Analyzing the development of Children's Musical Thinking Through Music Composition Activities

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This paper aims to foster understanding on how musical composition activities, in small and large groups, contribute to the development of musical thought in elementary school children. The above was investigated in the present study through the implementation of a music composition project, in an action research design. The project was developed with 72 third grade elementary pupils, aged 7 years old, attending a school in the North of Portugal. Data was generated from participant observation in the classroom by the teacher/researcher, video recordings of the sessions, a questionnaire and self-reports, in an attempt to understand how children ascribe meaning and develop their musical thinking in the ongoing activities of musical composition. Analysis of data consisted in the development of several conceptual categories that emerged from several comparisons among all the data sources. Findings suggest that the development of children's musical thinking through music composition is based on a series of meaningful experiences lived by each child during the compositional process, by the emotions and feelings that emerge during these experiences, and by a shared emotional profile that slowly emerges in the entire group. Findings also suggest that one approach to teaching music through strategies involving musical composition, values holistic dimensions of musical thought such as expression, certain qualities of sound as timbre, dynamics, shape, texture, tension and musical gesture.

"When I'm playing our composition, I feel I am inside the drum and that I am a lion playing with all my strength"
André

THEORETICAL BACKGROUND

Introduction

The contents presented in this paper are part of a PhD research project (first author) that draws upon the "Paradigm of Embodiment" (Csordas, 1990, Bresler, 2004, Johnson, 2007), and, more specifically its "embodied enactive account" (Bowman, 2004, Borgo, 2007), as one of the theoretical and methodological axes that supports the entire research. In this paper knowledge is approached in an ecological perspective and musical thinking as embodied, situated and distributed (Borgo, 2007). Embodied in the sense that our thoughts and our mind emerge from and coexist with our bodily sensations and actions; situated in the sense that all thinking grows from a dynamic relation between the individual, the context and the culture in which the individual is immersed, and distributed in the sense that thoughts and knowledge are constructed not only in the mind of an individual, but as "something shared between individuals in a physical and social setting" (Borgo, 2007: 62). Children's development of musical thinking grows from this perspective as a process that is defined by the way each child creates meaning from the sound world that surrounds her (Wiggins, 2001). Music composition appears in this project as a privileged way to develop each child's capacity to construct meaning (Barrett, 2003), being also described as a "dialog between the child as musician and composer, the emerging musical work, the culture that as produced the composer and the emerging work, and the immediate settings in which the transaction takes place" (Barrett, 2003:6).

In this paper we propose that the "dialog" mentioned by Barrett, may establish the cognitive and affective structure in which each child will find place and time to develop her musical world (Bresler & Thompson, 2002). This statement might be justified if we bring to our minds that human experience is, on one side, strongly marked by emotions and feelings (Damásio, 2000, 2001; Bowman, 2004) and, on the other side by the social context and the interactions that emerge between participants in this context (Wiggins, 1999/2000).

Embodiment and the emotional context of group composition

Musical experiences involve several emotional states that affect the body in multiple ways (Damásio, 2001; Pelinski, 2005). These emotional states and the subsequent feelings that emerge from them are one of the most important entities that help us to experience meaning (Johnson, 2007). Music is deeply related with the pulse, the "flow" of human experience, and therefore, musical meaning is essentially felt (Bresler, 2004, Johnson, 2007). Damásio (1998, 2000, 2001), in his research studies about emotions and feelings, elicits the body not only as the foundation of everything we feel and interpret about what surrounds us, but also as the first point of contact of the human experience, promoting a pre-reflection about our lives that will influence, in a decisive way, everything we come to know about the world and about ourselves. In these studies, Damásio explains that all our experiences in the world, musical or extra-musical, are catalogued by a certain emotion profile, and that, therefore, our memories live in an emotional context.

When children are composing, these memories may influence their musical work in a decisive way. This influence of our past experiences is deeply related with our emotional self, and, therefore, children's music ideas are strongly related to their actions, thoughts, to their subjective self (Gromko, 2003). In this sense, children's compositions might be understood as a mirror of their inner worlds; while composing, children reconstruct their self, their knowledge and their thinking, creating new meanings to their lives.

Embodiment and the social context of group composition

According to Bresler (2004) the process of meaning making from our musical experiences is inseparable from the context and the specific conditions under which it is experienced. Bresler and Thompson explain that "Music is something children do and it's always informed by the social context or culture from which the child emerges" (Bresler &Thompson, 2002: 12). Gromko (2003) also emphasizes the importance of the social context in which children are immersed, explaining the need that students have to connect what they are learning to their lives.

