubiquitous lower order instructions. Post-Student Teachers weighted these strategies more favorably when coupled with a high quality model rather than given discretely. Similar responses were found when positive feedback was given as part of a complete cycle, followed with instructional verbalization and a directive. While directives alone do little to cultivate students' cognitive processing, as part of a combination of verbal strategies given in quick succession in application to an academic behavior they may be regarded by the more experienced as effective. Experienced teachers responded in kind to similar progressions beginning with negative feedback however, in nearly all instances involving negative feedback, specific and non-specific, less experienced participants' gave lower ratings. Greater focus on appropriate feedback combined with instruction and a directive (i.e., complete teaching cycles) may help novice teachers understand the function of evaluation and response to inappropriate music behavior so these skills might be more readily implemented in the early years of teaching. Development of these skills during the pre-service years may help novice teachers engage in meaningful self-evaluation.

Groups shared similar perceptions of verbal and vocal strategies of instrumental music educators and Post-Student Teachers were more discriminating in their assessment of teacher effectiveness. Examples in this study were drawn from a previous study in which few instances of higher order strategies were recorded. It was assumed that when such instances appeared, participants might have rated teaching effectiveness more favorably because they were so unique and required thought, personal responsibility, and a creative sense from the student. There was no consensus in these cases.

Gesture and verbal instruction constitute the framework for instrumental music teaching, and complete, efficient teaching cycles are desirable and common among highly qualified teachers. Educators have choices for verbal strategies in rehearsal situations. While certain types of instruction may be appropriate to move rapidly towards immediate music performance goals, they may not always lead to enduring, transferrable learning. A triangulated instructional focus of gesture, verbalization, and complete teaching cycles may help pre-service teachers to develop effective processes in the

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rehearsal such that student musicians learn more deeply. With this comprehensive approach, young music educators will have excellent tools with which they may develop effective teaching habits.

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Getting Attuned with the Music Class: A Case Study of Flow Experience in a Preschool Music Setting in Greece

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Abstract

The present study was aimed at building upon previous flow research with preschool age children by observing flow and several contextual characteristics in a case study of flow experience in a preschool music setting in Greece. Using Custodero's (1998, 2002) flow observational protocol as a model, an observation protocol was developed, which was then used with the three preschoolers observed in the context of this study. The observation protocol that was developed included three categories of indicators: a) flow indicators, b) activity characteristics/ characteristics of instruction, and c) behavioral manifestations of children's emotions. Both researchers watched the videotapes multiple times, coded flow indicators, and reflected on subjective considerations of children's behaviors for all episodes observed for the three children under study. Research findings point out to the following issues:

(a) There seems to exist a peak point at the curve of familiarity with the task, which is followed by a decline in interest. This peak point is different for each child.

(b) The teacher's freedom to explore new ideas and contribute these ideas to class is seemingly crucial in retaining children's involvement, enthusiasm, and the experience of flow.

(c) The need for peer interaction, which is often ignored by the teacher, can function as a catalyst for retaining children's involvement, enthusiasm, and the experience of flow.

Keywords

flow, music, case study, early childhood

The plethora of research directed at the identification of the qualities in a teaching/learning environment that can promote learning has resulted in an increased interest in the study of 'flow' in music teaching contexts (Bakker, 2005; Custodero, 1998, 2002, 2005; Matthews, 2002; St. John, 2006). Flow is defined as an optimal state, when one feels highly skilled and highly challenged by an activity in which he/she is engaged, "a self-perpetuating state of enjoyment that results in creative products, insightful thinking, and personal growth" (Stamou & Custodero, 2007, p. 246). Study on flow experience began by psychologists (Csikszentmihalyi, 1975; Csikszentmihalyi & Csikszentmihalyi, 1988; Csikszentmihalyi & Larson, 1984), who aimed to investigate this state of optimal enjoyment, where "ideas flow without obstacles, and actions have interpretable consequences that direct further involvement in the task" (Custodero, 2005, p. 186).

While flow experience has been a self-reported phenomenon (Csikszentmihlayi &

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Larson, 1984), observational tools have been developed for the study of it in music learning contexts (Custodero, 2005). Flow Indicators include the Challenge Seeking and the Challenge Monitoring Indicators. Challenge Seeking Indicators focus on the ways learners seek challenges in the learning environment, and include self-assignment, self-correction, and deliberate gesture. Challenge Monitoring Indicators focus on learner interactions with musical materials, and include anticipation, expansion, and extension.

Research on flow experience in teaching contexts in Greece is relatively new and has been limited, and has focused primarily on the transformational influence that the observation of flow had on the music teachers' pedagogical identity (Custodero & Stamou, 2006; Stamou & Custodero, 2007; Stamou, 2009). Although there have been some observational studies investigating flow in preschool children's music making (Custodero, 1998, 2002a, b, 2003; St. John, 2004; Sullivan, 2004), no one study has been specifically conducted on the observation of flow in preschool music settings in Greece.

Aims of the Study

The present study was aimed at building upon previous flow research with preschool age children by observing flow and several contextual characteristics (music instruction) in a case study of flow experience in a preschool music setting in Greece. Through focused observations of three children aged 4 -5 years old in their preschool music class, the study addressed the following questions:

(a) How is flow experience manifested in the behavior of three preschool aged children in the context of the same teacher-directed music activities?

(b) How is the manifestation of flow influenced by the personality and skill level of the child?

(c) What characteristics of the activity or the teacher's instruction seem to facilitate or inhibit flow?

An observation protocol was developed and used with the three preschoolers observed in the context of this case study. The observational protocol, developed using Custodero's (1998, 2002) flow observational protocol, included three categories of indicators: a) flow indicators, b) activity characteristics/ characteristics of instruction, and c) behavioral manifestations of children's emotions. Peer interaction was also noted as a manifestation of the social influence of peers. Characteristics of the music activities/instruction were also noted, calling for —a paradigm that acknowledges contextual influences while utilizing individual experience as the essential level of analysis" (p. 69). Level of —attunement" with the activity (Fink-Jensen, 1997) was also noted in this context, allowing for what Holgersen and Fink-Jensen (2002) described as —eye-openers to understand what kind of meaning music activities may offer to different children in different situations" (p. 67).

Method

Participants and Setting

The instructional setting was a typical day-care center in an urban setting in Greece, which preschoolers attended daily. Children had music instruction twice a week for 45 minutes by an early childhood music teacher. The setting represented an age-typical educational environment in Greece. Music instruction was playful and was teacher-directed, and included mainly singing, moving, and listening to music. One of the authors of this study served both as teacher and researcher, as she had taught music in this day-care center for several months before the beginning of the present study. This satisfied Custodero's (2005) need to —have more direct experience with and of the participants" (p. 190). After the music instruction sessions were

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recorded, both researchers watched the videotapes multiple times, coded flow indicators, and reflected on subjective considerations of children's behaviors for all episodes observed for the three children under study. The coding of data revealed high inter-judge reliability while the multiple viewing of videotapes by both researchers contributed to a high level of interpretive validity for the findings of this study.

The children under study were two girls and one boy who were all born in the school year 2005-2006, and who belonged to the older children classroom of a private day-care center in the suburbs of a major urban area in Greece. Music teaching took place in the children's regular classroom where they spent their school day. The criterion for choosing the three participants for study was the fact that each child "challenged" the teacher/researcher in some way and could similarly function as a "challenge" for most typical music teachers. The first girl, Athena, was an introspective child, and was very slow in the way she moved (e.g. it took her longer for her to put on her shoes or for her to eat her lunch in comparison with her peers). The second girl, Lydia, was a smart, agile, and willful child who liked to function as a leader among her peers, often imposing her behavior on the others. The third case, Constantinos, was a reclusive child, who, for the two previous years, tended to be uninterested and not participate in the music class. The abovementioned personality characteristics differentiated each child from the other and presented a challenge to the music teacher in her effort to motivate and effectively involve them in the music class.

