COUNTERPOINTS OF THE SENSES

BODILY EXPERIENCES IN MUSICAL LEARNING

MERYC19
PROCEEDINGS

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FACULTY OF ARTS
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MERYC19

COUNTERPOINTS OF THE SENSES
BODILY EXPERIENCES IN MUSICAL LEARNING

Editors
Luc Nijs, IPEM, Ghent University, BE
Hans Van Regenmortel, Musica, Impulse Centre for Music, BE
Charlotte Arculus, Manchester Metropolitan University, UK

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Tim Theo Deceunick, photographer, BE

Layout
Patty Kaes, Musica, Impulse Centre for Music, BE

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Music Educators and Researchers of Young Children

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Introduction

In March 2019 no less than 100 scholars and practitioners of early childhood music education, inspired by memories, intentions and expectations, driven by their emotional involvement and urge to express their scientific and practical understanding of musicality, found their way to the beautiful city of Ghent to take part in the EuNet MERYC19 Conference.

This biannual conference travels across Europe as a meeting place for theory and practice, science and the arts, both with their own idiosyncrasies, inviting us to keep on discovering and developing new perspectives, nuances and approaches towards this elusive and extravagant human behaviour we call music.

EuNet MERYC focuses primarily on European practices and research but increasingly attracts presenters from all over the world, representing no less than 23 countries. All submitted abstracts have each been blind reviewed by two members of the review committee, which consists of experts in music education research and practice, psychology of music, and other relevant fields. We thank them all for their precious time and careful attention in reviewing the submissions.

The theme of this year's edition was Counterpoints of the senses. Bodily experiences in musical learning, a theme that in our view is of utmost importance for shaping the future of early childhood music education. After all, children engage with all their senses and experience music through their sensorimotor, affective and cognitive resources. Accordingly, musical interaction is not a mere auditory experience: it addresses the whole body. It is precisely this bodily experience of music that opens the door to the interplay of the senses, invoking the richness and meaningfulness of an empowering musical experience. Insights on the role of the body in music learning and on this interplay of the senses can fuel educational practices and as such provide children with rich musical experiences.

We thank all the participants for sharing their interesting work and for their enthousiastic participation. Most of the conference's presentations and workshops have been collected in this publication.

Additionally, we wish to thank the MERYC19 keynote speakers, for their willingness and enthusiasm in sharing their expertise and insights. We are convinced that their talks addressed important aspects of the conference theme.

MERYC19 was hosted by IPEM at Ghent University. IPEM is a leading research institute in the domain of systematic musicology and beyond. It is renowned for its work on embodiment in musical interaction. The second organising partner was MUSICA, Impulse Centre for Music an independent art organisation that stimulates a conscious and adventurous experience of sound and music. Musica strives for music participation for everyone, regardless of age, cultural or social background. The cooperation between IPEM and MUSICA represents the DNA of EuNet MERYC: bringing researchers and practitioners together.

We would like to thank all colleagues who joined us in organising this conference, as well as Ghent's brand new landmark, De Krook, for its hospitality.

Luc Nijs - IPEM Institute for Systematic Musicology
Hans Van Regenmortel - Musica, Impulse Centre for Music
Charlotte Arculus - Manchester Metropolitan University

Part I - Keynotes

Moving towards music: motivation, identity, agency and co-ordination through musical engagement in the early years

Alexandra Lamont
Keele University
Keele, United Kingdom
a.m.lamont@keele.ac.uk

Abstract

This opening keynote will set the scene for the conference by presenting a broad brush of theory and research covering the early years of musical development. Adopting a developmental perspective, I will talk through different examples of sites and contexts of early years musical experiences and link these to theories and models of musical and general development and to developments that follow on from these early experiences. I will cover physical, cognitive, and social responses to and engagements with music from infants, toddlers, pre-schoolers and children at the start of school. Beginning with the earliest physical responses to music in utero, I will span topics such as the role of parent-infant interaction and synchronisation through music, the ways in which toddlers negotiate their access and responses to music, and the early stages of developing musical identity in relation to playing musical instruments and singing. These will be linked to a range of useful theoretical perspectives for understanding musical movement, embodiment, and engagement in the early years. The key theoretical concepts of listener-music-situation, of agency, autonomy and control, of engagement, and of developing musical identity will be interwoven through this review of empirical research.

Bio

Dr Alexandra Lamont is a senior lecturer in psychology of music at Keele University and recent Editor of the journal Psychology of Music. She is a member of the Centre for Psychological Research within the Research Institute for Social Sciences and Editor of the journal, Psychology of Music. Dr Lamont's research centres on issues of musical development and musical engagement across the lifecourse. The main research question is why and how people choose to engage with music. Why does a toddler respond well to a familiar piece of music? What can children learn about themselves through music? Why do we experience strong emotions in relation to music at festivals and live concerts? What kinds of social bonds are formed through active musical engagement? Her research focuses on exploring these questions in everyday settings and placing musical experience in the wider context of people's lives.

Embodied learning in Dalcroze-inspired music education

Marja-Leena Juntunen
Sibelius Academy, University of the Arts
Helsinki, Finland
marja-leena.juntunen@uniarts.fi

Abstract

For children, body movement is a natural way to respond to music, to experience it, and to learn about it. Recently there has been an increasing interest in music education practices to apply body movement. There is also a growing number of studies to understand the role of movement for (musical) learning, which hold that learning processes and body movements are inextricably bound. Within music education, using movement is a way to enhance embodied learning.

Embodiment has become a key concept in many disciplines like the cognitive sciences, sociology, philosophy, and psychology. The phenomenological notion of embodiment emphasizes the holistic understanding of the human being and the embodied ways of knowing. Understanding learning from the embodied perspective avoids the distinction between perceiving, thinking, and acting and asserts that in learning they all work in close interaction and affect one another. Learning is influenced by thought, emotion and bodily experience alike. Embodied learning is learning based on and from lived experience of interaction of self with the physical and social environment.

In my keynote, I will examine how children learn music through body movement in Dalcroze-inspired music education, which develops above all bodily knowing of music. The role and quality of movement and embodied experience in such education will be discussed.

Examples of Dalcroze teaching with children will be demonstrated through video recordings, and the practical ways in which children's embodied learning can be enhanced will be discussed, paying attention to that in musical learning, interaction and social relationships play a crucial role. Also, a number of studies that investigate the use and role of body movement in music teaching and learning will be reviewed.

Bio

Marja-Leena Juntunen (PhD, LicEd, MM) is a professor of music education at the Sibelius Academy, University of the Arts Helsinki, Finland.
Her main research interest areas cover narrative inquiry, school music education, music teacher education, higher music education, embodiment and Dalcroze pedagogy. She has published widely in international journals and books as well as written textbooks and teaching materials. She has served as a review reader in several research journals. Currently, Juntunen is a research leader in a collaborative study with Åbo Akademi University on the quality of music education in primary schools in Finland and a group leader and researcher in the ArtsEqual research project, funded by the Academy of Finland.

“When the music ends it stays in the body” Young children’s engagements with recorded music in educational settings

Claudia Gluschankof
Levinsky College of Education
Tel-Aviv, Israel
claudia.gluschankof@gmail.com

Abstract

Listening to recorded music is likely the central music involvement activity for adults in modern society, thanks to technology development and accessibility to recorded sound. It has likewise become a ubiquitous feature in early childhood settings, in which the children are “enmeshed in an immense web of material and discursive forces, ‘always intra-acting with everything else’.” (Moss, 2016, Kindle Locations 165–167). Material webs here are the recorded music pieces and the environment, and the discursive forces are the various educational discourses of young children’s lives: their parents’, their teachers’, the Ministry of Education’s.
The literature on music listening in early childhood suggests structured ways of listening, mainly (but not only) to programme music (see Cohen, 1997, and Hefer & Cohen, 2015, on the “mirrors” approach), free moving to music chosen by the educator, and others noted in empirical studies (e.g. Gorali-Turel, 1997; Kohn & Eitan, 2016; Sims, 1987). The developing and changing engagement of young children with self-chosen recorded pieces (from the repertoire available in the educational setting, necessarily curated by the educator), in self-initiated and self-directed activities, is less known. Children may engage with music during their free play, but educators are not always aware and appreciative of it. When they are, the children’s embodied musical understanding is transparent: through their movements they express their understanding of the musical style, the structure of the piece, its directionality and complexity (Gluschankof, 2006, 2014, 2018).

In this presentation, the embodied musical understanding of children of diverse cultural traditions (Middle-Eastern and Western) and languages (Arabic and Hebrew)—all of them living in a modern and globalized society—will be presented through their own choreographies to self-chosen music (instrumental and vocal), as documented in videos. Children experience the world multimodally, therefore records of their talking about the experience and drawing it will be included and discussed, allowing us to form impressions and insights about their musical understanding and listening experience at large.

Bio

Dr. Claudia Gluschankof holds a PhD from the Hebrew University of Jerusalem and is Senior Lecturer in Music Education at Levinsky College of Education, Tel-Aviv, Israel, teaching in both the Early Childhood Education and the Music Education programs. Her research interests focus on the musical expressions of young children, particularly on the self-initiated play of young children in various cultural contexts, especially among Hebrew and Arab speakers, and the identities of teachers. She has presented her research in many international conferences and in various peer reviewed journals, such as Music Education Research, Arts Education Policy Review, and Contemporary Issues in Early Childhood. Gluschankof is also currently a reviewer of international music education publications.

Part II - Research Papers

What is the potential of music as emergent knowledge?

Charlotte Arculus
Manchester Metropolitan University
Norwich, Norfolk, UK
charlottearculus@gmail.com

Abstract

In this paper I take a new-materialist and non-representational approach to ask: How can improvisation in the temporal arts reconceptualise and broaden our adult understandings of young children's communication and knowledge?