In the same line of thought, Stauffer talks about a "web of significance" (Stauffer, 2003: 95) that incorporates past and present experiences with music and extra-musical events, the socio-cultural ground in which these experiences emerge, the individual's self and the way each individual interacts with the world that surrounds her. Bowman (2007) also clarifies that musical meaning, although essentially felt in our bodies, is always socially and culturally

situated (Bowman, 2007). Pelinsky (2005), reinforcing the role that embodiment plays in the construction of musical meaning, explains that this construction is always connected with the social context that surrounds and sustains our bodily felt experiences.

In this sense, the research presented in this paper will be "guided by the perception that the words, thoughts and needs of individual human beings are profoundly influenced by the nature of the social circumstances in which they occur" (Olson, 2007: 989). Concluding, we will try to sustain our research through a theoretical framework that embraces the paradigm that all our cognitive experiences are formed around the notion of embodiment and its relations with the social environment (Maturana & Varela, 1990), Varela, Thompson & Rosh, 1992).

Group Composition and Musical Thinking

In the present research, social issues related to music composition in groups will be explored around the topic of "the social construction of musical meaning" (Green, 1999). More specifically, we will try to foster understanding on how musical meaning and musical thinking are developed in a context that values the characteristics of informal learning such as exploratory and experiential leaning (Bresler, 2002).

One of the debatable issues that always emerge in the context of group composition is the student's interaction while involved in the composition process. Several researchers who have studied group composition activities with children have stated the importance of *shared understanding* or *intersubjectivity*.

According to Keith Sawyer, "the key question about intersubjectivity in group creativity is not how performers come to share identical representations, but rather, how a coherent interaction can proceed even when they do not" (2003: 9). Studies from these researchers conclude that children "seem to share an unspoken understanding of the overall quality of the work in progress even at the earliest stages of conception, evident in their ability to cooperatively decide which ideas should be used in the work and which should be discarded or altered (Wiggins, 2007: 463).

Reporting to this question, Wiggins (1999/2000, 2003) brings a new lens to the concept of shared understanding, stating that children, through presenting musical ideas and verbal comments to their peers, slowly achieve a global interpretation of the music composition task and of music in general. During her research, she observed that children, after presenting a musical idea to the rest of the group, seek immediate approval from their peers. Thus, individual music ideas pass through a judgment process by the group's understandings and feelings of the piece as a whole. Wiggins also refers that, many times, this process leads to

some tension among the members of the group. In this phase, some kind of negotiation seems to occur, and the children slowly begin to develop a group understanding of the work, reaching a consensus that allows them to proceed with their work. In a study presented by Faulkner (2003), shared understanding also appears as a crucial concept during the process of group composition. Faulkner states that shared understanding emerges during "a continuous dynamic flow" that is maintained by the group while they listen to each other's ideas; during this process, pupils test individual's ideas approving or rejecting them. A common sense about the composition slowly emerges, marked by the group's understandings of how the music should sound.

Creating music in groups does not mean that individual thinking is neglected. Indeed, shared understanding may provide a strong emotional and conceptual context that will empower the development of individual musical thinking as children enrich and expand their knowledge about music. While composing in groups pupils share, test, evaluate and develop individual musical ideas (Rogof, 1990; Wiggins, 1999/2000; Faulkner, 2003). This leads to a process where each child has the possibility to reflect on the experience of composing, and on the musical skills and knowledge that are attached to this process. This reflection will empower de development of her individual creativity and musical thinking.

METHODOLOGY

Action Research

According to Flinders and Richardson, action research "includes studies in which teachers use their own classroom as a place to implement untried teaching strategies, solve specific teaching-related problems, or document their own reflections on what they do in the course of a school day" (Flinders, Richardson, 2006: 334). Action research means to plan, to act, to observe and to reflect, allowing a deep analysis of the relationship between what is being done and what is possible to do (Kemmis, Mctaggart, 1998). According to the same authors, this leads to a better understanding of the teacher/researcher's own practice, promoting, through reflection and analysis, new possibilities for improvement in the classroom in a process that involves practice, theory and change (Bresler, 1994).