For purposes of triangulation, an interview was contacted with the classroom teacher before the beginning of the study on the personality characteristics of the three cases chosen, in order to determine whether children's characteristics perceived by the music teacher/researcher were indeed perceived as such by their classroom teacher. The interview revealed a high level of agreement between the classroom teacher and the music teacher/researcher on the children's personality traits. These perceived traits formed the basis for each child's "profile", on the basis of which data was interpreted.

Procedures

Several music sessions were videotaped for the purpose of this study across a period of 6 weeks. Out of these, three teaching sessions and specific activities were randomly chosen for analysis, focusing on the study of the three children in the context of the same music activities. Several episodes out of each activity were reviewed and analyzed for each child. The videotaped episodes were reviewed for each child in order to identify and describe flow indicators, emotional behaviors, and peer influence. The unit of analysis was the episode, defined by the section of the activity with a clearly observable behavior by the child. This method of analysis was in contrast to previous flow research (Custodero, 2002a, 2005) in which the unit of analysis was the whole activity. Each researcher separately completed repeated viewings of the episodes, and subsequent data was coded. Data coded by one researcher was compared with the data coded by the second researcher to determine a level of agreement. A very high level of agreement was evident in the way the two researchers coded children's behaviors. Data coded for each child were then reviewed and discussed for each episode by the two researchers collectively, in order to facilitate interpretation of data. Discussion and interpretation of findings took place collectively first at a micro-level, addressing each child in each episode, and then at a macro-level connecting each child's behaviors and tendencies as evident in the data with their "profile" and the characteristics of the activity and instruction.

Results

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1st Case Study: Athena

The first three episodes analyzed for Athena, correspond to the „body activation with music" activity, in which movement is intense. The enthusiasm is evident on Athena's face from the beginning, but reaches a peak in episode #2. Here, Athena shows the flow indicator of anticipation, when she anticipates a joyful part of the familiar activity in which children are expected to move their bottom to the music heard. In episode #3, her attention and enthusiasm is retained, but it seems that it is the teacher's motivation for interaction with the others ("please, touch the back of friends around you") that retains Athena's involvement. The next two episodes (episodes #4 and #5) are part of a music and movement activity where children pretend that they perform several musical instruments heard in the song. Athena is attentive, and this involvement increases in episode #5, where she shows the flow indicator self-assignment, by taking the initiative to suggest to the classroom a different way to sing the song by altering the dynamics. When the teacher acknowledges and accepts Athena's suggestion, her enthusiasm and involvement becomes even greater, to the extent that she totally ignores two of her classmates who try to interact with her and distract her from the activity. In episode #10, Athena shows anticipation in a familiar music and movement activity where the teacher directs children on how they should be moving to the music. Athena is standing on one foot, very attentive, waiting for the teacher's cue to start moving. In episode #11 from the same activity, it seems that her familiarity with the activity has surpassed the peak point and now functions in the opposite way, causing Athena's loss of interest.

In episode #12, Athena is attentive to an activity of teaching a rote song. While all children are singing and clapping, Athena shows the flow indicator expansion by adding to the action of clapping the whole body movement to the beat. It seems that the relative freedom allowed by the teacher facilitates the appearance of expansion. In episode #14, where children choose the percussion instrument with which they want to play, Athena is deeply involved in watching the teacher and the other children. She exhibits the flow indicator self-correction, when, after her turn has passed, she goes back to the instruments to get one more wooden stick to create a pair with which she can play music. The absence of the teacher's direction ("please, get two sticks") allows Athena to make a mistake, to observe what others do, and correct herself.

Aforementioned, Athena is a slow child in regard to her bodily movement is concerned. It is noteworthy, however, that in the music activities, this slowness seems to disappear. She enjoys movement activities and is moves comfortably in their context. She seems to find activities interesting, but at the same time, doable, which is a balance crucial for experiencing flow. When comparing the episodes in which Athena exhibits flow with the ones where she does not, it seems that she is more enthusiastic with activities that she is familiar with than with new activities. However, it seems that her involvement deepens when in the context of familiar activities: she is faced for a moment with the challenge of the unpredictable, as at points in the storytelling that were characterized by surprise. This balance between the predictable (familiarity) and the unpredictable (surprise) seems to function as a catalyst for Athena to experience flow.

2nd Case Study: Lydia

Lydia, as described by her teacher and the music teacher/research is a smart, agile and willful child who likes to function as a leader among her peers, often imposing her behavior to the others. The activity represented in episode #1 (a routine activity for body activation with music) cannot attract Lydia's

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interest and involvement, obviously because it is very familiar to her, since she had experienced it from the beginning of the school year. In episode #2, it seems that Lydia challenges her boredom by suggesting to the class a different motion to do with the music (~~-w~~ash our hair"). The acceptance of her suggestion by the teacher and the class results in her concentration and enthusiasm. In episode #3, when the teacher asks her to choose a different way to say the song, she becomes more involved and tends to also interact with her classmates by checking if they are moving according to her directions. In episodes #6 and #7, Lydia seems uninterested in what is going on. In episode #8, where the teacher asks the children to rhythmically chant eighth notes, Lydia is successful in doing the activity, but shows no real interest or enthusiasm for what she is doing. She deals with the activity in such a way that it is evident it is easy and therefore, somehow boring to her. The same holds true for the whole duration of the activity, including episode #9. In episode #10 where the teacher directs the children to move in specific ways according to the note values she indicates, Lydia quickly loses her interest in the activity. In episode #12, where children sing a rote song, Lydia exhibits two flow indicators: (a) self-assignment, when she takes the initiative to sing the song loudly and urges her classmates to do so as well, and (b) deliberate gesture, when she starts moving her body intensively and rhythmically while the rest of the class is just clapping. She is deeply involved in this episode, showing that there is an interaction between the interest initiated by the material itself (i.e. the song) and the freedom she feels to contribute to the class and give her own ideas. In episodes #13 and #14, where children are directed to classify the percussion instruments in several categories and then choose their favorite one and play it, Lydia participates with minimal interest.

In summary, it seems that Lydia is a child that is easily bored. Although she does not cause any problems in the class, it is evident that she often participates only because she is supposed to do so. Her attention and enthusiasm is awakened when she can contribute her own ideas, take a leading role, and become creative, often interacting with or leading the classroom. It seems that when she is given such opportunities, she suggests ideas that raise the difficulty level of the activity to create a challenge that can hold her interest.

3rd Case study: Constantinos

Constantinos seems to have made significant progress since the beginning of the school year, since he previously not wanted to participate in the music class. Constantinos seems to be motivated when a music activity is unfamiliar. In all episodes, including routine activities, he does not participate or shows minimum interest. This is in contrast to episodes, such as episode #8, which correspond to an unfamiliar activity, including movement and dramatic elements. In these instances, Constantinos exhibits flow through expansion and deliberate gesture. His enthusiasm reaches a peak, when the teacher deliberately tries to dupe the children in the class in an activity focusing on reading rhythm patterns. The same holds true for episodes #10 and #11, where Constantinos is enthusiastic and deeply involved in an activity of gradually increasing difficulty, in which he puts all his effort to be successful. In episode #12, it is the unfamiliar element of the teacher's guitar playing that holds his attention in the activity of singing a rote song. In every other episode from the total of the 15 episodes analyzed for him, Constantinos exhibits little interest in familiar activities.

It is likely that the level of the musical tasks in the class does not match Constantinos' skill level. His actions often aim at increasing the difficulty level of the task at

hand in order to challenge himself. For example, in episode #9 when the teacher's instructs the children to walk on an eighth-note beat, Constantinos interacts with one of his peers, and walks on eighth notes while hugging his peer. Throughout the activities, Constantinos tends to want to interact with his peers, however this desire is ignored by the teacher.