I draw on two filmed events from the recent SALTmusic project (Pitt & Arculus 2018). This filmed event data has been re-turned to many times used to illustrate unique and particular events which took place in the past, but when re-viewed and re-told constitute a new and particular happening or entanglements (Barad, 2007) between the original event, the video technology which brings the past into the present and the philosophical thinking that the events inspire.

The temporal arts are intrinsic, indescribable, knowledges based in relation and movement (Manning 2009). Improvised temporal arts practices are not concerned with representation or reproduction and they offer an alternative to the ways in which spoken language in early childhood is increasingly used to narrate, describe, direct and name (Maclure, 2013, 2016). In the first part of this paper, I critique the fixation on young children being made to talk as early as possible and call for improvised arts practices as de-colonising pedagogies where children's own knowledges are able to inform and shape their education.

I re visit Trevarthen and Malloch's Communicative Musicality and Stern's ideas on vitality affect and the present moment to see how they entangle and transform within new materialist philosophy. Thinking with Deleuze and Guattari's (1987) ideas of refrain and event, I focus on 'pedagogy of improvisation' (Lines, 2017) as having unique and particular affordances for collaborative thinking with movement, sound and gesture. I will discuss improvisation, and its relation to young children's transversal, rhizomic thinking (Dahlberg 2016) as an ethical responsibility to the give-and-take, in-the-moment, on-going creative processes that are unfolding. I resist dominant forces in education policy that colonize childhood and attempt to make pedagogy a fixed and measureable object.

Keywords
New materialism, multimodality, improvisation, temporal arts, movement, talking, communication, literacy

Context: Saltmusic and the Tyranny of Talking

The background to the SALTmusic project is the increasing anxiety in the UK for children, particularly those from economically disadvantaged backgrounds, to be talking as early as possible. The school-readiness and word-gap agendas drive an almost un-contestable focus on small children's acquisition of words. Susan Blum (2018) uses the term 'Wordism' to critique the idea that language is words and more words are better. The individual 'word' dominates as the primary unit of analysis in education; words are 'celebrated, counted, accumulated - or found missing' (pg. 7). Children without words, or with fewer words than others, are invariably problematized.

SALTmusic was a research project for young children (24-36 months) diagnosed by speech and language services as having communication 'difficulty' or 'delay'. The project was an interdisciplinary action research project, co-delivered by speech and language specialists and music specialists (Pitt & Arculus 2018). The SALTmusic approach recognised that the problematizing of children's lack of words places anxiety, guilt and stress upon children, parents and practitioners which in turn impacts on interaction and communication. The opportunity to engage with children playfully, on children's terms becomes hijacked by an imperative (driven by the word-gap agenda) for adults (parents and educators) to be talking, naming, describing and narrating through words. This tyranny of talking (my term) could be seen as representing the world rather than engaging with it; ignoring other vital, creative ways in which children communicate.

It is almost as if the purpose of education is to make children into adults as quickly as possible. There is a profound lack of interest in the actual knowledge of and abilities of children (Voneche 1987, quoted in Cannella and Viruru 2004). Children are described in ways that both embody and reconstruct colonialist views of the world (Cannella and Viruru 2004 pg. 87). Children 'are the largest group of people who have been othered, marginalized and colonized' (ibid pg. 9). Language is used as a critical dividing factor to distinguish between 'civilization and barbarism' (Seed 1991 in Cannella and Viruru 2004). Language is the human behaviour most deeply accepted as truth (Barad 2003, Cannella and Viruru 2004) and thus feeds into conceptualisations of young children as lacking any real knowledge or understanding of the world (Maclure 2013). Post-colonialist thinking labels babies and toddlers as barbaric since they have not mastered spoken and written language (Gluschkof, 2019 in print).

A world without language seems unthinkable to most adults. Yet it is an everyday knowledge of young children. This unthinkable, talk-free world is also central to a variety of improvisational interactive practices in music and dance. It is a world that was created during SALTmusic sessions. Performative and non-representational understandings, such as those encountered during SALTmusic contest the unexamined habits of mind that grant language an ontological hegemony (Barad 2003: 133). So, I ask: if we bring the 'barbaric' children and 'unthinkable' practices together, what new, musical, embodied knowledges may emerge?

Revisiting Communicative Musicality & Daniel Stern

The patterns and rhythms of relational communication that emerged between children, materials and adults during the SALTmusic sessions were interactive and expressive with their own meaning and knowledge - what Cross (2009) describes as a floating intentionality. They constituted a shared or mutual understanding that, like music, is not describe-able or representation-able through words.

A broader anthropological perspective shows that the primary unit of linguistics is interaction within which one can identify sounds, sound patterns, signs, grammatical patterns and the many intended and unintended effects of the linguistic encounter (Blum 2017). This foregrounds ways of interacting which are musical, complex and multimodal. Theories of Communicative Musicality (eg. Trevarthen & Malloch, 2014, Dissanayake 2015 have contributed greatly in making temporal arts visible in infancy and have been gaining ground in recent years particularly in early childhood education. Communicative Musicality has emerged out of a wide variety of academic disciplines: biology, psychology, musicology, anthropology and neuroscience bringing a transdisciplinary perspective placing the temporal arts in the centre of what it is to be human. However, the philosophical problem comes when these aesthetic behaviours are situated as a beginning to what comes next in both developmental and evolutionary terms - a preverbal protomusic (Malloch & Trevarthen 2018) or the first step on a linear trajectory towards the preconceived outcome of a modern, talking, adult human.

I would like to take these ideas of temporal arts, weaving between people and take a theoretical leap into a new materialist philosophy where reality is considered to be movement rather than stasis and consider the phenomena of Communicative Musicality as an ongoing, emergent and immanent operation at play in the relations between people and the world rather than the foundation of a superior outcome of spoken language or musical identity. Cartesian enlightenment philosophy, deeply flawed, yet still influential, considered reality to be fixed and absolute and hierarchical. Human thought was considered to be top of the reality food chain and language the expression of thought. Minds were separate and above bodies and thinking was

the transcendent outcome of doing and being in the world. Interaction in this fixed reality assumed boundaried, individual, subjects making contact with each other, exchanging meaning, what Manning (2009) calls a self-self (or self-other) model of interaction. Karan Barad's ideas on intra-action (2007) and Deleuze and Guattari ideas of immanence, territories, rhizomes, refrains and machinic heterogenesis lay out a reality which is mobile, in-process and interconnected rather than hierarchical and fixed. Everything is both part of and consisting of everything else. Stern (1985) foregrounded the relational aspect to being in the world in his influential studies on interpersonal infants that laid the ground out for Trevarthen & Malloch' s theories of Communicative Musicality. Manning describes Stern's work as treating 'the relation as the node of creative interpersonal potential, shifting away […] from a self-self model of interaction toward a radically empirical notion of immanent relationality' (2009:35). Speaking about therapeutic processes and the importance of the present moment, Stern said 'We move from an enquiry about intentions, means, and goal states to an enquiry about processes of creation, emerging and becoming' (2010: 126). However, while Stern coined and used the term Affect Attunement to express the quality of shared feeling, focussing on the relation, Trevarthen & Malloch use affect attunement to describe an exchange of affect for a 'mutually beneficial 'inner' purpose'(2018: 14), focussing on the inner individual rather than the relationship.

However, in a process ontology, the idea of individuality no longer stands in fixed way. Identity is porous, relational and in flux with encounters in the world. Both Stern and Manning contest the stable self. Therefore, following Stern and Manning, Communicative Musicality could be seen as the relation raising the possibility of music as Deleuze and Guattari understand it: a creative, refranic force that makes the world rather than something human beings do to make contact, interact and grow a musical identity. It is noteworthy that Deleuze and Guattari return again and again to children's improvised refrains in order to speak about the way the whole universe moves. They never attempt to explain music declaring - "it is not really known where music begins" but they talk about the world through music. How refrains make, unmake and remake the world. Their complex philosophical ideas are a testament to the knowledge of children, small birds and the universality of music.

Pedagogies of Improvisation

The practice of improvisation is a form of what Deleuze and Guattari call rhizomic thinking (1987). Rhizomic thinking creates itself as it goes along, continually inventing itself in the moment. It is a state of flux, entangled with relations and encounters. An experimental dealing with what is not yet known, that which is emerging, that which is yet to be discovered. In a new materialist reality, improvisation becomes very significant because it deals with what is actually going on in the world rather than seeking to describe or reproduce or fix it (territorialise it) in the way conventional

thinking and behaviour does. Young children are very good at improvisation; they are rhizomic and trans-disciplinary thinkers (Dahlberg 2016). They are constantly making and remaking heterogenous semiotic connections unencumbered by representation and unhampered by language. Therefore, the practice of improvisation as a pedagogical approach is particularly fruitful in getting behind language and representation and alongside children in order to investigate new worlds.

The idea of a pedagogy of improvisation, was central to the SALTmusic practice it involved, to quote David Lines, 'a responsibility within the unfolding ensemble to stay sensitive and also keep exploring. It requires openness, alertness and attentiveness to sustain creatively' (2017: 56). SALTmusic strove to be an ethical and emergent practice attending to the give-and-take responsibility for the in-the-moment, on-going creative processes that were happening.

The Events

Having deeply contested the hegemony of words, representation and reproduction, I am not reducing the performative happenings into description or notation. What follows is an incomplete list of materials, movements, sounds and what happened with them. This is then entangled with theory situated in new materialism and process ontology.