Action research allows the music teachers to look at themselves as teachers/researchers, collecting and analysing data in participative and reflective way, searching not for an objective truth but rather for the construction of multiple realities, recognizing each unique participant's perceptions and perspectives and the surrounding context that influences this perspective. Action research reports reflect these issues in the sense that the "research

experience is explained sequentially through reflective prose, marked with explanatory episodes and ending in a section that reflects the value of the study and findings within a broader context of so teaching and researching music" (Stand, 2009: 352).

   Regarding the use of action research as a methodology for analysing music composition with children, several researchers (Miller, 2004; Savage, Challis, 2001; Tavalin, 1995) have found that different topics such as the musical learning achieved by students during music composition activities, or the development of pupils identities as composers and musicians, provide a rich setting of questions that will be better understood through action research. Therefore, action research was used in this study and will be guided through a cyclical process pathway that embraces most of the characteristics of an action research design (Somekh, 2006):

- Integration of research and practice;
- Construction of the study through a collaborative partnership of participants and researcher;
- Drawing on existing knowledge and literature review;
- Commitment to promote powerful learning in participants;
- A cyclical design in which practice is informed by evaluation and reflection, leading to improvement of the teacher's practice and theory about the topic that is being researched;
- Involvement of high level of reflexivity that will be highlighted especially during the findings and discussion sections.

Procedure, Findings and Discussion will be written in the first person. They will reflect the thoughts and analysis of the first author after several dialogs and reflections with second author's views and interpretations about all the processes described. The second author acted as 'critical friend' (Bell, 2004; Pine, 2009), acting as a "*trusted person who asks provocative questions, provides data to be examined through another lens, and offers critiques of a person's work as a friend. A critical friend takes the time to fully understand the context of the work presented and the outcomes that the person or group is working toward. The friend is an advocate for the success of that work*" (Costa & Kallick, 1993: 50).

Research Design

A Music Composition Project was developed with all 72 children, aged 7 years old, belonging to the 2nd grade of a public school in the north of Portugal. These children were divided in three different classes of 24 children each, respectively class D, E and F (original letters used to denominate the classes). For the purpose of the research, the teacher/researcher divided the three classes in half; therefore, pupils attended music classes in groups of twelve.

The present research project was developed from October to May in a total of twenty music lessons of 45 minutes each. As part of the PhD fieldwork (first author), these pupils had already participated during six months in music lessons that focused on creative music learning through several activities related with sound exploration, improvisation and music composition.

Data was generated from participant observation by the teacher/researcher, video and audio recording the sessions, field notes, a questionnaire and self-reports. Both the questionnaire and the self reports served not only as a base for students to reflect on the musical work they had done, but also to provide researchers with information that could lead to a better understanding of children's thoughts, choices, emotions and ideas about the activities of composition. Besides, the questionnaire and the self-reports were a powerful tool to understand the meaning that the whole process had for each child.

Procedure

"Children around the world" was the 2008/2009 theme chosen by the school where this research project took place. The 3rd grade music activities were also, by decision of all the participants, connected with this theme. We also decided to start an interaction with a community/school from another country. After discussing this issue with the elementary teacher involved in the project, it was decided that this could be done through the exchange of letters, photographs, artwork, and written work made by pupils, audio and video files. Thus, music session planning focused, first of all, on an exchange, of musical and artistic materials between the two countries.

The work began with the presentation, reading and interpretation of the book "Banzo, the magical bird" by Regina Miranda. After this moment, I explained to the pupils in a metaphorical way, that Banzo, the magical bird, would lead us to new friends from other schools/countries. I had already left several posts in the internet showing some compositions made by these pupils on the previous academic year, and asking for collaborators from other countries that would be interested in working with us. However, by stating that it was Banzo

that would find our friends, a strong emotional connection with Banzo and with the possibility of meeting new friends was created, This acted like a spark for children's imagination and involvement with the project: "Where is Banzo now?", "Is he looking for our friends?", "Will be Banzo capable to find them?". After a few days, I told them the big news: "Banzo found their new colleagues!".

They were residents in Cabot and St. Louis, in the Unites States of America and were delighted to work with us. Children got very enthusiastic with the news and, as expected, children from both countries engaged in an intense exchange of photos, videos, letters and the children's music in audio files. Throughout this correspondence, pupils were sharing many ideas about their favourite things. I noticed that, among these, pupils always mentioned their favourite colour. This led to the idea of a music composition project about favourite colours. The project was divided in 5 stages:

1. Planning the music composition Project:

In dialogue with the pupils I proposed them a music composition project about their favourite colours. This idea was received with great enthusiasm. Pupils embarked on the project by planning their compositions through a musical composition guide (Fig. 1). This was done in groups of three or four elements.