Conclusion

Athena is a relatively reclusive child, who seems to enjoy the safe environment that is created by the familiar activities presented in the music class. The freedom she feels to contribute her own ideas to the activity or improvise provides her with the challenge necessary to retain her involvement and experience flow. She exhibits anticipation multiple times, deliberate gesture, expansion, and self-correction.

Lydia, on the contrary, seems to lose interest with the familiar activities. In her effort to cope with this, Lydia tries to expand the activity, raise the difficulty level and challenge herself by contributing her own ideas and leading the class. The teacher's positive attitude towards these efforts functions as a catalyst for Lydia to remain involved.

Constantinos' skill level does not match with the difficulty level of the activities. He likes the unknown and finds familiar activities boring. He tries to challenge himself and create interest by interacting with his peers in the context of the activity. If the teacher had supported this by encouraging children to form pairs or small groups at several times in the lesson, it is likely that Constantinos would have been more involved.

From the findings of the present study, the following can be concluded:

(a) The balance between skill level and the difficulty level of a task is crucial to experience involvement, enthusiasm, and flow.

(b) There seems to exist a peak point at the curve of familiarity with the task, after which interest declines. This peak point is different for each child.

(c) The freedom to explore new ideas and subsequently contribute them to class seems to be crucial in retaining children's involvement, enthusiasm, and the experience of flow.

(d) The need for peer interaction, which is often ignored by the teacher, can function as a catalyst for retaining children's involvement, enthusiasm, and the experience of flow.

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Revitalizing Studio Music Learning Through Digital Portfolios

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Abstract

The body of research examining self-regulation in musical practice and instruction has grown extensively over the past two decades. Empirical evidence indicates that students with higher levels of self-regulation are more likely to develop strong performance skills and to experience fulfillment as life-long musicians. In order to develop the self-regulatory behaviours that are the hallmarks of skilled and expressive musicians, students need to be supported as they learn to explicitly set goals, and monitor and reflect on their progress. One way of supporting students is through digital tools, including electronic portfolios designed specifically to enhance self-regulation. The research reported in the present paper describes how a web-based electronic portfolio, called iSCORE, served to enhance the experiences of students and teachers working in music studios. The paper describes a 12-month study involving 5 teachers and 25 students. Teachers were given a one-day introduction to the iSCORE portfolio, where they were introduced to the theory and

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research on self-regulated learning and where they learned how to use the tool itself. Researchers documented the use of the portfolios through interviews, observations, surveys, and data from the portfolios. The results demonstrated the value of the tool in supporting student learning as well as increasing communication amongst students and teachers, thus reducing the sense of isolation that is often reported with private music instruction. The findings also indicated that students used various features of the tool to plan, execute, and reflect on their work, developing stronger self-regulatory skills—such as goal setting—in the process. Outcomes from this research will be used to design further studies involving more teachers and students, as well as to guide the future development of the iSCORE tool.

Keywords
studio music teaching, web-based portfolio tool, self-regulated learning, practice strategies, social media

There have been numerous advances in the music industry and in educational practices over the past half-century. However, studio music instruction has largely remained unchanged. Although hundreds of thousands of children take weekly studio lessons and yearly conservatory examinations in countries world wide, many students stop taking lessons just as they are reaching a level of proficiency. This lack of engagement may be a result of several factors, such as the isolation that music students may experience when expected to practice at home on their own between weekly lessons. The lack of engagement in the private music system is not only a problem for students. Of the thousands of independent music teachers who operate studio practices, very few teachers have opportunities for professional development. A recent survey of Canadian studio teachers indicated that an overwhelming majority of teachers experience a sense of professional isolation (Feldman, 2010).

Technological developments may bridge the gap for students and teachers involved in studio instruction, by providing ways for students and teachers to interact between weekly lessons, and by enhancing student outcomes. The purpose of the research described in this paper was to explore how the use of an electronic portfolio, specifically designed for the music studio context, might enhance music studio teaching and learning.

Self-Regulated Learning and Practicing in the Studio Setting

Studio instruction refers to one-on-one instruction in home-based or conservatory-based studios, where students take weekly 30- to 60-minute lessons. Between lessons, there is the expectation that students will practice by applying what was presented at the lesson. During practice sessions, students must plan, implement, and reflect on their progress. While teachers often discuss practice strategies with students during their lessons, research evidence suggests that very few students apply these strategies (Barry & Hallam, 2002; McPherson & Renwick, 2001). Parental supervision during practice is another strategy used to carry the momentum from one lesson through to the next. However, while parental supervision appears to be effective for younger students, it can be detrimental for older students seeking parental independence (Barry & Hallam, 2002).

Both the amount of time spent practicing and types of practice activities are predictors of success (Barry & Hallam, 2002). Hallam (1998) shows how deliberate practicing, which involves the identification of goals, receiving meaningful feedback, and having opportunities for mindful repetition, leads to better performance. In order for students to develop deliberate practice strategies, a high level of metacognitive engagement is required (Barry & Hallam, 2002). Self-regulated learning (SRL) is widely recognized as a core feature of

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metacognition. Three cyclical phases of SRL involve both metacognitive and motivational components. The forethought phase includes task analysis, goal setting, and strategic planning. In the performance phase, task strategies are foregrounded. The third phase includes reflection and self-judgment (Zimmerman, 2000).

Researchers have found that self-regulation is an essential component of effective instrumental practice (Austin & Berg, 2006; Bartolome, 2009; Miksza, 2006; McPherson & Renwick, 2001). Advanced musicians focus on aspects of their playing that can be improved and seek help from others when facing technical difficulties (McPherson & Zimmerman, 2002). However, most evidence suggests that musicians feel that their training has not helped them develop metacognitive skills (Barry & Hallam, 2002). The present research study is predicated on the notion that having a tool that can support students in their practicing by encouraging the development of self-regulatory skills may lead to more engaged music study. In addition, evidence suggests that computer-based tools may be beneficial for contemporary music students who are familiar with many forms of information technology (Savage, 2007). Next, we explore how electronic portfolios can support self-regulation.

Electronic Portfolios and iSCORE

An electronic portfolio is used to store and organize visual and auditory digital content. Electronic portfolios may also be designed to support learning (Abrami & Barrett, 2005). When students use portfolios, they often assume more responsibility for their learning and come to understand their strengths and limitations (Zellers & Mudrey, 2007). Students who are self-regulated not only actively direct their own learning (Zimmerman, 2000) but may also demonstrate better academic performance (Rogers & Swan, 2004).

iSCORE is based on ePEARL (Electronic Portfolio Encouraging Active Reflective Learning), a web-based portfolio that was developed at the Centre for the Study of Learning and Performance (CSLP) at Concordia University. Both ePEARL and iSCORE are student-centered. The portfolio is reflective of the principles of self-regulated learning, with places to place, execute, and reflect on one‘s learning. Prior studies using ePEARL in the studio music context demonstrated that ePEARL enhanced musical competencies and encouraged teachers to use self-regulation strategies to guide student learning (Upitis, Abrami, Brook, Troop, & Catalano, 2010). Based on the ePEARL research, the specialized iSCORE version for music study was created at the CSLP in partnership with Queen‘s University and The Royal Conservatory. iSCORE‘s web-based platform allows students to readily share their portfolios with teachers and peers. Students can upload work produced elsewhere or use the embedded recorder and text features to create work directly on the portfolio. The iSCORE portfolio contains seven areas; Home, Work, Overview, Sharing, Calendar, Files, and Mailbox. The first three areas support students as they set goals, and learn new repertoire, compose, etc. while the other four areas enhance communication (e.g., calendar, messaging, and file distribution). iSCORE includes music references in the various help sections of the tool, and an annotation feature, which allows users to make comments on recordings directly. The present research is the first study on the use of iSCORE by students, parents, and teachers.