Event one – Round and Round

> Involved in the event are 5 people: A child, his father, the researcher, a dance and music specialist and myself (filming with an ipad). We are around a bucket that spins. Other people are in the room. The room is also full of objects, mostly abstract – cloth, tubes, balls, and instruments. There is an ambient soundtrack playing in the background The film clip lasts for about 6 minutes, which is an unusually long time to film. The bucket is attached to a turntable so it can spin around. In the bucket and around the room are a variety of colourful tubes. A number of motifs or refrains are introduced during the sequence. They are in different modes and between different people/things, they include (but are not limited to): bucket spinning; tubes placed/dropped in the bucket; smiling; eye contact; looking through tubes; dropping tubes from a height into the bucket; voice play "weeee" (to the spinning bucket); movement play; spin-hand-gesture; voice play/micro song "round and round and round"; voice play "stop". This multiplicitous and multimodal conversation/ chorus/ensemble continues between people and things for the entire clip. Refrains keep returning and transforming.

5 humans are fully engaged in the encounter, making musical refrains and polyrhythmic encounter through the materials. To say that 'the child drops the tubes into the bucket' or 'the dancer makes a "weee" sound' is as meaningless as extracting a single note from an improvised tune. It is the movement of the assembled components, the entanglement to what has past and what may occur that gives this heterogenic machinic opera its sense. I could suggest that everything happening in this event is music. Music is between everything, the repeating gestures that return and transform. Davies (2014) describes encounters as an always-evolving story that requires not knowing what is happening or where things are headed. Schulte (2013:2) conceives gaining children's trust as unstable, provisional, multiple and incomplete, not something a script or score can be written for; it requires openness, alertness and attentiveness to sustain. Encountering in this improvisational pedagogy takes you beyond habit and the already known. It is what Biesta describes a world-facing pedagogy (2018). Being open, being affected by the others (including non-human others) is an explicit practice of improvising artists. It involves working in ensemble and feeling out towards the boundaries of self to become emergent with others.

This encounter has no measureable or reproducible outcomes. It is impossible to say what has been 'learned'. It might be possible to say that trust was gained or that it felt significant. Relational co-production of multiple refrains is tricky to quantify. And yet process philosophy sees this entangled symbiosis as the stuff of life, critical and world making.

Event two - the Boats are on the Sea

> This was filmed later during the same SALTmusic session. The small group of parents, children, speech and language practitioners and music and dance specialists have cleared the room together and have just gathered around a large blue piece of stretchy lycra fabric. They start to bounce it and create a pulse. Paper boats are introduced. There is a shussshing vocalisation, a bit like the sea and a bit like a call for quiet. I am holding the camera at the far end of the room away from the group. Everyone else is around the lycra. As the lycra pulses, it becomes noticeable that the child who was filmed in clip 1 is singing softly. He suddenly sings out loudly into the room. His song is extraordinary and beautiful, the tune is complex and it has six words. He sings it once and all the adults join in. My voice is clearly audible on the film clip and what becomes clear on re-view is that I and the other adults don't reproduce the child's original tune - we transform it into something else. The event continues as the child conducts the singing of his transformed song through the shared pulse of the lycra.

The child's song emerges from his body through a unique and particular situation and what happens next emerges from that song. The song is an Event; it is an act of creation, a new thing in the world. He 'launches forth, hazards an improvisation. But to improvise is to join with the World or meld with it. One ventures from home on the thread of a tune' (Deleuze &Guattari 1987:363). Surrounding the event is a pedagogy and community of improvisation, which is attuned to what is emerging through the material affordances of blue lycra fabric that joins people together through a shared pulse; the special geographical, aesthetic, material and psychological space full of open-ended possibilities: the convivial, improvised, rhizomic, refrain-ful hanging-out that happened earlier and, I would suggest, the absence of talking, directing, representing or reproducing.

Massumi (2010) explains how an event becomes an event only when the constituent parts are actively and creatively assembled. Everything which enters the event must do so actively not by proxy or representation or pre-constituted content. People approach the event aware of its uniqueness and particularity and therefore pre-constituted positionings must be left behind.

The improvisational pedagogy of the SALTmusic space, focussed on what is happening rather than outcomes, enabled the child's knowledge and creative power to become foregrounded and visible. The song does not spring from an isolated and boundaried individual child but from a set of relationships and processes that are in play. The song is a movement coming from the child's body as a new thing into the world. When the adults territorialise the child's song, he re-territorialises through his conducting. The group don't territorialise in order to direct the child, they do it through a movement and desire towards his song. The song is a manifestation of the relationship and the group follows where the relationship leads.

This then, is a call to develop practices alongside children that are alert to when words colonise, tyrannise, or exclude. To engage in open-ended, improvised encounters with children and acknowledge that children have something of their own to bring. And, drawing on Biesta's world-facing pedagogy (2018) and Tim Ingold's transformational anthropology (2013) to encounter the world with children. To learn what children can do from children and to learn what music does by doing it with children.

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Body…this stranger? A study on nineteenth-century early childhood music education in the Italian context

Giovanna Carugno
Rinaldo Franci Conservatory of Music
Siena, Italy
giovanna.carugno@gmail.com

Abstract

This paper aims to present the results of a historical research, intended at bringing to light early practices in music education for children aged 3-6 years old, with particular attention to the activities carried out in the so-called asili, presepi and giardini d'infanzia, established in Italy during the first half of the nineteenth century. By analyzing the information reported in primary sources (e. g. articles published in local newspapers, statutes of the preschools and teachers' handbooks), this paper will focus on bodily experience within the context of the educational pathways proposed in the above-mentioned preschools, with the final goal to provide an overview on how music education was conceived in the age before the expansion of active learning methods. The findings of the research show that bodily expression was included in musical rhythm games and singing practice, involving children in moving to the rhythm or in creatively dramatizing song texts through body actions. There is also evidence of the use of simple nursery rhymes accompanied by gestures and sometimes reinforced by adding objects and devices, like balls. Such an integrated approach demonstrates that embodiment was considered not only as a powerful tool to experience music in a practical way, but also as an instrument that could enhance the whole development of the child, being associated with playing as a fundamental activity for the emotional, physical, cognitive, and social development of the young learner. This undoubtedly recalls the pedagogical thoughts of Friedrich Froebel, who highlighted the relevance of motor expression in early years education, influencing music teaching in Italy and inspiring the elaboration of new didactic strategies increasingly tailored to the needs of the child, which flourished at the beginning of the twentieth century thanks to the works of Maria Montessori, Rosa Agazzi and Laura Bassi.

Keywords
Bodily experience, Italy, music education, nineteenth century, preschool

Introduction

Education for children aged 3-6 in the Italian school system started to be provided in the first half of the nineteenth century thanks to the development of pedagogy as an academic discipline that centered on the needs of the child by heralding a "rediscovery of childhood" (Fabbroni & Pinto Minerva, 2008), renovating current educational practice and beginning to focus on teacher training.

Schools for children of less than six years were funded since the eighteenth century as the result of private initiatives supported by religious entities as in the case of scolette and custodie, whose function was to care for children so their mothers could hold down a job as factory workers.

The poor hygiene conditions, the low quality of teaching and the lack of a safe environment rendered these schools inadequate to foster the development of the child (Gironi, 2011, 24).

Such an outlook changed in the nineteenth century, when the child stopped being considered merely as an individual to be cared for and preschools evolved into educational spaces where students participated in learning activities intended to provide them with basic literacy before they reached the compulsory school age.

These schools, called presepi, were widespread in Northern Italy, as demonstrated by the successful experience of the Pio Ricovero dei Bambini Lattanti e Slattati, established in Milan on 17 June 1850 by Laura Solera Mantegazza (Rizzini, 1980), which model was reproduced in different rural and industrial areas, such as in Varese, alongside those of the asilo and of the giardino d'infanzia, the contemporary Italian version of the Kindergarten invented by the German pedagogue Friedrich Froebel.

While the presepi retained a close connection to the tradition that began with the scolette and the custodie, mostly ensuring day-care for children younger than three, both asili and giardini d'infanzia kept a stronger commitment to formal education and were specifically devised to welcome to children between the ages of three and six years.

Among the activities carried out within the preschools, there were multiple opportunities for the children to become involved in music, which, however, lacked a formally developed education plan and the allocation of specific times devoted to the acquisition of a general music education.

In other words, the educational program of preschools did not regard music as an explicit field of experience, even if educators and philosophers were well aware of the importance of music, defined not only as "pleasure" and "enjoyable" amusement, but as an invaluable resource in the education of the child (Rosmini, 1857, 266).

Thus, music education was seen as an educational tool, rather than as an objective in its own right, and, despite the theoretical recognition of its intrinsic value, in practice the musical development of the child was nurtured in a subsidiary way, through the inclusion of musical-related activities in the context of other educational experiences, with a view to adding value to the whole learning path.

Music-related activities in preschools and the role of bodily experience

Singing and marching

In the asili and giardini d'infanzia, music acquired a crucial role as a medium to reinforce the playful character of some educational activities (such as gymnastic exercises) and to accompany the school daily routine (breakfast, lunch, play, prayer, and sleep time). Making music meant primarily singing, and each asilo or giardino d'infanzia had its own repertoire of songs. Singing was widely adopted by the teacher as a means to convey moral messages and values (e.g. fraternity, patriotism, loyalty, respect for parents), or to educate children to a belief in God, according to the religious nature of the school.

Historical sources make the statement about the lack of free body movements of the children somewhat doubtful.

Iconographical evidences show that songs were performed by the children all together, either standing in front of the teacher in a circle, probably without movement, or being accompanied by the teacher at the piano while remaining seated at school desk.

Conversely, during the gymnastics classes, teachers resorted to singing in order to facilitate physical movements and enhance the rhythmic coordination of the children, who worked in pairs on in larger groups. Composers devised a particular type of songs, called canti ginnici, that referred to specific body parts (hands, feet, shoulders, etc.) or movements (jumping, walking, etc.). The text of the song made the required gestures clear to the children. In most cases, these gestures could be recognised from the daily activities of their family. Such exercises were performed in the school garden, in accordance with the pedagogues' suggestions about children's movement.