Name of the students	Favourite colour	What colors suggest you sound and what colors suggest you silence?	What Dynamics suggest you the colors that you marked as sound?	Make a correspondence between each one of the colors and a musical instrument/voice	If these three colors represented a musical piece, what color would come first? And what would be the second? And the third?

Fig. 1: Music Composition Guide

After completing the guide, possible structures for the piece emerged, as shown in the following example:

First part

Begins with the metalophone slow and piano; the glockenspiel is the second instrument joining the piece, also slow and piano. Finally, we play the bongo drums, in a very smooth way. At the end of the first part we will make a **pause**.

Second part

The guiro begins the second part of the song, in a fast tempo and forte; after this, all the other instruments join this part and in the end there is a decrescendo.

By my suggestion these first and second parts were then called "Section A" and "Second B". I explained to students that, normally, this was the vocabulary used by musicians.

Interlude: Our American friends:

Although it was planned that children would exchange their new compositions with their American friends and that these new friends would send us their own compositions (created from the same music composition guide), this was not possible to do. Somehow, music teachers from Cabot and St. Louis, although very enthusiastic in the beginning could not lead the project until the end. This was mainly due to lack of time related to their school's duties regarding compulsory music activities of their music curriculum, and the many musical events that music teachers had to prepare.

Therefore, the interaction with the American schools did not have a major influence in the music composition project. Of course this interaction had a motivational role in the beginning, but the musical exchanges were lost. However, pupils continued exchanging (with the help of their primary teachers) letters, photographs, art works and written works made by them. Pupils never showed they were upset about the fact that musical interactions had ended. They were deeply concentrated in their composition tasks, the visit of Regina Miranda, the author of the book Banzo, and the concert, and so, somehow, they forgot what our intentions were in the beginning of the academic year.

2. Small group composition:

After finishing the music composition guides, the pupils started their work with the musical instruments. Each one of the small groups worked alone in the music classroom, during two sessions of about 20 minutes each. In the beginning this was not my intention. When I planned the necessary lessons for the project, I was thinking I could spread the small groups around the school as I had done in the previous year. However, rethinking some issues about the previous academic year (the second year of the PhD field work) and looking again to their music composition guides, I understood that the pupil's intentions were far more complex than the previous year. Therefore, and having in mind recent literature about action research, and music composition with children, I re-planed this moment, hoping that students could

feel they had more time and no distractions from the other group's work and that besides, if needed, they had all my attention.

3. Small group presentation of the musical compositions:
Then, all the groups presented their work to their colleagues. Before each one of the groups started their presentation I made a brief introduction to the music the pupils were about to play, stating their favourite colours, what sounds they had related to these colours, etc. At the end of all performances, the large group engaged in a reflective dialogue about what they had listened, mentioning their favourite pieces, what was lacking in some of them or what kind of musical instruments could be joined in order to enrich a certain musical work.

4. Large group composition:
This was the last stage of the compositional work. All together the pupils composed a larger piece, drawing on their ideas that had been the basis for the small group's composition works. This was a way for pupils to share their ideas in bigger settings that also provided them with more possibilities for their work. During this process I acted as moderator, trying to include ideas from all the students. Although this was not previously planned, I felt the necessity to help the students, by asking questions that could trigger their ideas. I asked things such as "How do we want our musical piece to begin?", or "What will be the tempo of our piece?" Slowly, the pupils engaged in a brainstorming process, trying their ideas in the musical instruments, or using their voice.

   In the end of the first session of the large group composition, I felt all the students were committed to the work, giving ideas, discussing them with their peers and with me, listening and evaluating each other musical ideas, and slowly getting to multiple consensuses about musical gestures and motivic material.

5. Outcomes of the project
After the compositions were done, all the classes started the rehearsals of their piece. In our minds there was the possibility of a concert that actually occurred on the 8th of May. Pupils worked hard during the rehearsal period, always, giving the impression that they were never tired. They wanted to play and to improve the performance of their musical piece. Many of them rehearsed their parts alone at home, imagining they had a xylophone in front of them, or playing in several percussive objects.

On April 23rd, Regina Miranda came to our school to talk about her work, made a workshop with the children and listened to one of the pieces that had been done by one of the groups. The performance of this piece included the full reading of the book. In the end Regina Miranda was sincerely moved and impressed with what she had seen and heard. She immediately promised the students that she was going to be present on their concert.