Method

Selection of the studio teachers

Because self-regulation skills form an integral part of successful music learning, the two criteria for selecting the studio teachers were a willingness to teach SRL skills and to use iSCORE in their studio practices. We first described the study to faculty at The Royal Conservatory (RCM) and to a local music teachers‘ association. Eight potential

teachers were identified: five of these teachers agreed to take part in the study. We gained ethical clearance to conduct the study through Queen's University, followed by an informed consent process with teachers, students, and parents.

Three were three piano teachers, one voice teacher, and a choral conductor participating in the study. The teachers provided instruction in home studios, at a university, and at a conservatory. Their years of experience ranged from 7 to 30 years. Each teacher identified between four and six students to take part in the study. Students reflected a range of ages and levels of achievement. In addition to their main instrument (piano or voice), some students played guitar, woodwinds, and strings. Teachers introduced the tool to their students during their weekly lessons.

The first phase of the study (September 2010 to February 2011) examined the use of ePEARL in the studio context. Participants provided ideas for additional features, contributing to the development of iSCORE. The second phase involved using the prototype version of iSCORE (July 2011 to mid-October 2011). The iSCORE results are reported in the present study; the findings from the first phase of the study are reported elsewhere (Brook, Troop, & Upitis, 2011; Upitis, Abrami, Brook, Troop, & Varela, in press).

Research Questions and Data Collection

The study was guided by three questions: (a) How do students and teachers use iSCORE? (b) Which features of iSCORE are most important to users?, and (c) To what extent do students become more metacognitively engaged as a result of this pedagogical approach?

Data sources included interviews, observations, surveys, and portfolio data. Semi-structured interviews were conducted with a sample of the parents, all of the teachers, and four of the students. Questions focused on the use and implementation of the tool in the lesson and in the practice sessions between lessons. Students, teachers, and parents were invited to complete a ten-question online survey about the use of iSCORE. All of teachers responded to the survey, 80% of the students responded, and 30% of the parents responded. Portfolio data included an examination of the student-teacher-parent-peer interactions, the recorded samples of the students' playing, the recorded demonstrations by studio teachers, and the students' general goals, strategies, and reflections.

Data Analysis

The researchers analyzed the qualitative data according to established protocols (Patton, 2002). Verbatim interview transcripts were coded using *Atlas.ti* [5.5] (2010) where deductive and inductive analysis techniques were used. Codes were initially based on themes that emerged from the literature and from previous work with ePEARL in the music studio context. These codes were grouped into families related to the three research questions.

Results

Using the Tool

All participants found the tool accessible, noting that the layout of the tool was easy to understand. Half of the students accessed the tool once a week between lessons, and the rest of the students accessed the tool two or three times a week between lessons, with one student using the tool almost on a daily basis.

When they logged on, students first viewed other student portfolios, and then focused on their own portfolios. Students often created recordings of their pieces and uploaded them for others to hear. Easy access to recording equipment was essential, and the demands of producing a recording motivated students to fix various issues in their repertoire. As explained by one young student, —[Recording] gets me to practice until it is really good."

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Most teachers set up the expectation that their students would complete tasks prior to upcoming lessons, with the promise to view the portfolios mid-week and offer feedback. This extra feedback enabled students to progress more quickly. As one student noted, —It‘sbetter than waiting the whole week for my teacher‘s comments.” None of the teachers felt that it was an onerous task to check students‘ portfolios, explaining that the mid-week check-ins made the lessons more efficient. Students also commented that iSCORE was helpful in communicating when lessons were missed. One student observed, —Itreally comes in handy when you or your teacher is out of town and you need to stay in contact and conduct a virtual lesson of sorts.”

Students enjoyed sharing their work with other students in the studio. In the piano studios that included both adolescent and university students, the university students commented on the younger students‘ work. This was particularly helpful for the university students who were music teachers in training, as they learned how to formulate feedback through the process. Some parents also used iSCORE to offer suggestions and encouragement. Participants reported that parental involvement often enabled the younger students to progress, pointing to the value of the annotation and recording features. In the words of one parent, —My daughter definitely practices more because of the recording feature. I would use iSCORE for the annotation and recording features alone!”

Key Features of iSCORE

Many participants commented on the overall impression they had of iSCORE. One teacher enthusiastically reported, —Ilove the layout of iSCORE. Upcoming Events and the To Do List are great for planning at a glance. Work sections are clearly laid out. Calendar is very user friendly, clear. It is easy to use. And Files: *I love this*! iSCORE is very user friendly.”

Of the 23 features of iSCORE that were examined in the present research, the feature receiving the most use was that of *general goals*. Nearly every student set goals, and 75% of the students reinforced their general goal setting with the *to do list* feature (see Figure 1, below). Students also used the *planning page* (50%), the *checklist* (30%), and the *strategy bank* (30%). Two-thirds of the students personalized their homepages by using an individualized *welcome message* and/or *photo banner*, with the latter two features being most salient for the younger students.

The students‘ work was supported through several iSCORE features, the most important being the ability to *upload files*, with half of the students using the uploading feature, followed closely by the use of the *annotation* and *recorder* tools. Students clarified their work strategies using the *strategy bank*, along with *tags* and *labels* to sort their work files. A small proportion (15%) of the students used the *overview* feature to identify the strategies they used most often.

Students reflected on their progress in a number of ways. A few (15%) regularly used the *journal*, while others interacted directly with teachers and other students. Over half of the students regularly *shared* their portfolios with others, *viewed* other portfolios, and left *comments on other portfolios*.

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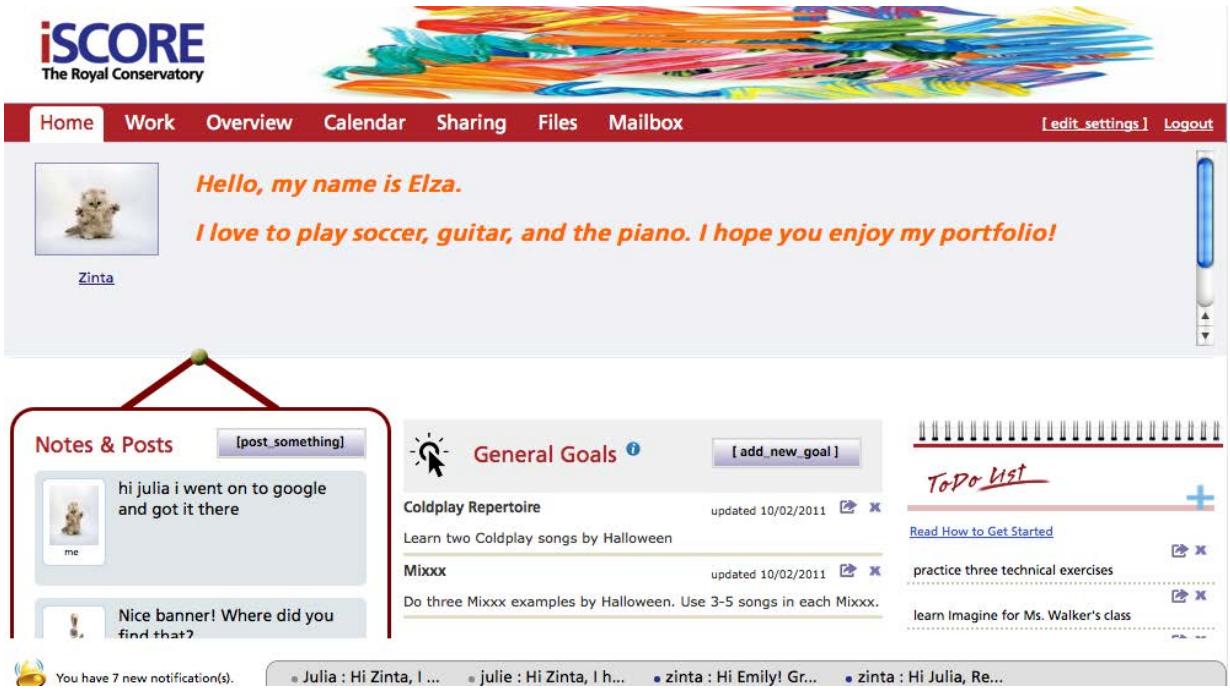

Figure 1. Screen shot of a student‟s homepage

The communications features were extremely important to most users, including the *filing cabinet*, messaging through the *mailbox*, and posting items on the *bulletin board*. The ability to communicate with other students was especially important to the teen-aged users. One student commented, —I really like the mail thing because I can talk to other students about what‘s up and what kinds of songs they do.”