Aporti (1846, 26) argued that, after the age of two, children should be enabled to move without any risk or danger, in an outdoor open-space area in the fresh air. This suggestion seems to anticipate the attention allotted by the active methods to the learning environment, allowing children to move freely, and, in the words of the Mantuan priest, "encouraging the development and maintenance of a good state of physical well-being". Aporti added that movement allows children to breath better. However, in order to achieve the maximum benefit, he maintained that they should remain standing, as that was considered the "natural position" of any person.

In light of this approach, the giardini d'infanzia had a front garden and a backyard, located on the ground floor of the building to prevent the children from falling on the stairs. This enabled teachers to introduce physical activities safely in an environment reminiscent of the one with which most children were familiar, namely, the countryside. On the other hand, some pedagogues considered it dangerous to mix gymnastics and singing (De Piccoli, 2003, 54, who quotes Piccoli, 1890), because performing a complex task could increase children's fatigue and tiredness. Moreover, both musical and physical education deserved their own specific consideration, as separate subjects of teaching and learning.

In some preschools, besides gymnastics, teachers developed the practice of scheduling a marching and singing activity (Marcia e canto), to be performed in the morning before prayers or the start of the lessons by all the students of the school, with the clear intention of supporting mutual (or cooperative) learning: both the melody and the gestures of the march were learned by heart and by imitating other children. This represents a confirmation of the idea that the acquisition of musical and physical skills begins with observation and imitation, in accordance with the principle "practice before theory", and as the basis of every active method.

The steps of the march were standardised, and the song was intended to accompany the footsteps from the entrance of the school to the classroom. After the march, the students were asked to sit at their desk or bench (Corrieri, 1877, 10). It was also possible to repeat the march or to sing without marching when moving from one room to another, at the end of an activity, or at particular time of the school day, as advised by the title of the songs. For example, Nel tornare dalla ricreazione should be sung after break time, Il canto della partenza before leaving the school, and Il tempo del lavoro while performing manual work (Asilo infantile di Firenze, 1837).

From a comparative analysis of the song collections, it can be deduced that even compositions that were not specifically entitled "marches" could have been performing while marching, as they are characterised by time signatures that underpin a binary pulse (2/4, 4/4, 2/2 and 6/8) and by an extensive use of dotted quavers.

Apart from singing and marching or singing during gymnastics, a handbook for preschool headteachers and teachers contains the instruction to encourage children to move their hands and to waive their arms at the end of each educational activity in order to activate their entire body and to improve their attention span (Corrieri, 1877, 10), or simply to make them relax and recover their energies. These movements could be autonomously and creatively chosen by the children, as opposed to those of the gymnastics exercises, which were devised by the teachers as fixed sequences of gestures aimed at achieving predetermined learning goals. The importance of moving was emphasized also by the fact that the regulations of some schools established that children (especially females) should sometimes cut short their break time in order to give more space to bodily practice.

Playing

Playing activities were a fundamental part of the preschool curriculum into which the physical experience was fully integrated.

Rhythm games and nursery rhymes satisfied the children's need to learn by play, boosting creativity, musical development and motor expression.

The rhymes were sometimes accompanied by the movement of neutral objects, such as balls. Froebel (1871, 27) stressed this point, providing a list of progressive activities that could be proposed to preschoolers, taking inspiration from the habit of mothers of singing to their babies while? playing with a ball. At the start, the teacher could sing a song to the children, moving the ball horizontally, like a pendulum, and accentuating the binary meter with the aid of onomatopoeic words (bim bum, tic tac, etc.) and tempo contrasts (slow, fast, very slow, very fast, etc.). The exercise could be expanded by introducing another object, completely different from the ball and linked to another kind of movement, or placed in a relationship with it, as in the case of a ball rolling on a table. The most relevant moment of the educational activity occurs when the child comes into contact with the object, allowing him or her not only to experience different musical parameters, but also to manipulate and closely observe the object, and thus furthering his or her ability for abstract thinking while nurturing both mind and body (Froebel, 1871, 22).

Physical expression through the ball included the action of dramatizing the way animals move and sound (e. g., the ball becomes a kangaroo, a cat, a turtle, etc.), the imitation and creation of sound-gestures associated to the content of a song that accompanied different movements of the ball, and the motor expression based on the words of a nursery rhyme.

Final Remarks

Historical research on nineteenth century Italian preschools brings to light early practices that included physical expression within the learning experience of the children. Movement and physical participation were not conceived as isolated activities, but were proposed to the students together with singing and playing, thus drawing an ideal connection between (implicit) music education and the overall development of the child.

Such an integrated approach reveals that embodiment was considered not only as a powerful tool to experience the musical environment in a practical way, but also as a way to boost the child's emotional, physical, cognitive and social development.

The relevance of gymnastics and motor activities in early years education did influence music teaching in Italy, and it inspired the elaboration of new didactic strategies, increasingly tailored to the child's needs that flourished at the beginning of the twentieth century thanks to the work of the pioneers of active methods, such as Maria Montessori, Rosa Agazzi and Laura Bassi.

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Teaching music for pre-school children through physical activities and bodily experiences according to assumptions of the eurhythmics method of Emil Jaques-Dalcroze

Barbara Dutkiewicz
Associate Professor
Department of Music Pedagogy, Specialty of Eurhythmics, The Karol Szymanowski Academy of Music Katowice, Poland
barbaradutkiewicz@hotmail.com

Abstract

The paper discusses the basic types of exercises in the field of Emil Jaques-Dalcroze's eurhythmics method, which are very effective in practice of teaching pre-school children (3-6 years). The range of impact of these exercises on the development of practitioners will also be discussed. Eurhythmics classes are conducted in Polish kindergartens usually twice a week. The lesson lasts 20-25 minutes for 3-4 year olds and 30-35 minutes for 5-6 year olds.

This method emphasizes the pedagogical importance of the individual physical experience with music through active engagement that promotes a deeply felt experience and the conscious understanding and naming of all elements of the musical work, based on this perceived experience. In other words, this method assumes that practice and experience need to anticipate theoretical understanding.

The achieved learning outcomes are very good. The level of knowledge and understanding of the discussed phenomena is very high. Children, thanks to this method, become sensitive to all elements of the musical work, develop their hearing, sound imagination, musical memory, sense of rhythm, coordination and precision of movement. The method also allows you to interact with other class participants and present individual proposals what influences the development of the level of socialization (including social competence) and creativity. During the course, children will learn a lot of songs, dances (e.g. regional dances) and other pieces of musical work from children literature. They learn how to make music and, what's the most important, they like it - they like music!

Keywords
Eurhythmics in kindergarten, music education, early childhood music education, eurhythmics in Poland

What does the eurhythmics method consist of?

The eurhythmics method was created in the 1910s. Initially, its purpose was to help students of the Conservatory in Geneva to better understand the rules of music and the many musical phenomena. Emile Jaques-Dalcroze noticed that during lessons of harmony and aural skills, students of the Conservatory made logical and mathematical calculations but failed to grasp the character of harmonic tension, to hear dependencies between accords. In his opinion, the students also had issues with hearing intervals, recognising tones, and sense of sound duration (sense of pulse, tempo, and rhythm). He determined that the fact that the students were taught in theoretical terms which were partially abstract to them and thus impossible to imagine, hear, and sense was to blame for the situation. Thus, he developed a method which derives from a personal, physical (movement) experience of the phenomena, thereby allowing sensing them through engaging one's own body's physical activity in the cognitive process. "Eurhythmics seems to be the only way of working with the body and music based on emotions, expression, and movement techniques – all brought together". Unfortunately, his innovative teaching methods initially failed to find understanding at the Conservatory in Geneva, which is why E. Jaques-Dalcroze organised presentations and lectures in order to popularise his method, including several long European tours with presentations of his exercises. The method, or rather its results, quickly gained the admiration of the artistic, teaching, and medical communities. As a result, an independent art and education centre was created specifically for the needs of development of the eurhythmics method, called the Emile Jaques-Dalcroze Institute and located in Hellerau near Dresden. There, the method underwent many developments – e.g. eurhythmics was used there in artistic experiments in areas of choreography, direction, and scenography during work on musical performances. Hellerau also started to offer eurhythmics classes for children, and the method, initially used as an experiment in specialist, professional musical education then became a standard element of general and musical education of children as a method of raising musical awareness, and of artistic education of professional musicians, dancers, and actors. By combining selected elements of various arts and ideas of New Education Movement, the method suited the reform of artistic education in a very unique way, while its innovative assumptions, based on comprehensive and poly-sensory influence of the mind, imagination, and personal, explorative, physical actions of children, which constitute practise before learning theory, make it contemporary and, in the first half of the 21st century, still relevant within the latest trends of contemporary pedagogics.

Tradition of teaching eurhythmics in Poland

The tradition of teaching eurhythmics in Poland is rather old, dating back as far as the first decade of the 20th century – almost the beginnings of this method's existence. The first Polish followers of Dalcroze were students of the Institute in Hellerau: Stefan Wysocki, Adolfina Paszkowska, Flora Szczepanowska, Zofia Swiatkowska, Stanislaw Wiechowicz, the Jareccy Brothers, Kazimierz Kleczynski, Elzbieta Willman, and Jadwiga Zarzycka. Among this group were distinguished Polish musicians, composers, conductors, music theoreticians, intellectuals, educators, and dancers/creators of choreography. Each of them, inspired by the eurhythmics method, assimilated its assumptions and moved them into the area of their professional experience. Thus, in Poland, the method assumed a very specific and unique shape and it is safe to say that we can see a unique phenomenon here, one that allows us to state that it was back then when the Polish School of Eurhythmics was formed – with a lot of emphasis placed on the artistic element, on choreography, and on working with the body within the area of acting and gymnastic abilities (e.g. plastics of movement which developed very dynamically here, while in Western Europe it gradually disappeared in favour of developing types of contemporary dance). A crucial element of the school was also a broadly understood education of children, which over time achieved massive scale in preschool education.