The concert happened on the 8th of May. All the school community was present. This included parents, teachers, and the school principal. Regina Miranda was also there, as she had promised. All the verbal comments made after the concert stressed the professional attitude of children. Some teachers mentioned they had never imagined their students could behave like that. In order to understand the pupil's perception about the concert and about the entire process of composing, in the following music session, they filled out a questionnaire and a report about their impressions and feelings of the entire process.

FINDINGS

We will now try to give a global interpretation of the findings, seeking to evidence the possible meanings of the data source's analysis, which will lead, in the discussion section, to a reflection about possible directions of improvement to teach practice (Somekh, 2006).

Self-Reports and the Questionnaire

The self-report was an unbound writing moment, without prepared questions, in which pupils could reflect and talk freely about the music they had composed, and the several processes that led to it. Pupils focused more on their favourite parts of the music and what the music made them feel. Just like in the questionnaire answers, when children talked about special characteristics of their composition, they usually mentioned musical gestures and global qualities of the piece. Sara, for example wrote that "The music is like the wind and the voices seem the wind blowing softly". In these self-reports pupils also mentioned the importance of the group during the music composition process. There were many answers that reported to the final concert given in May by the 72 pupils that participated in the study.

The questionnaire raised questions about: the reasons why the music composed by the pupils was (or not) important to them, children's feelings and thoughts about their composition, the difficulties they experienced, how they exceeded these difficulties, and what learning outcomes had withdrawn from the process.

The questionnaire collected evidence about pupil's perceived meaning of composing in the classroom. Like in the self-reports, answers suggest a high level of commitment and

involvement with the project; it is this involvement that seems to be the ground for construction of musical and extra-musical meaning. As stated in the theoretical background, the notion of meaning seems to be forged around the concept of embodiment, and the several interactions that pupils establish and develop within the surrounding context. Reflecting on the pupil's answers, these two issues, embodiment and the interactions inside the context, appear to us as deeply related with each other. Therefore we might argue that, the felt emotions mentioned by children in several points of the questionnaire are not only a product of bodily sensations and the experience of "motion" (Johnson, 2007:239) caused by the immersion in the musical material.

They are possibly also originated by the sense of belonging to a group and the relationship that was established with the school community. Children's answers to the questionnaires also denote that they value musical knowledge that goes far ahead from acquiring compositional skills. In fact, the pupils mentioned not only their development in instrumental skills, but also their understanding of several musical concepts. Besides, the pupil's statements related with musical composition presented their concerns about thinking in sound, about creating and performing using sounds in a musical way that could be meaningful to them.

Another salient feature is that children seem to experience music in a holistic way. When referring to the reasons they preferred a certain part of the musical piece, they did not talk about individual motivic material, such as certain part of the melody or the rhythmic motive of the percussive instruments. Rather, they drew upon musical gestures (Wiggins, 2003) and global qualities of the musical material.

Pupil's answers to the questionnaire indicate that they value musical composition in groups as a pathway leading not only to the acquaintance of several musical skills and concepts that seem to be connected to an effective development of musical thinking, but also to personal and social development, shaped on self-growing, self-realization and also on their words about the importance of working together and share their musical outcomes within the context they live.

Pupil's answers to the questionnaire reflect the findings of Robert Falkner in his article about group composing (Falkner, 2007). We identify ourselves with Falkner's words when he states that pupils "clearly place as much value on the piece of music for the personal and social experiencing of it. (…) Pupils repeatedly articulated the importance of, and pleasure derived from, making up music with and for other people and of performing and celebrating with and for other people" (Falkner, 2007: 109)

Video Analysis and field Notes – Small and large group music composition

Analysis of field notes and video recordings show that, during the development of musical ideas students work in a very informal way, resembling what happens, for example in Rock/Jazz bands. This suggests a strong influence of the context in which children live. In fact their musical lives outside and inside school, is surrounded by songs performed by their favourite artists that many times have engaged in music composition and performance without any formal musical knowledge. It is common to all students the character of a boy or a girl playing and composing with their guitar, the garage band that is beginning to make their first compositions without knowing what a musical note is, in a process that involves the sharing of musical ideas, the evaluation of those ideas among the band members, and individual efforts trying out new musical motifs while the other musicians play the song. This is what they see in television, what they hear from their older schoolmates, brothers or cousins. This also shows the need pupils have to relate what they are doing in school with their outside lives (Gromko, 2003). As an example we present a dialog between four pupils while they were composing in small groups:

(João) – You two (directing his attention to the two pupils that were playing a xylophone) begin together. Then you (to Bruno, one of the xylophone players) make a silence and I begin to play.