Students and teachers also offered feedback regarding features that gave them difficulties (e.g., —The recorder doesn‘t always work on the PC” and —It would be pretty convenient if when you click your notifications, it would lead you to whatever it is that it‘s notifying you of”). These comments, among others, will be incorporated in the development of Version 2 of iSCORE, scheduled to begin late in 2012.

Metacognitive engagement

The most promising findings were those that indicated how the use of iSCORE engaged students more deeply in the practice of learning to play an instrument. The very act of being asked to set general goals for the term motivated some students to think more clearly about what they hoped to accomplish. As students became more motivated to practice, they became more adept at articulating goals and more skilled at reflecting on their performances. Students also became more willing to engage in discussions around strategies for learning to play or sing difficult passages, possibly because teachers offered clear directions for how to proceed, and continually supported the students in their endeavors.

iSCORE helped students to plan and reflect on their learning. Generally, students logged into iSCORE shortly after their lesson and used the scaffolded structure of the portfolio to set practice tasks for the week. As one older student noted, —It allows me to

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receive feedback and assistance from my teacher and peers throughout the week, and iSCORE helps me be more productive in my lessons!" iSCORE provided an appropriate structure for students of all ages. Teachers provided younger students with clear ideas for more effective practicing that they could record and monitor through iSCORE. The older students made decisions that led to an increasing sense of artistic autonomy. The explicit naming of the planning phases was helpful in organizing their ideas, while the textboxes allowed them to reflect on their thinking as it evolved.

Conclusion

The results of the present research indicate that the iSCORE web-based electronic portfolio can help increase students' motivation to practice, and in so doing, provide support to both students and teachers in the studio music context. Results revealed that students developed more sophisticated self-regulation strategies as a result of using iSCORE. The recording and annotation features supported students' ability to reflect on their music-making as they learned to listen closely to the music that they were producing. Over time, students felt that they were becoming more autonomous in their learning and could progress with a greater sense of artistic freedom. By using iSCORE, students had a structure to help them clarify and refine the ideas from their lessons and to develop a series of practice strategies to implement their musical plans. The social aspect of the tool was particularly attractive for students raised in the digital age.

Further research will be undertaken from 2012–2017, comprised of a longitudinal study of 48 studios in three major Canadian cities. We will compare 24 studios where iSCORE is used with 24 studios that are matched in terms of geography and student records, but where there is no electronic tool in place. We will also analyze changes in examination results and overall music enjoyment and achievement over time to determine how studio teaching, assisted by a powerful web-based tool, can encourage students living in the digital age to continue to pursue musical studies to a level of advanced proficiency and fulfillment.

Acknowledgements

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Understanding and Nurturing Musical Development in Children and Young People: The *Sounds of Intent* Project

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Abstract

The research paper reports on the latest fieldwork from a decade-long study into musical behaviour and development in children and young people with complex needs, i.e., severe learning difficulties (SLD) or profound and multiple learning difficulties (PMLD). The current (2011) English school population is 8.123m, of whom 20.6% (approximately 1.7m) are identified as having some form of special educational need (SEN). These include 39,000 children with complex needs (SLD and PMLD, at a ratio of 3:1). However, children with special needs in general are under represented in the music education research literature. This is somewhat surprising given the long-standing interest in music as therapy and also the on-going research within the neurosciences and cognitive psychology to suggest that musical behaviour is one of the core characteristics of the human condition. An initial research survey of music in the special school sector revealed that music was valued, but that schools had little formal guidance or cultural expectation about how to foster musical behaviour in the context of special needs. The survey marked the beginnings of a decade of research activity by the authors of this paper, working in collaboration with schools and parents, to remedy this situation by creating a developmental framework that is grounded in case study evidence. In the latest phase of the *Sounds of Intent* (*SoI*) research, the framework is now being made available on-line to the special school sector. Over an initial two-month period, n=42 colleagues in special schools have begun to use the *SoI* framework, generating data on n=172 children. An analysis of the distribution of the teachers' observational assessment data reveals a wide diversity of musical behaviours in their pupils, but

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with no significant gender, nor ethnicity differences. However, analysis by SEN categories suggests that there may be characteristic differences in these group's music behaviour profiles, related to the nature and severity of the disability. Nevertheless, it is extremely rare for any child not to demonstrate some form of engagement with music. Overall, the research indicates that the new, on-line *SoI* developmental framework is already beginning to assist participant teachers in improving the range and quality of their music education activities. It is also proving to be a useful research tool that will enable us to build a much more detailed and complete picture of the nature of musical behaviour and how it can be nurtured and developed for all children.

Keywords
musical development, children, complex needs, *Sounds of Intent*

There is an increasing wealth of research emerging from neuroscience and cognitive psychology to suggest that musical behaviour is a characteristic feature of the human condition (*cf* Mithen, 2005; Cross, 2009). Music is also implicated in aspects of our non-musical development. For example, the musical qualities of speech are considered to be critical in early language development and in cementing the bond between infant and mother (Mampe *et* al, 2009; Deutsch, 2010; Trehub *et* al, 2010). Various theories have been proposed as to why music has such significance. One such is related to a perceived dialectic relationship between our biological potential for music and the serendipitous experience of different invented musics by humans within particular cultural contexts (Livingstone & Thompson, 2009; Patel, 2010) – a relationship that also has the power to shape brain structure (e.g., Hyde *et* al, 2009; Schlaug *et al*, 2009). Other, more generic, neuroscientific evidence confirms that 'learning outcomes are not solely determined by the environment. Biological factors play an important role in accounting for differences in learning ability between individuals' (Royal Society, 2011:v). Nevertheless, an underlying characteristic of the brain is its neuroplasticity; that is, its ability to change as a result of experience (known as experience-dependent plasticity) and believed to be present throughout life (Lovden *et al*, 2010).

Given this body of research evidence that (a) musical behaviour is commonplace and that (b) both nurture and nature are needed for learning, it follows that two core tasks for music education are both to (i) understand each individual's current patterns of musical behaviour and (ii) find appropriately differentiated ways to support and extend their musical development. Whilst the aim of music education is for all, the realisation of musical potential in others can be particularly challenging in a context of complex needs; that is, where children and young people have severe learning difficulties (SLD) or profound and multiple learning difficulties (PMLD). Within the English school sector of 8.123m pupils, for example, there are approximately 39,000 children with complex needs (SLD and PMLD, at a ratio of 3:1; DfE, 2011a). Those with complex needs represent 5.6% of the total special needs (SEN) population diagnosed with specific types of disability (701,385) in English schools. School-aged children are defined statutorily as having SEN if they 'have a significantly greater difficulty in learning than the majority of children of their age which calls for additional or different educational provision to be made for them' (DfE, 2011b). In January 2011, under this broad definition, 20.6% (approximately 1.7m) of the school population were identified as having some form of SEN. Yet, until recently, there has been 'scant research on the topic of music learning and children with disabilities' (Jellison, 2006: 270).