After World War II, private schools were gradually either closed or nationalised, and their teachers, once employed in state schools of music, ballet, acting, or public schools, were forced to submit to an enforced national teaching programme. Unfortunately, the huge potential of more creative artistic and pedagogical experiments which had been developing in the inter-war period, was, therefore, gradually stopped or limited. This was the negative side of the Communist era, however; there was a small advantage too – due to the centralisation of power, one regulation introduced eurhythmics as an obligatory element of popular education of pre-schoolers in all establishments across the entire country. To realise a country-wide teaching programme this ambitious in the reality of a country ruined by war, regular radio broadcasts were organised. "It was a completely new kind of broadcast – musical education of pre-schoolers via radio – never before used, be it in Poland or abroad (pre-war musical broadcasts were addressed at schoolchildren)". Teaching aids and collections of notes were printed and published in accordance with the broadcast programme, and special training for teachers was organised.

Specificity of teaching eurhythmics to pre-schoolers

Emil Jaques-Dalcroze's eurhythmics method exercises are great, i.a. in musical classes for pre-schoolers (3-6 year-olds). "Many actions here have a fleeting character, exist only at the moment of happening, but changes brought by them in the areas of development of personality, and knowledge of the world and of oneself last and remain for a long time". Pedagogical assumptions of the method emphasise the significance of both physical and personal contact with the discussed musical phenomenon through active participation in the sensory experience, leading to its conscious understanding and naming – in other words, in this assumption, practise and experience precede theoretical teaching. Moreover, "in the child's world, movement plays an extraordinary role. It is a method of natural expression of emotions, thoughts, experiences, and above all, a manifestation of children's curiosity." Therefore, the educational results of the eurhythmics method at this age are very good. It grants children a high level of understanding of discussed musical phenomena and makes children more sensitive to all the various elements of a musical piece, developing their hearing (pitch, tone) and sound imagination, musical memory, sense of rhythm, movement coordination and motoric precision, consciousness of their own bodies and their spatial positioning. The method also allows students to interact with other participants in the class and to present individual propositions, contributing to their level of socialisation (e.g. social competences) and creativity. During the class, children learn a large number of songs and other works of literature for children, as well as regional dances. They learn how to create music, and most importantly, they like to sing and dance – to have contact with music. The spectrum of influence of eurhythmics exercises in the children's educational process is very wide since they influence "engaging of particular sensory systems and their functions".

In Poland, eurhythmics is used for influencing the following aspects:

- the development of mental abilities – the development of cognition and improvement of psychomotor processes. In this field, the specific exercises influence the development of: focus, divisibility of attention, alternating attention, reaction time, thinking time, decision-making time, imagination, creativity, perceptiveness, the ability to analyse and synthesise perceived phenomena, swift responses to stimuli, inhibition and incitement of movement.
- the development of social skills, such as: co-operation with a partner, teamwork, attentiveness to others, leadership skills, adaptation to established rules of conduct (for example, submission for the sake of the task being performed), flexible behaviour (some exercises require submission, others co-operation, others still – proposing one's own idea).
- the development of creative skills – the ability to solve problems in a creative manner: the ability to devise, present and execute one's personal or the group's own idea.

- the development of sensitivity and ability to feel emotions and experience emotions (including empathy with others).
- the development of musical and movement expression: the ability to express emotion through movement and to express dynamic and agogic changes through movement; the development of spontaneity and naturalness of emotive expression (from the standpoint of contemporary theatre, we may call it looking for the organicity of motor expression).
- motor development: sense of one's own body, consciousness of motion, sense of spatial direction, inhibition and incitement of movement, sense of tensing and relaxing of muscles, motor coordination, aesthetics of movement, clarity of movement, mobility, precision of fine and gross movements, movement techniques.
- the development of music sensitivity and skills: sensation of pulse, sensation of rhythm, the ability to differentiate registers, the ability to differentiate tones, differentiation of dynamics and articulation, the ability to hear two and more sound layers, polyphonic hearing, tonal hearing, harmonious hearing, sense of musical phrases, development of auditory imagination and internal hearing of: rhythms, sound pitches and harmonic tensions, as well as musical memory, auditory-motor coordination, auditory-vocal coordination, intonation, vocal emission and diction (enunciation).

Types of eurhythmics exercises used during the lessons in kindergarten

- "developing mobility skills",
- "selected movement technique exercises" and "breathing exercises"
- "exercises and games preventing formation and strengthening of faulty posture"
- "developing spatial orientation (awareness of movement in space, awareness of change of direction and distance),
- exercises with props, exercises for various group settings in specific floor-patterns (line, circle, other geometrical figures),
- eurhythmics exercises and games: change of tempo and pause in music, initiation of tact, realization of mixed rhythmic values and memory games (development of musical memory and sound imagination), inhibition-incytation games,
- games with musical issues, such as: recognition of bass and violin register, distinguishing between major and minor chords, recognizing the color of the sound of percussion instruments, recognizing consonances sounds and dissonance sounds, recognizing the direction of the melodic line, reaction to changes in dynamics and articulation, separateing and following the musical phrases.
- exercises and games constructed on the basis of pieces from music literature (songs and instrumental miniatures), especially movements improvisation leading to choreography of music (including illustrating the formal structure of the musical piece).

- games on the material of the song (movement illustration of the song, instrumentation of the song, songs illustrated with elements of dances)".
- Plastique animée is a creative activity based in the first place on improvisation on a given topic. "The child works here alone based on his previous experience, musical sensitivity and imagination, which is inspired by the teacher - who acts as a guide here. […]
- So, to the elements of the plastique animée used in working with children, we can include creative movement activities (often improvised) characterized by movement expression, expression of emotions and expression of music and movement".

Eurhythmics lessons explained

Due to the cognitive possibilities, eurhythmics classes in Polish preschools usually take place twice a week. A lesson lasts 20-25 min for 3-4 year-olds and 30-35 min for 5-6 year-olds. A typical lesson consists of repeatable elements and each lesson should focus on one selected element or issue (e.g. articulation, tone, dynamics, etc.) which is reflected by its subject. Every lesson consists of exercises and games: auditory, voice, physical, auditory & physical, auditory & voice, physical & voice, auditory & physical & voice. A lesson should be constructed so that specific exercises stimulate a variety of activities, allowing the discussed issue to be presented from multiple points of view and students to learn via poly-sensory experiences, which is crucial. Specific exercises should result one from another and gradually increase the level of difficulty.

At the beginning of each eurhythmics lesson, children march in single file, one after another, into the eurhythmics classroom in which there is a lot of space allowing for safe movement. Entering in this way and marching in a circle plays an organisational role as well – it helps in switching to a different mindset from other class types, functioning and concentrating on audio input. After entering the classroom, a musical greeting takes place (the teacher sings "Good morning, children", the children sing back "Good morning, Mrs/Miss/Mister"). Then, an initial exercise occurs in which the children move around using the whole classroom space, reacting to changes in music – it is usually an inhibition & excitation exercise (with pauses in the music), during which the children march, run, or jump, depending on what the piano music improvised by the teacher suggests. Then, the main part of the class – this consists of various physical, auditory, and voice activities, the musical content of which is connected to the lesson subject and selected musical phenomenon, while its theme is connected to, e.g. a season or a subject of the lesson unit. I frequently construct my lessons on the basis of musical material in a children's song. "I choose a musical phenomenon from the specific song and use it, along with song lyrics, as a basis for exercises. We usually work with one song for two lessons. The first lesson introduces the song and is used to learn and memorise it [...], the second [...] is used to consolidate it". Lessons like this might

assume the following structure: 1) introduction (entering with march and greeting; inhibition & excitation exercise – "march, run, jump"; 2) main part of lesson: (exercise introducing the subject; more complex exercise – different type of activity; game with elements of song or learned musical piece; presentation and learning the song; singing the song; various exercises based on the song); 3) ending/summary of the class (summary of activities – comprehensive game combining all discussed material; recapitulation – repetition of what we did during the class; consolidating game based on the learned song; game consolidating new knowledge or skill; saying goodbye and leaving via march).

Plastique animée

Plastique animée is a term characteristic of the Polish School of Eurhythmics and, in my opinion, requires further explanation. It is an artistic superstructure of the eurhythmics method which without it would be simple metro-rhythmic or solfège education, devoid of the artistic, individual, creative aspects creating a basis for authentic, valuable musical creation in the spirit of value according to E.Jaques-Dalcroze's art of the future. He was opposed to any artificial frame or stagnation and unnaturalness in scene presentation. He supported natural, expressive movement and arts synthesis, which is why he created exercises developing musical and physical expression, allowing one to visualise music through body movement and giving it an artistic, individual style (where the instrument is one's whole body). To express a musical piece through the movement of one's body in space, one should account for body expression and its spatial composition (in the area of shape of body or group of bodies) and spatial trajectory through which the body moves, to reflect all elements of the musical piece, its structure, energy flow, character and style, and even its artistic values, e.g. performance nuances.

These assumptions ensure effective work on performance precision and body ability (developed due to movement technique subjects), as well as movement aesthetics and expression, that is, expressing musical experience caused by a specific musical piece. It is supposed to lead to the creation of a very individual type of performance art. Exercises in the area of music & movement expression, and plastique animée, with its scenic forms enclosed in a form of choreography of music, are created on the basis of individual movement improvisation, for which the determinants are experiences resulting from active listening to music (simultaneous analytical listening to music and expressing it via movement improvisation). All this is obviously a very complex process, requiring both physical and mental abilities together with knowledge of music and movement techniques and conventions, as well as a certain level of emotional maturity, etc. Nonetheless, eurhythmics without this layer of plastique animée does not, according to E.Jaques-Dalcroze, have such a deep humanitarian sense, since it does not give a full picture of the living art towards which he strived.