(Bruno) – O.K., let's try it.

(João) - And after this André starts playing, and then you play again.

There was a small pause. João announced excited:

- One, two, three, start!

The pupils began to play, happily, in a regular tempo. After a while they stop. Suddenly, the bass xylophone and the bongo drums create a rhythmic structure that draws my attention. I exclaim:

- Good!! – When I begin to work with the students on a closer way I feel like another member of the group, and not so much as the teacher. I share my ideas with the pupils, giving suggestions, which pupils accept or reject according to their views on their composition. When such a thing happens pupils often explain to me what is going on in their music, revealing their shared understanding (Wiggins, 1999/2000) of the musical composition, so that I can engage the process in a more fruitful way.

After pupils explain me their intentions and thoughts about the piece they are composing, I ask them to repeat it. The child that is playing the snare drum tries to find a rhythmic motive

that could fit the music that was being played by his colleagues during this rehearsal period. Suddenly, I have an idea. I share it with the members of the group, encouraging one of the pupils to improvise on the glockenspiel. Bruno begins to improvise in a jazzy way, with small musical phrases, with rhythmic groove. The rest of the group seems delighted with what they are hearing. After rehearsing a little bit, I encourage them by saying:

- Very well! Do you want to write it? We'll continue in the next session!

Students are thrilled and exclaim: "- Yes!", "- Uh!", "- Rock and Roll!", "- Cool!". They dance for a while. Bruno tries again his improvisation. The first notes are already memorized and now he is always starting in the same way. Bruno seems to feel strongly moved by what he is improvising. The first notes help him to guide his improvisation. Relating this with the theoretical review, we can have now a clear sense of the role that embodiment and emotions play in the process of meaning making. As stated by Johnson, "music is meaningful because it can present the flow of human experience, feeling and thinking in concrete, embodied forms – and this is meaning in its deepest sense. (Johnson, 2006: 236). This question of being moved by the music, of feeling it in our bodies is also present in the self reports and questionnaires as when students cite the emotions they are feeling while playing or composing their musical piece as well as when they make an appreciation of the composition like: "This music is calm and beautiful".

Analysis from this and other groups suggests the existence of a rotation process between individual and group work. Student's individual ideas appear in the form of complete rhythmic and melodic units. Pupils share their ideas by singing or playing them. After this, sometimes pupils engage in a dialogue to discuss the presented ideas respecting their view of the whole composition. In these moments there is an emotional and conceptual evaluation of new ideas. Embodied processes play a crucial role here; they are the bridge between what pupils listen and their final evaluation of new ideas. Pupils feel that a specific idea is or is not in the flow and groove of the overall composition. As stated by Damásio (1998, 2001, 2001), there is an emotional pre-reflection, an immediate bodily felt emotional state that will affect decisions taken by the pupils.

In this group João clearly emerged as a leader. João was very active during the music composition process and, in fact, he was guiding the ensemble. As we previously saw all the students had the opportunity to manifest their individual ideas. However, João was the one who did that within the musical context. This might resembles what happens outside the music classroom; from pupils statements in the self-reports and in questionnaires, it is possible to say that the small group music composition experiences created a rich setting for

pupils to reflect on their individual and social role inside and outside the classroom context. Findings from all data sources suggest that these children valued working in the group. Most findings were also identified in the large group composition process. Differences appear mainly in peer interactions. In fact, my intervention was furthermost necessary during the large group composition process. I had to mediate dialogs and pupil's interventions, in order to listen to all the ideas and organize them in the better way possible. However, pupils reinforced their idea of "our music composition", an idea that is also strongly represented in other data sources.

Video Analysis and field Notes - Outcomes of the project

Regina Miranda

As stated on point 5 of the procedure, on April 23rd Regina Miranda visited the school.

Other classes from this school had started to read other books from Regina and the school prepared the event with effort and enthusiasm. Children from this school (including the three classes involved in the research project) were thrilled to meet Regina, and worked hard in the preparation of this event. They painted two big panels with motifs from the book "Banzo", they made several drawings concerning other books from the author like "Zot", and they prepared several questions to ask Regina about her life and work.