Consequently, since the late 1990s, the authors of this paper have been collaborating in an extended research project to improve the quality of learning and teaching of music for children and young people with special needs, particularly those

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with complex needs. An initial mapping of music provision in special schools in England just over a decade ago revealed that, although music education and music therapy were valued, overall provision was patchy, there was no coherent approach evidenced, nor was there any nationally recognised music curriculum guidance available (Welch, Ockelford & Zimmermann, 2001). Most children received music tuition from their own class teacher, but few teachers had received any guidance as to what might be appropriate. All schools made extensive use of music and musical activities within the wider curriculum, but there was little or no obvious connection between these and the formal music curriculum. Also, there was a sense that headteachers thought that development *through* music was more widely valued than development *in* music. These survey findings led to the establishment of the *Sounds of Intent* project, whose aim has been to map the musical development of children and young people with complex needs, whilst also linking this mapping into our understanding of patterns of musical development for the rest of the general child population.

In the opening phase of the project (2005-2007), the research team worked with colleagues from across the special education sector to gather live and video data from case studies of individual children and to use these to explore various ways of modelling musical behaviour and development. A first version of the *Sounds of Intent* (*SoI*) framework was created and this was evaluated formally drawing on 630 observations of 68 pupils with PMLD aged 4 years 7 months to 19 years 1 month from five different special schools (Welch *et al*, 2009). The resultant data analyses were supportive of the general design features of the developmental framework and also the notion that musical behaviour and development are concepts that can be applied in the context of special needs, notwithstanding the severity of the disability. The majority of observations suggested that children with PMLD – the most extreme cases of disability – often demonstrated some sense of personal agency, such as making sound intentionally, and that some children were capable of relatively advanced musical behaviours.

This led to a second main phase of research (2007- to date) that sought to add more detail to the initial *SoI* framework and to expand this to encompass the musical behaviours of children and young people from PMLD to SLD and less severe disabilities, and whose musicality may be highly developed in certain cases (*cf* Ockelford, 2008). An additional 793 observations were made of children and young people exhibiting a wide range of musical behaviours in participant schools. These informed the design and evaluation of a refined model (Figure 1) in which musical behaviours are conceptualised as occurring in eighteen segments across three complementary domains. These domains are *reactive* (responding to music and sound), *proactive* (creating, causing or controlling music and sound) and *interactive* (engaging in some form of musical behaviour and engagement with others). Within each domain, varying levels of musical development encompass six levels of progression, portrayed in Figure 1 from inner to outer segments. In turn, in order to aid assessment, within each level there are four example *elements* that provide details of how the particular behaviour might be evidenced. Subsequent short-term longitudinal studies in London across two school terms (six months) with two different complex needs populations also confirmed the general integrity of the current *SoI* framework design and demonstrated that musical development for this population is possible, particularly in an appropriately nurturing educational environment (Cheng, Ockelford & Welch, 2009; Ockelford *et al*, 2011).

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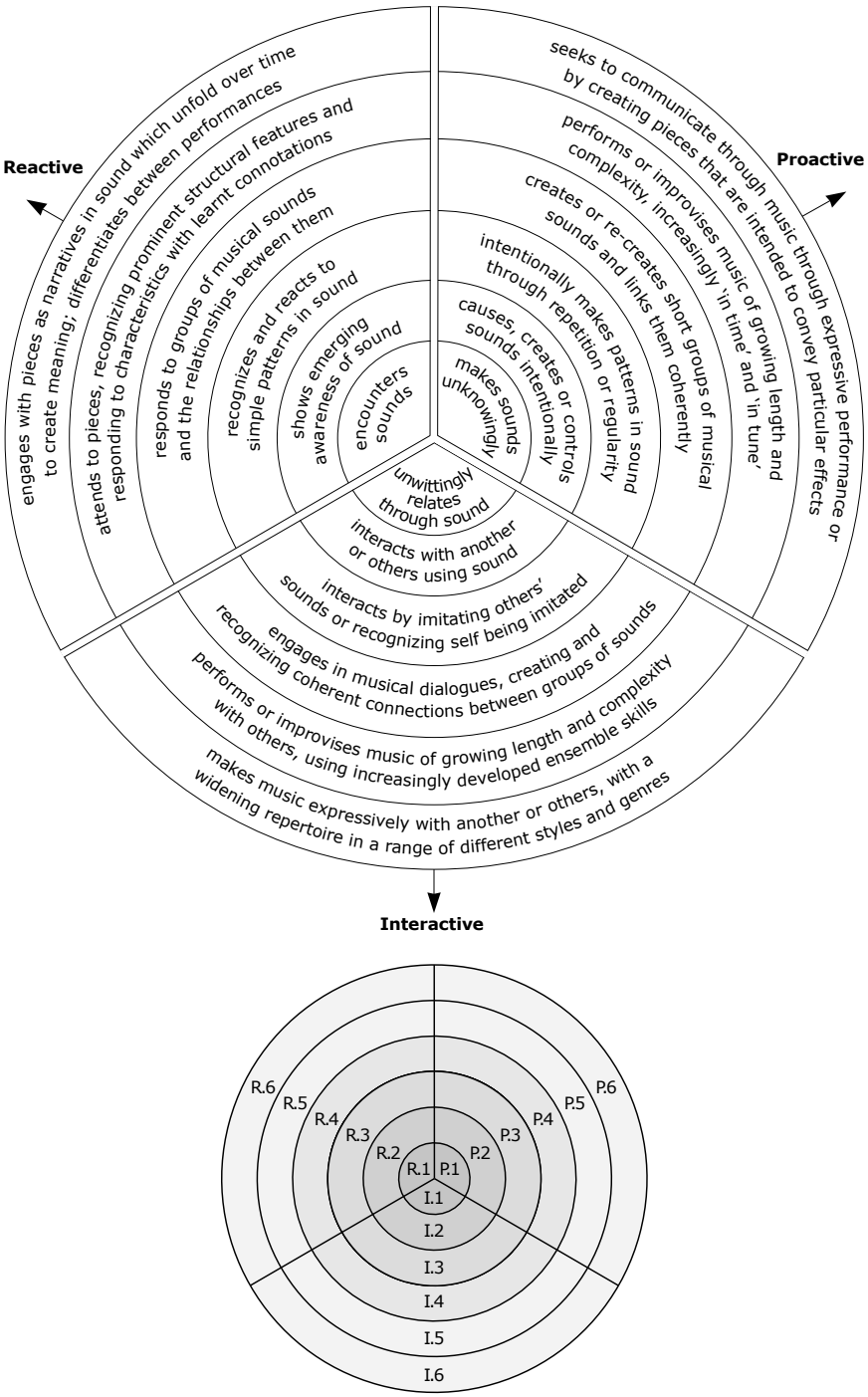

Figure 1. The *Sounds of Intent* framework of musical development

Overall, more than 250 children with various types of disability were observed across these different phases of research, generating over 2000 individual observations that were interrogated against the evolving framework.

Having undertaken extensive fieldwork to evaluate the general conception of the *SoI* framework, the challenge remains as to whether or not this can have a general applicability for teachers (whether specialist music teachers or generalists) who work in a special needs environment, or elsewhere in mainstream schools. Accordingly, the past two years has also seen a further development of the framework by creating special interactive software, designed for *SoI* to be accessible anywhere in the world via

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the internet and able to be used on a variety of modern IT platforms, including mobile phones and tablet computers. Access is via a secure website (http://www.soundsofintent.org/). This research paper reports the first use of this new web resource by teachers in the special education sector.

Method

The new *SoI* instrument is based on an open architecture extensible markup language schema (XML schema) that has been designed specifically for the unique needs of the *SoI* project. The intention has been for the new web-based instrument to be used as a dynamic information retrieval system that can support schools in mapping the musical behaviour and development of their pupils. The website provides detailed information on each of the 72 components of the framework (i.e., three domains, each with six levels of four elements) with textual and video examples of musical behaviour illustrative of the segment. In addition, there is guidance on how to evaluate the behaviour being observed, alongside suggestions of what to do next to promote the individual's musical development. All photographic and video material has been obtained from a variety of vocal, instrumental, group and individual music sessions with SEN children. The captured images represent a diversity of pedagogical strategies and also musical genres. Each image has been provided under a strict ethical protocol that included informed consent from parents or carers.