In the case of education of pre-schoolers, this vital part of the eurhythmics method should not be ignored either. Therefore, in Poland basic exercises in the area of movement technique, body awareness, and activity in space are included in eurhythmics classes, as well as numerous improvised actions on the basis of music, mostly improvised by the teacher, with the extramusical, fabular layer of illustrative character fitting the music providing additional inspiration in the form of speaking to the imagination of pre-schoolers.

It should be remembered that children have their own emotions and natural way of expressing them which is why it is assumed that they have a natural musical & physical expression and is the reason why it often allows them to express their innate musicality. This musicality develops in a harmonious way, integrated with the entire physical and mental development of a child, through exercises based on the eurhythmics method. Elements of this type of improvised exercise are a substantive basis for practically any kind of exercise conducted during eurhythmics classes for pre-schoolers. It appears that, due to the complex physical, emotional, and creative processes conducted in a world imagined by a child and created by the sound of music, and the requirement for precision of physical reaction closely correlated to sound impulse, this is the crucial element necessary to obtain results in child development. This is the element which stimulates child development so strongly and makes the method not so much a repeatable action (and training in specific physical reaction to sound), but rather a free, albeit precise, creative action. Therefore, the teacher should always include elements of plastique animée in exercises connected to all activity areas during eurhythmics classes, all of which has been discussed in detail earlier.

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El Sistema as an opportunity for collaboration between preschool, elementary school and home – parent's perspectives on an El Sistema-inspired activity in Sweden

Anna Ehrlin
Mälardalen University
Eskilstuna, Sweden
anna.ehrlin@mdh.se

Abstract

This paper presents a case study on parents' perspectives on an El Sistema-inspired activity in Sweden. The aim of the study was to gain insight on how the parents perceived their own and their children's participation in the El Sistema-inspired program, and how the parents' participation and commitment could be understood in relation to their importance for their children's schooling. The study is based on semi-structured, qualitative research interviews, with three parents from different families. The result shows that none of the parents have pushed their child to take an interest in music. Our interpretation is that the parents' adopt an attitude of openness and trust in respect of their children's participation in the activities on offer. Narrowing this to the perspective of schooling, their attitude can be related to the idea that the El Sistema program constitutes an alternative option for demonstrating interest and getting involved in a school-related activity. The findings of the study suggest that the El Sistema-inspired program does not simply promote the interest and commitment of parents in relation to their children's schooling, but goes further, in that it also promotes the well-being of the parents.

Keywords
El Sistema, parents, home learning environment

Introduction

In 2012, a non-compulsory music school in a Swedish city with about 100.000 inhabitants started an El Sistema-inspired music program. The program takes place in multicultural and economically and socially disadvantaged area in the city. The music school offers music activities once a week in one preschool with 5 years old children and in an elementary school with 6 to 12 years old children. At the school, the music activities are held after the school day and the children who attend have chosen to do so. The music sessions consist of singing, dancing or playing the violin or a brass instrument and last for 30-60 minutes depending on the age of the children. Monthly the program also consists of social gatherings, so called "Friends days", to which music teachers, teachers at the school or the preschool and children invite parents and siblings.

When these occasions are held at the school, one of the children introduces the music show for the evening. Both at the school and at the preschool all children, music teachers and teachers perform together for the audience of parents and siblings. After the short show, the children, all teachers and family guests enjoy refreshments of coffee, lemonade, homemade cakes and fruit.

A colleague of mine and I have conducted two case studies on this El Sistema inspired program (Gustavsson & Ehrlin, 2016; Ehrlin & Gustavsson, 2018). The first study was based on interviews with music teachers and preschool teachers involved. The area of interest for that study was the teachers' experiences, perceptions and thoughts in relation to the program. The result of the study showed that the El Sistema inspired program creates opportunities for both children and parents to be part of a social context. The gatherings at Friends days allow parents to become acquainted with one another, the teachers, the rest of the preschool activities, the music school's activities, as well as places such as the music school's concert hall. The teachers also experience that parents were very proud of the fact that their children were involved in the program and the teachers felt that the music activities had strengthened the cooperation with the parents. However, the teachers saw an opportunity to increase the exchange with the parents and wished that they could to do more to involve the parents in the El Sistema activities.

Aim

In our second case study, the aim therefor was to gain insight on how the parents perceived their own and their children's participation in the El Sistema-inspired program, and how the parents' participation and commitment should be understood in relation to their importance for their children's schooling.

The research questions were:

- How do the parents perceive their own participation in the El Sistema-inspired program?
- How do the parents perceive their children's participation in the El Sistema-inspired program?
- How should the parents' participation and commitment be understood in relation to the parents' importance for their children's schooling?

Background

Research shows that the home learning environment (HLE), in the form of parents' involvement in their child's schooling, their expectations and belief in their child's abilities and a trusting relationship between school staff and parents, helps to achieve positive results in school irrespective of the parents' own educational level, the stage the child is at school or the parents' ethnic background (Jeynes, 2003; Bodovski, 2010; Bunar, 2012). Further research shows that the major factor in academic success is parents who are encouraging, who invest time and interest in their child's schooling and who clearly show that they think school is important (Dufur, Parcel, and Troutman, 2013).

In an intercultural educational context, contact and communication with parents is an important area to be addressed (Bunar, 2010, 2012; Runfors, 2003; Bouakaz, 2009; Swedish School Inspectorate, 2010; Strandberg, 2013). Research has shown that music can play an important role in this respect (Hofvander Trulsson, 2010, 2015).

Theoretical framework

The theoretical point of departure for our study is Lave and Wenger's (1991) theory on communities of practice. The starting point for the theory is that, in our everyday lives, we form part of several communities of practice that affect our development, and that within these communities we affect practice to a varying degree. Participating in a community of practice changes the individual as well as their position in the community. Within a community of practice, an individual's participation can be understood as a shift from being a peripheral participant or actor on the outer edge of a community to, over time, becoming an increasingly central participant or player

who has increasingly mastered that community of practice. This learning process is based on the interplay between the people in the community of practice. One dimension of the process is being able to identify with, and consider yourself part of, the community (Wenger, 1998).

Method

Our study has been designed as a case study (Merriam, 1994). It provides a unique example of people in real situations and investigates the interactions, statements and actions of those involved. In our study, we focus on parents' statements about one specific El Sistema activity. In interpreting the characteristics of the statements of the parents interviewed, our purpose is to find patterns that can be applied to parents' involvement in school activities in general.

The study was based on semi-structured, qualitative research interviews, with three parents from different families. Two parents were from Iraq and one from Syria. The interviews were conducted in conjunction with an El Sistema "Friends Day". All interviews were supported by interpreters who translated all the questions and answers so that all the parents could share their thoughts in their mother tongue. The interviews were recorded and transcribed word for word, with no attention given to how things were being said. No transcription key was used. The analysis process can be understood as abductive (Alvesson & Sköldberg, 2008). The research adhered to the Swedish Research Council's ethical principles relating to information, consent, confidentiality and use (Swedish Research Council, 2017).

Results

The results are presented under two headings based on the study's research questions.

The parents' perceptions of their own involvement in the El Sistema program

The three parents who were interviewed describe their perceptions of the El Sistema program in a similar way. One of them, originated from Syria, had some own experience of music teaching from his own schooling but not much. This parent described music as being important in his life but said that music until then had mainly been something experienced at home, for example, by listening to music on the radio. The El Sistema program and the children's interest in music had expanded the role of music in the family and also further increased the parents' interest and involvement in music. The parent said:

> When my daughter started with this, the family got involved with the music. She gets me to come along to these celebrations, she gets me to come along to the music. So I get more active.

The other two parents interviewed were originally from Iraq and have no experience of music teaching from their own schooling, but both of them said that music is an important part of their lives too.

All three parents noted that they got involved in the El Sistema program because their children showed a great deal of interest in, and commitment to, the program. One of them said:

> I'd really like her to continue with it as long as she's interested. She can stay even when she changes school. I want her to keep going as long as she's interested.

All three parents also said that the El Sistema program has made them feel proud and pleased with their children. One of them said:

> When we come together here, we can see how the children have developed so much, you become happier with the children and prouder of them.

All three parents also noted that they felt having a good contact with the music teachers and having confidence in them. They based this on the fact that they were continually contacted by the teachers via text message or by telephone, were invited to Friends' Days and felt that the teachers emphasized the educational aspects of the program so that the children could develop in many ways. None of the parents could see any reason why they as parents should have greater influence on the content and design of the program.

The parents consistently said that the El Sistema program had expanded their social networks. The Friends' Days gatherings were described as occasions when they cannot only watch and listen to their children but also meet the parents of other children. One of the parents also mentioned that, as a result of these gatherings, their family now get together with another family in their spare time.

The parents' perceptions of their children's involvement in the El Sistema program

All three parents say that their children have gained new friends through the El Sistema program. As a result, their children want to meet up not just at the El Sistema sessions but at other times as well. They often practice their songs and dances at home too. One of the parents says:

> She really likes to dance with her friends and show El Sistema. It's important to her.

All three parents also say that they feel that their children have developed through their involvement in the El Sistema program, partly by learning to play, sing and dance but also in other areas. One of the parents says:

> I can see the children not just playing music or their instruments, they're trying out other things. [...] My daughter has experienced to be a program leader and presenter. She wasn't like that before. She was shy before, and would stay in the background. Now it's totally different.

The pleasure the parents experience due to their children having found an immediate interest that they can develop alongside other children seems important in the interviews. All three parents also express a feeling that the experiences and knowledge that their children gain from the program will be important for their future lives. In the main, this has not to do with music as an interest but more with the fact that the musical activity in question makes the children more adventurous and more active and gives them opportunities to meet and get to know friends, which is seen as important for the future.