The event began with a small introduction about Regina and her work as writer and illustrator. After that the first group of class D played their musical composition while a child was reading the book; this piece was chosen not only because it had many elements that were inspired by the book, but also because it had a gentle and smooth flow, which created a good voice ambient. Several musical features taken out from the book "Banzo", for example the blowing of the wind in the forest was present in this piece. This group was not the only one that took musical material from the book. One of the other groups, for instance, decided to include an imitation of a bird singing. Another group composed a musical piece named "Magic Forest". Although all the pieces were composed from their favourite colours, several elements that were alive in their memories come out during the music composition project. This seems to demonstrate the role that embodiment and emotions play in our memories (Damásio, 2000, 2001 Johnson, 2007), keeping them alive and allowing them to participate in our present thoughts and actions.

In the end Regina gave a workshop to children. In this workshop, pupils made a beautiful toy that when moved in circles looked like a rainbow flying. Children were amazed by the

colourful rainbows. One group from class D, and another one from class E, told me later, that they wanted to use these artefacts in the final concert.

This event seemed to be tremendously meaningful for the children that took part in the present research project. Pupils that played the music composition while the book was being read were later congratulated several times by their colleagues and all the teachers. The other groups from class D, E and F created new expectations to the final concert, and conceived new ideas for the presentation of their music. This gave not only a powerful contribution for self-growing and self-esteem, as also for the pupil's to value teamwork.

Concert

As already observed in the questionnaire and self-reports, the concert was a very important event for the children. It brought new meaning to the children's musical work as they had the opportunity to share their music with their parents, brothers and sisters, and with the rest of school community.

A few sessions before the concert I explained to children that a professional piano player, Marta, heard some of the children's music compositions and she wanted to play along with them. Children were amazed with this new possibility, and they immediately invited Marta to the rehearsals.

After the concert, when we talked about it, one of the things that the pupils always mentioned, was the fact that they felt like real musicians, not only because they were playing on a real stage, but also because they were accompanied by a professional piano player. As referred by Stauffer (2003) the new circumstances forged the "web of significance", shaping the ways children retrieved meaning from all the experiences described in the present paper. Comparisons among findings that emerged from all the data sources were grouped in several conceptual categories in order to give a better understanding of the children's own reflections and perceptions of the project. These categories are explicit in the following tables, and they are illustrated by several examples of pupil's statements taken out from the self-reports, questionnaire or field notes. They are presented here in an attempt to resume findings in relation to achieved musical and extra-musical meaning, as well as to the development of the children's musical thinking.

1. **Pupil's ascribed meaning to the composed pieces is related to:**

Learning, Self-growing and	Felt emotions	Belonging to a group	Relationship with the community and the micro

Self-achievement			context
"Because it was performed by me and by my colleagues"; "Because we worked together and we succeed in our composition"; "Because it was the first time that I participated in the creation of a music composition with my colleagues and that made me feel very happy and proud"; "The music gave the opportunity to acquire knowledge; "We learned the musical notes in order to play the instruments".	"This music moves us with joy and a feeling of freedom"; "I feel happy".	"Because we worked all together and we succeeded in composing a piece of music"; "Because I worked with my colleagues on this music"; "It was our group that composed it".	"It was a concert performed by the pupils with the teachers for the parents"; "I loved the concert".

2. Feelings related to the performance of the musical piece are divided in:

Learning, Self-growing and Self-achievement	Felt Emotions	Relationship with other mental images (Through emotional process related to the embodiment of musical performance)
"I feel a real musician"; "I feel fulfilled and very happy for playing well"; "I feel happy because I participated and I played bass xylophone"; "I feel more rhythm, more participation of all of us and more enthusiasm".	"I feel crazy with the music agitation"; "I feel happy because I'm playing the triangle"; "I feel happiness"; " I feel happy and quite"; "I feel nervous, concentrated and happy"; " I felt happiness and peace"; "I feel very well and very quiet".	"I feel I'm on beach listening to the sound of the sea waves; "I think I went for a walk with someone"; "I feel I am in a spacecraft"; "I feel I am flying"; "I feel the magic of the forest and I think the magic is in the air".

3. Difficulties felt by students during the composition process are related to:

Composing	Performance/skills
"To know what instruments would sound good with the others"; "In the beginning we were confused as we didn't know who was the first one to play, how the piece would continue and how it would end…" "To pass from the music to the instruments"; "To know what were the appropriate musical notes".	"Playing fast on my instrument"; "Playing and singing at the same time"; "Give the space (meaning pausing) each time I played on the drums"; "To play the piece".