Over the past two months (September and October, 2011) the website has been open for voluntary participation as a final pilot phase prior to its formal, national launch in February 2012. Members of the project advisory group, drawn from the special school sector, have been using the website with their pupils. Other colleagues have asked to participate having heard about the *SoI* project through their professional networks. Data (password protected) for each pupil is entered by their teacher (practitioner), who is required to be *SoI* registered. Although anonymised (and whilst continuing to be accessible to the individual teacher), summative data are available to the research team to gain specific insights into the musical behaviours of this population.

Participants

By the end of October 2011, n=42 schools had begun to use the *SoI* website to support their music teaching, such as accessing the video content and reading the accompanying textual annotations, and inputting data to create individual profiles of their pupils' musical engagement. Data had been entered for n=172 pupils, aged between 3.3 and 19.8 years, with a mean age of 10.05 years (s.d. 3.38 years), of whom n=120 had sufficiently detailed assessment records to enable the data analyses reported here.

Results

The ratio of participant girls to boys was 1:2 (33% vs 67%), which is generally in line with national SEN data across the school sector (where the older pupils tend to have an even higher incidence of SEN (DfE, 2011[a])). Nationally, with regard to ethnicity, approximately 1:4 of the English school population (all sectors) are from an ethnic minority, with a slightly smaller proportion being formally registered as SEN (21%). However, the *SoI* population in this study are more ethnically diverse, with 61% being from an ethnic minority. This may reflect *SoI* participation from inner city schools with larger ethnic minority populations.

In terms of the type of disability, four overarching disability domains are indicated, as well as some sub-categories for each, with participants often reported as having multiple disabilities (see Table 1). The two largest categories represented by participants were Autistic Spectrum Disorder (ASD) (20.56%) and Profound and Multiple Learning Difficulties (PMLD) (17.26%).

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Table 1. Disability Domains Represented by n=172 Pupils, Many with Multiple Disabilities

	disability domain											
	Autistic Spectrum Disorder	Behaviour, Emotional and Social Difficulty	Hearing Impairment	Moderate Learning Difficulty	Multi-Sensory Impairment	Physical Disability	Profound and Multiple Learning Difficulty	Speech, Language & Communication Needs	Severe Learning Difficulty	Specific Learning Difficulty	Visual Impairment	Grand Total
A. Cognition and Learning Needs				5			68		34	9		116
B. Behaviour, Emotional and Social Development Needs		10										10
C. Communication and Interaction Needs	81							53				134
D. Sensory and/or Physical Needs			4		50	58					22	134
Grand Total	**81**	**10**	**4**	**5**	**50**	**58**	**68**	**53**	**34**	**9**	**22**	**394**
	20.56%	2.54%	1.02%	1.27%	12.69%	14.72%	17.26%	13.45%	8.63%	2.28%	5.58%	

The emergent *SoI* music profiles of these two groups (ASD and PMLD) provide an initial insight into how different types of disability and degrees of musical engagement may be related at a group level (see Figure 2). As might be hypothesised, children and young people with the more extreme forms of global (PMLD) tend as a group to exhibit less advanced musical behaviours (degree of shading in a segment indicates higher incidence of this particular category of musical behaviour). In contrast, ASD categorised pupils demons trate a much wider range of musical behaviours. The differences are approaching significance (Friedman's Two-Way Analysis of Variance by Ranks, $X^2_{(df\ 2)} = .083$).

Overall, the *SoI* assessments reveal that there is a fairly even spread of data across the first three levels of the Reactive domain and a similar range being evidenced in the Proactive domain; but the Interactive domain is biased towards the lowest two levels (see the graphical representation of the table data in Figure 3).

ASD PMLD

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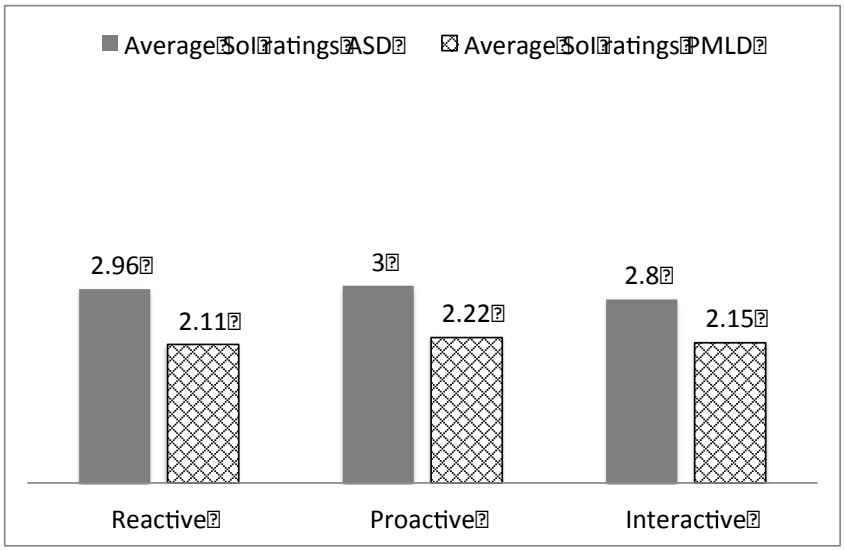

Figure 2. Comparative *SoI* Framework Representations of Musical Behaviours for ASD (n=25 recorded observations) and PMLD (n=64 recorded observations) Pupils

	Proactive Domain	Reactive Domain	Interactive Domain
Level 1	25.0%	26.7%	25.0%
Level 2	23.3%	27.5%	31.7%
Level 3	30.0%	28.3%	19.2%
Level 4	13.3%	11.7%	14.2%
Level 5	6.7%	5.8%	9.2%
Level 6	1.7%	0.0%	0.8%

Figure 3. Graphical Summative Representation of the Biases in the Current *SoI* Data Set for n=120 Assessments

There is no clear evidence of an age effect, not least because of the large numbers of children clustered around the age range of 12-13 years, nor of any sex differences

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(Friedman's Two-Way Analysis of Variance by Ranks, $X^2_{(df\ 5)}$ =.994). An analysis of the distribution of assessment data reveals a wide diversity of musical behaviours. For example, there is a slight trend for some older pupils either to demonstrate advanced musical behaviours, such as P5 _performs or improvises music of growing length and complexity' (R^2 = 0.29), whilst others still have less developed musical skills, such as P2 _causes, creates or controls sounds intentionally' (R^2 = 0.33) (illustrated in Figure 4).