Discussion and conclusion

The first thing to note is the parents' interest in and commitment to their children's participation in the El Sistema-inspired program. None of the parents had any knowledge of the program before their children were offered the chance to take part. The result shows that parents did not identify the music or the children's musical development as the main reason why they allowed their child to take part. The parents did not promote the idea that El Sistema is a program that creates opportunities for their children to develop their musicality or paves the way for a career as a musician. Instead all three parents are for most happy that their children have discovered an interest that engages them and has helped them to develop a social network.

None of the parents have pushed their child to take an interest in music; it is rather that the music program has, in a way, come to them. Our interpretation is that the parents' adopt an attitude of openness and trust in respect of their children's participation in the activities on offer. In line with previous research on music activities offered in multiethnic areas in Sweden (Hofvander Trulsson, 2015) the musical activities are seen as supporting the child's personal development and providing an opportunity to build a social network.

We understand the parents' attitude as an expression of involvement in their children's upbringing. Narrowing this to the perspective of schooling, their attitude can be related to the idea that the El Sistema program constitutes an alternative option for demonstrating interest and getting involved in a school-related activity.

What the parents state in the interviews does not, however, provide an insight into the extent to which the parents see the El Sistema program as part of the elementary school or preschool. But in the light of our theoretical point of departure in communities of practice, we do tend to think that it is possible to understand the El Sistema-inspired program as helping to reinforce the parents' involvement in school practices.

Although to some extent the teachers would like closer collaboration with the parents of the children involved in the El Sistema program, this case study shows that the parents are happy with the working relationship and the three parents taking part in the study do not see any reason why they should have any influence over the program. When we asked parents if they sometimes come up with ideas or if there was anything about El Sistema that they would like to change, the answer was unambiguous – no, not now and not previously. It seems that the program's clear structure, in terms of both design and content, is appreciated or accepted. It is thus important to bear in mind that parents who do not speak up do not need to feel that they are less involved in their children's education simply for that reason. They see their role as being outside school but still supportive.

In the interviews, the parents' main emphasis was on music as a source of happiness and social contact. This again leads to a link to previous research and to one of our key theoretical starting points. It can be understood how the Friends' Days activities, where the parents are constantly finding out more about what their child is interested in, have led to the broadening of their own interest in music and also enabled them to meet and get to know other parents. Within El Sistema as a community of practice, their involvement has shifted from being peripheral participants at the outer edge of a community to becoming increasingly more central participants in the community of practice. This process is based on the interplay between the teachers, the children and the parents in El Sistema as a community of practice (Wenger, 1998).

Previous research has shown that one of the main factors affecting educational achievement is parents who regardless of their educational background offer encouragement, invest time in and show commitment to their child's schooling, an area where, our case study suggests, the El Sistema program has been successful. With the El Sistema program in the city in question, there is a conscious strategy to get the parents involved in the activity in a concrete way. The music school has enabled the parents to support their children while also seeing themselves as important for their own child's participation.

What we see as an important conclusion from the study is that the interest these parents take in their children's participation in the El Sistema-inspired program, and their commitment to it, demonstrates the importance of a positive home learning environment. The comments made by the parents reveal how the El Sistema-inspired program helps to bring children, parents and school together.

The findings of the study suggest that the El Sistema-inspired program do not simply promote the interest and commitment of parents in relation to their children's schooling but go further, in that it also promotes the well-being of the parents.

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Inter-subjectivity and inter-acting body as common features between the autistic spectrum disorder and the MIROR platform

Laura Ferrari
Istituzione Educazione Scuola
Bologna, Italy
ferrari.lau06@gmail.com

Anna Rita Addessi
University of Bologna
Bologna, Italy

Abstract

According to the 'Diagnostic and statistical manual of mental disorders' (2013), the core feature of autistic spectrum disorder (ASD) is, among others, the twofold impairment in social interaction and in communication. In the last 15 years, the evidences underline the importance of early intervention and the role of education to provide a multi-modal sensory-based approach. In the therapeutic field and in the educative one, three kinds of music's application with/for children with autism can be identified: a) music to facilitate communication with children, b) to foster social skills, c) to modulate behaviour. This abstract describes a research hypothesis on early infancy inter-subjectivity and the body in inter-action with the MIROR Platform as two common features between autistic spectrum disorder and the MIROR Platform. Among the several indicators defined by the neuro-scientific studies on ASD, some focus on sensory processing difficulties, social interaction impairment, suggesting educational interventions to provide hand-eye coordination and gaze contact, non-verbal play, gesturing, imitation, and developing of joint attention. The MIROR platform, an innovative system to enhance music creativity in composition and improvisation, is based on the reflexive interaction paradigm. The interaction between the child and the MIROR platform is founded on elements similar to ones of the human communication and interaction, specifically in the early months of life. As previous studies describe, the MIROR platform can be used in the daily musical activities from kindergarten to primary school with or without teacher. The goal of this theoretical research is to deepen the inclusive potential of the MIROR platform to develop an educative practice in which the MIROR platform acts as musical device that is 'medium' in the child-object-adult relation.

Keywords
Autistic Spectrum Disorder, Inter-subjectivity, Reflexive Interaction Paradigm, MIROR platform

An Overview

The Regional Bulletin of Emilia Romagna (edition of 2017) offers an overview of the relationship between disabilities and school in the region. The document clearly describes the exponential increase, especially in Bologna, in children with autistic spectrum disorder (ASD) in all degrees of education: from nursery to higher school. The most applied therapeutic approach is the ABA (Applied Behaviour Analysis) in its several nuances: Some specialists adopt the standard ABA method; others mix two approaches (for example ABA and TEACHH[1]). In daily life, teachers, educators, school staff and parents are often involved in an educative process in which behaviourist techniques as 'fading, pairing, prompt, task analysis, token economy, etc.' are frequent. In the last 30 years, the definition of autism has changed and the Diagnostic and Statistical Manual of Mental Disorders (fifth edition by the American Psychiatric Association, 2013) recently defines the autistic spectrum disorder as persistent deficits in social communication and social interaction across multiple contexts, and restricted, repetitive patterns of behaviour, interests, or activities. In school, as social and interactive context, the impairment in social interaction and communication requires teachers constantly to re-think educative activities to include all children. Peters and Forlin (2011) underline the important role of early intervention and education to "provide multi-modal sensory-based and exploratory approach to learning including a range of stimulating hands-on activities approach" (p.139). In their conclusion, the authors suggest a closer link between neuroscientific researchers and educationalists: Neuroscience has the task to identify "emergent needs of children" and education science to create the most advantageous conditions for children's development in school context. This last goal is foundation of many activities, in which music is used both for therapeutic and for educative aims. In their narrative review of literature, Simpson and Keen (2011) identify three board groups of music interventions for children with ASD, especially in music therapy:

- Music to facilitate communication with children: Music as a facilitating strategy to memorize and recalling signs and spoken words
- Music to foster social skills in children: Music to code and encode basic emotions, capturing and maintaining eye contact.
- Music to modulate children's behaviour, especially at home. Parents and siblings use musical activities to calm down children or to accompany them in transitions from one room or context to another and from one activity to another.

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Beyond the narrative review proposed by Simpson and Keen, there are some studies that focus on the perception of music by children and adults with ASD: The study of Pamela Heaton (2005) is an example. Psychological researches underline the wide variability of pitch perception and contour processing in subjects with ASD: Evidences report the ability in some children to memorize and reproduce long and difficult music sequences in the correct pitch, other studies observe the lack of interest in auditory stimuli.

Interactivity as ground for Inter-subjectivity

In the first months of life, by interacting with the other (especially the mother) the child co-constructs the knowledge of the world and the Self (Stern, 1985): gestures, gazes and melodic dialogues are typical features of the adult-child interaction. The primary inter-subjectivity develops between the seventh and ninth month and it is characterized by orientation to the stimuli (visual and auditory), joint attention, ability to understand the turn taking and the integration of multimodal aspects. According to Crossley (as cited in Morgade & Mendoza, 2017) inter-subjectivity is related to "the inter-relationships between subject and object in relationship to other subjects" (p.1320). This concept refers to the knowledge inside the communicative process between subjects. In educational contexts, inter-subjectivity is linked to cultural dimension and background, previous experiences of children, to the formal/informal learning, and this can be defined as secondary inter-subjectivity: When children interact with each other, their relationship also comprehends the relationship between each child and the object. The basis of the inter-subjectivity is the triadic relation: Two subjects and the object, and this is the core dimension of the early interactions between infant and adult. In early interactions, the object of the interaction is the interaction itself: mother and infants communicate the joy to be together and they 'translate' their feelings in movements (gesture) and sounds (voice). According to Malloch and Trevarthen (2018), the science of communicative musicality is giving "primary importance to feelings of vitality in movement and to emotions that express positive and negative affections in sympathetic communication through the new understanding of the human BrainMind" (p.16). The concept of communicative musicality, expressed by Malloch and Trevarthen since 2009, has three components: pulse, quality and narrative. They intertwine within the human interaction in a multimodal way where movements, sounds and gazes are involved. Recently, Malloch and Trevarthen (2018, p.12) assert that human interaction is developed through talking, dancing and music making and these human activities express our innate communicative musicality: "the role of our communicative musicality in supporting our wellbeing lies at the very heart of the practice of using music therapeutically". In the last twenty years, researches on the educative intervention (with/without music) for children with ASD underline the importance of interactivity in teaching and learning processes (Jordan & Powell, 1997; Finnigan & Starr, 2010; Volkmar & Wiesner, 2014). To

cope with the impairment in social interaction and in communication of children with ASD, therapeutic and educative interventions aim to teach fundamental dimensions of interaction though music and play. Below, some examples:

- Engaging in play between adult and child to learn turn-taking (Xaiz & Micheli, 2002);
- Composing personalized songs to assist children entering in classroom and greeting peers and teacher and to recognize routines during the school day (Kern, Wolery & Aldridge, 2007).
- Embedded teaching with Orff approach to effective acquisition of operation concept and improving attention abilities (Eren, Deniz & Düzkantar, 2013).
- Proposing improvisational music activities to foster eye contact and joint attention (Kim, Wigram & Gold, 2008).