4. Pupils overcome these difficulties through:

Help from the teacher	Individual work	Group work
"With the help from my teacher"; "Looking to the music teacher and rehearsing"; "Listening carefully to what the music teacher was saying while she talked with us".	"I practiced the musical notes a lot at home"; "I kept practicing until I got it"; "With a lot of attention, effort and hard work";	"During the rehearsals"; "Listening to the music my colleagues were playing and practicing"; "With the help of my classmates".

5. Pupils learning's during the music composition process are related to:

Self and social growing	Propositional/ Conceptual Knowledge	Procedural knowledge: Performance	Learning to compose
"I learned to control my fears and acting on a stage"; "I learned that when we work together the final product is better"; "I learned that magic exists".	"What is dynamics, tempo, etc"; "I learned that musical notes are important because they define the rhythm of a song"; "I learned the musical notes to know how to play the musical instruments"; "Musical notes".	"Being more rhythmical"; "I leaned to play"; "I learned how to sing and how to play the bass xylophone"; "I learned how to sing!"; "I learned to play an instrument".	"I learned the invention of composing"; "I learned how to compose the piece"; .

6. The meaning of music lessons is related to?

Self growing	Propositional/ Conceptual Knowledge	Procedural knowledge: Performance	Composition
"To work and become better and better"; "It's nice to play, it's fun to learn how to compose"; "The love for playing a musical instrument".	"We learned new things about music"; "We learned several issues and concepts like rhythm, pulse, high and low sounds"; "We learned the musical notes to play the instruments".	"We learned to play and to sing"; "Playing several musical instruments and compose several pieces of music"; "To learn how to sing well and play well".	"To compose many pieces of music"; "To play on the instruments and discover their sounds"; "To learn how to compose".

DISCUSSION

Findings from the present research project indicate that group composition may contribute to the development of individual musical thinking, as individual acts of communicating new musical ideas are evaluated by the group, through a shared understanding of the musical piece as a whole. Furthermore, this seems to lead to several moments of individual reflection that indicates the children's concerns about the way they develop their musical ideas, the

learning of several musical skills and concepts, and their role as musicians inside and outside the music classroom.

Emotions and the relationships established inside the surrounding context seem to play a decisive role on this process. According to children's perceptions of the process of group composing, the development of musical thinking, and the musical and extra musical learning outcomes that emerged during this process seem to have provoked a feeling of self-growing and self-achievement, that grew as they increasingly felt emotionally connected to the musical work and to the group they were composing with. This emotional connection reflects the literature review about the embodied enactive account paradigm and Damásio's view of emotions and feelings. Our findings suggest that the emotional connections experienced by pupils might be reached through several embodied processes that bring together the children's felt emotions, and the way these felt emotions shape and are shaped by the involvement of each child with the music they are creating and with those that are working with them.

The consequences of these deep connections will influence not only children's musical thinking and knowledge but will also contribute to the children's capacity to work with a group, to work alone, to fight and overcome their fears, to let their imagination flow freely, and to believe in their own capacities. As mentioned by Campbell (1998), the processes involved in such a musical experience are linked to the body and always related to the children's life experiences, knowledge and emotions.
Therefore it seems clear that small and large group composition activities are a powerful means for children to engage in music in a meaningful way.

As a musical teacher I recognize in these findings the urgency to rethink music composition in the classroom in terms of small and large groups. The fact that children, when engaged in group music composition activities, look at music as an integrated musical experience, that has deep effects not only in the development of musical capacities but also in what concerns individual and social growth, is of great value to reflections about music education in general. Indeed it is clear for me now the importance of planning musical activities in which children have the opportunity to share their ideas and create new music together. The presentation and sharing of novel ideas should be encouraged in the music classroom setting. Children should have the place and time to work together in a non-directive way, as they engage and create their own solutions for the problems that come out during music composition. This might be easier in small group composition, that seems to provide a more creative and informal setting, where children feel comfortable by relating this kind of experience with their understandings of

what happens outside the music classroom, where "real" musicians create their compositions. Nevertheless, large group composing promotes their sense of belonging to a group, provoking in children the feeling that they have exceeded themselves, as they have to share their ideas with more children, and they have to think in a more complex musical way. Besides, these findings suggest that, at least in younger ages, pupils may need to work in smaller groups before they engage in larger settings.

This research allowed me to have a deeper understanding of the emotional and social processes that occurred while children were composing, and the way these processes shaped meaning created by the children. It also provided me with new points for reflection in order to improve my practice as a music teacher and to give better opportunities for pupils to learn.

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