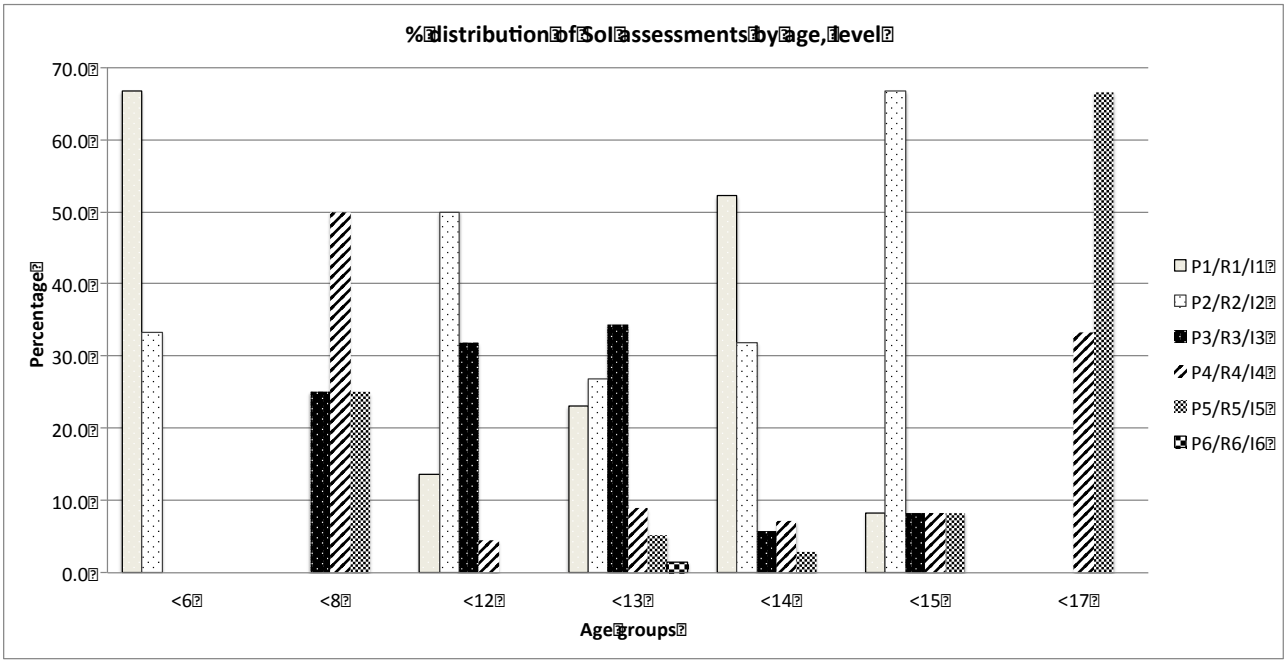

Figure 4. Summation of *SoI* assessments by relative percentage representation in each age group by *SoI* level (data for three *SoI* domains collated)

Conclusion

Existing and present research evidence from a range of linked studies indicates that the *Sounds of Intent* framework, being grounded in case study musical behaviours of individual children, is an appropriate means for tracking musical development in children and young people with complex needs. The latest fieldwork phase suggests that (i) colleagues in the special school sector are able to use the application of the framework in a web-based format (without any need for extensive preparation) to track the musical activity of their individual pupils and that (ii) the website is also a research tool that can be used to collate such data to provide a larger picture of musical behaviour and development for a wide cross-section of the child population. It is hoped that, over time, we will be able to continue to apply this information to have a positive impact on teachers' understanding of how best to understand and nurture the inherent musicality of their pupils.

Acknowledgements

Special thanks to our colleagues in the special education sector, including teachers and support staff, as well as the children and their parents who agreed to participate in the

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research. Thanks are also due to the Esmée Fairbairn Foundation for funding key aspects of different phases of the *Sounds of Intent* project over the past decade.

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A Content Analysis of "Music Education" Videos Posted on YouTube

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Abstract

Information sources regarding music teaching and learning have grown over the past few decades to include Internet websites. —The Internet also has provided methods of interaction and collaboration that never have been possible before" (Webster, 1998, Technological Support section, ¶ 4). Since 2005, the website YouTube.com has been providing one such means for people, including music educators, to interact with others on an international scale. According to the website, —YouTube provides a forum for people to connect, inform, and inspire others across the globe" (YouTube, 2011).

In recent years, researchers in other disciplines, medicine in particular, have authored published studies of YouTube video content including examinations of smoking related videos (Kim, Paek, & Lynn, 2010; Paek, Kim, & Hove, 2010), immunization related videos (Keelan, Pavri-Garcia, Tomlinson, & Kumanan, 2007), toxicological information (Akhtar, Lo, Suffoletto, & Krenzelok, 2008), and fat stigmatization (Hussin, Frazier, & Thompson, 2011). These studies indicate that analyses of YouTube video content can provide new and useful information within a given discipline.

Music educators may also benefit from knowledge of music education videos posted on YouTube. Such videos could provide new insight and understanding of music and music education from cultures outside one's own, serve as examples for teaching musical concepts, and possibly bridge the geographical gap between music teachers and learners. Therefore, the purpose of this study was to determine (a) information related to users uploading video, (b) the general content of music education videos on YouTube, and (c) specific characteristics of video content.

We conducted a YouTube search using —music education" as the keyword phrase. We sorted the results by relevance, upload date, view count, and rating. Results from all four sort methods were entered into a database. Information included the video name, description, rating, upload date, number of views, upload username, and video length. Duplicates were deleted, resulting in 1761 different records.

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We categorized the general content of each video as teaching, performance, music industry, public relations, or irrelevant; and since the user uploading the video and YouTube maintains control over video availability, we included —video no longer available" as a category. The next level of analysis varied depending on the type of general content. The researchers independently categorized video content for 20% of the videos. Results revealed overall agreement at 99% while individual category agreement ranged from 96% to 100%.

Results indicated that 907 different usernames posted videos, 76% of which were single postings with a range of videos posted under a single username from 1 to 51. Users' self-reported country affiliation varied across a total of 59 different countries with most listing the United States (70%), followed by the United Kingdom (4%), Canada (4%), Malaysia (3%), Australia (3%), the Philippines (2%), and the Netherlands (2%) as their country of affiliation. The remaining 52 countries each made up 1% or less of the overall total.

Results relating to the content of music education videos revealed the most observed categories were performance (36%), followed by teaching (28%), public relations (27%), and industry (10%). The majority of performance videos contained vocal ensemble and solo piano performances. Western art music dominated the music genre category for performance videos (37%). Videos categorized as teaching were mostly tutorials (65%). Public relation video content was predominantly related to music outreach (36%) and advocacy (33%). Seventy-two percent of industry video content related to product sales. Participants across all video categories were predominantly adults, university age, or fit multiple age categories.

Given the variety of countries represented and the large percentage of performance videos, YouTube may be a means of bridging geographical distances and allowing for a deeper understanding of music and performance practices from around the world. Results from this study indicate that the YouTube website is functioning as a forum for people interested in music education to —connect, inform, and inspire others across the globe" (YouTube, 2011). If music education content is to fit this mission, music educators who choose to use and contribute to YouTube content should be thoughtful about how music education videos are designed. If music educators choose to control the content of the majority of these video postings, the site certainly could be advantageous to the teaching and learning of music.

Keywords

Content analysis, YouTube, Internet, music education, music video posting

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A Cross-Cultural Examination of Pitch-matching Accuracy in Kindergarten Children from Hong Kong, the Dominican Republic, and the USA

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Abstract

The purpose of this study was to determine if cultural differences, including linguistic differences, influence pitch-matching accuracy of children and to identify characteristics of tonal patterns that contribute to accurate pitch-matching for children from different cultures. Three cultural and linguistic differences were investigated: USA children (n = 40) were English monolinguals, Dominican Republic children (n = 39) were Spanish/English bilinguals, and Hong Kong children (n = 38) were Cantonese/English bilinguals. Only the Hong Kong children spoke a tonal language (Cantonese). Five tonal pattern characteristics were investigated: modality (major/minor), harmonic function (tonic/dominant), melodic contour (ascending/descending), pattern length (two-/three-notes), and range (high/low).

All children (N = 117) were administered an investigator-designed pitch-matching test toward the end of their kindergarten year. Significant differences among children from the three countries of origin were revealed. While children from Hong Kong scored higher on total scores than children from the Dominican Republic and USA, no differences were found between scores of Dominican Republic and USA children. The children in this study who spoke a tonal language demonstrated greater pitch-matching ability than children who spoke non-tonal languages. The non-tonal language speakers performed similarly, regardless if they were bilingual or monolingual.

Some tonal pattern characteristics were easier to sing depending upon culture. Only children from Hong Kong favored major patterns over minor patterns, and tonic patterns over dominant patterns; children from the Dominican Republic and USA performed minor patterns as accurately as major patterns, and dominant patterns as accurately as tonic patterns. All children favored descending over ascending patterns, two-note over three-note patterns, and low-range over high-range patterns.

Keywords
cross-cultural differences, pitch-matching, singing accuracy, bilingual differences, tonal languages

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