Interactivity as ground for the MIROR platform

Addessi defines the MIROR platform as an innovative device created to enhance skills and creativity in the field of music improvisation and composition in children (2015). The MIROR Project[2], ended in 2013, aimed to implement the Interactive Reflexive Music Systems into the MIROR platform: Three applications[3] for music improvisation, music composition and body gesture. The first prototype was created in the SONY Computer Science Laboratory in Paris, at the beginning of the twenty-first century. This prototype has been afterward elaborated to create the MIROR Platform.

The MIROR platform is founded on the reflexive interaction paradigm: Addessi presents it as a paradigm for music creativity with psychological and pedagogical implications (2014). The child-MIROR interaction founds on the reflexivity and thus it means the system reflects, as a sound mirror, the input of the child. The system does not reproduce an identical copy of the child input, but according to the repetition and variation mechanism, it 'replies' imitating and variating the child's input in real time. During this circular reflexive interaction, the child may recognize, in the system's output (that is an imitation of the child's input) elements of his own input. These recognizable features represent the style of the child. Addessi (2014) clearly affirms the central role of the Self's recognition within the gestures and sounds of the Other. The actions of others are 'instruments' given to the Self to understand the individual's intentions toward the other. Riva defines the concept of presence as "the feeling of being and acting in a world outside us" (Riva, 2008, p.97). The feeling to be present in the world is in relation of constraints given by others and by the environment. At the same time, we perceive that others are present because we recognize them as agents interacting

2 *See the Project Final Report edited by A.R. Addessi, C. Anagnostopoulou, S. Newman, B. Olsson, F. Pachet, G. Volpe, S. Young (2013).*

3 *MIROR Impro, MIROR Compo and MIROR Body Gesture.*

with us: That is, we perceive their intentionality to enact in the world. The author uses the term 'agent' to underline the intentional dimension in the interactivity.

Implications

Since the early studies on the IRMS, the system has not been created to substitute the teacher but to be a device to create musical dialogues in therapeutic and educational contexts. Ferrari and Addessi identified (2016, pp. 109-11) some features that makes the MIROR Impro a device for an including educative context:

- Priority given to the child
- Priority given to the child's style
- Interactive reflexive paradigm for the Self
- Sound feed-back and listening conducts
- Interaction based on gesture (on the instrument) and sound
- Playing together: The collaborative learning and peer-directed learning

Maintaining the role of the human interaction, we would point out some features of child-MIROR interaction that may be useful to create a dyadic relationship. According to the definition given by Small (cited in Malloch & Trevarthen, 2018) musicking is a "set of relationships" and music represents a very wide source for communication and knowing through body, energies and emotions.

One of the most frequent and pervasive impairments of a child with ASD is the extreme difficulty coping with change, and the consequence may be the presence of stereotyped actions and gestures. Music therapists often create predictable patterns to initiate an interaction with the child. Playing the MIROR platform, the starting point of interaction is the gesture of the child on the keyboard and when he decides to raise up his hands from the keyboard giving to the system the turn to 'answer'. As described before, the interaction between child and MIROR is based on repetition/variation mechanism. Within the repetition, the child may recognize some features of his own input (pitch, rhythm, length of the input, etc.); within the variation some elements of novelty. The teacher can decide the variation and repetition degree: from a response identical to the input, to one completely different. In this way, repetition gives to the child the chance to predict what happens next and when, and this defines the "felt sense of acting" (Malloch and Trevarthen, 2018).

Sometimes, children with ASD manifest difficulty in interpersonal timing and gesture: They seem not synchronized with the partner. Teachers and Music therapists try to mirror actions and gestures of the child in order to 'enter' in his world and start an interaction: It is the ability of the adult in attuning to nuances of interpersonal timing and gesture. The MIROR platform requires to an adult to be a partner for the child, because it is based on a child-centred approach: There is a real symmetry between the skills of the child and the ones of the system. The MIROR platform imitates both the input of the child and the adult's one with the same algorithm. What changes is the style of each user (child or adult). As in human interaction, also in the child-machine interaction the co-construction of temporal sequences can be found: from the basic form of the turn taking, until the construction of a narrative (the last input heard is the result of successive imitated input and output). The child-MIROR interaction is based on multimodal channels: The child plays with his body, he listens the answer of the system and he can watch the screen. In real time, the child can receive information about a stimulus in different ways: When he plays with one finger on the keyboard, he sees his finger and feels the quality of his touch on the keyboard, he hears the sound and he can see the image on the screen. Likewise, when the child hears the response of the system, he can associate the sound response of the system to the image on the screen and recall to memory the gesture necessary to obtain that sound.

In this paper, we proposed researches that describe the emergent needs to foster interactivity and inter-subjectivity for inclusive contexts especially where children with ASD are present. In particular, we try to underline the inclusive potentials of MIROR platform as a musical device that is 'medium' in the child-object-adult relation.

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Body experience in teaching music at kindergarten

Rūta Girdzijauskienė
Lithuanian Academy of Music and Theatre

Rasa Jautakytė
Klaipėda University

Abstract

This paper deals with the topic of the specificity of the music teachers' work at kindergarten and presents an empirical study, based on the approach of hermeneutic phenomenology. In accordance with the theory of Max van Manen, this paper discusses the teachers' experience from the perspective of the lived body. The teachers' stories demonstrate how through looking, facial mimicking, and body language moments of the teacher's everyday routine are revealed that would otherwise be overlooked or considered as irrelevant.

Keywords
Phenomenology, music teacher, kindergarten, body experience

Introduction

The specificity of the profession of music teacher in kindergarten is much more sophisticated than would seem at first glance as it is dependent on cultural traditions, the context of professional activity, and specific situations. Therefore, the work of music teacher ought to be examined both through theoretical analysis and, as comprehensively as possible, through empirical research.

There are many ways of scientifically investigating the work of music teachers. The nature of research depends on the chosen research strategy, epistemological attitudes, and the research topic. The current paper presents an empirical study that employs the hermeneutic phenomenological approach. Merleau-Ponty (2014) argues that the world of science is based on the living world, therefore, we have to constantly look for the experience of the latter world whose secondary experience is science. Phenomenology tries to avoid any beliefs based on pre-existing knowledge and seeks to understand the essence of the phenomenon through everyday experiences.

One of the topics most frequently analysed by phenomenologists is Body, Corporality, and its relationship with the Other. In the phenomenological tradition, the body is considered to be the fundamental way of existing in the world, and any experience is believed to come into being and develop on the basis of the body (Mickūnas and Stewart 1994). Attention is paid to the fact that the human body reveals an individual's inner world and that the external world reveals itself inside the human being (Sverdiolas 2005). The body is the medium through which we get to know and experience the world.

Philosopher Merleau-Ponty (1962) examines the body not as an object of natural sciences, but rather as a specific subject, a living and lived body which becomes direct open access to the world. Merleau-Ponty seeks to overcome the duality of the mind and the body and draws our attention to the fact that the body is not merely a tangible or physiological object; on the contrary, it represents a node of living meanings in which different meanings and entire ensembles of meanings unfold, such as sensory, gestural, and motoric functions, feelings, interpersonal relations, understanding, speech, and thinking. Thus, being a body means being related to the world and participating in it. Although existence in the world is only possible through the body, bodily experiences are frequently considered as insignificant (van Manen, 2014).

Methodology

The present research is based on Max van Manen's (2009, 2014) methodology of phenomenological research when, after collecting interviews, reduction is employed, and afterwards brief anecdotes are written to be analysed in order to identify the essence of the narrative and to establish pure experience. The written narratives acquire the form of a 'fictional work', which seemingly breaks away from the experience of one particular individual and acquires the status of universality.

Phenomenology as a philosophy and a method

Phenomenology is the philosophical study of the structures of experience and consciousness. It seeks to get to know the phenomena inside human beings and calls for constant reflection on the issues related to our understanding and seeing of the world and our existence in it (Crotty 1998). The phenomenological perspective helps scholars study and understand human experience without any prior assumptions or knowledge and creates prerequisites for researchers to disclose a phenomenon through the experience of people who had it (Converse 2012). Experience is considered to be the totality of the lived experiences, and not just the accumulated knowledge of the outer world (Friesen 2012). Phenomenological research aims to describe how different individuals experience the same phenomenon.

Although there are quite a few variants of the phenomenological research strategy, the present research used the method proposed by originator of the phenomenology of practice Max van Manen (1990, 2014). Phenomenologists of practice start their empirical research by looking for moments 'trapped' in an individual's memory that the individual can share. Those moments, called lived experience, are analysed through the prism of five dimensions typical of all phenomena: lived time (temporality), lived space (spatiality), lived self-others (relationality), lived body (corporeality), and lived things (materiality). In the paper, the teachers' experience from the viewpoint of the lived body is discussed.

Data collection.

The lived expierences can be collected through different methods, the most important being a phenomenological interview. It is unstructured, its questions are formulated in the process of an interview, with the main question of the interview and the investigated phenomenon being always kept in mind. Van Manen (2014) recommended to discuss the dimension of corporeality through asking the following questions: How do we experience one or another situation with our bodies? How do our desires, fears, joys, or anxiety get embodied in the world we live in? Based on those recommendations, music teachers were first of all asked to remember and retell about the moments of their work considered by them as significant. Afterwards, they were asked questions about the body experiences at those moments.

The research sample.
As stated by van Manen (2014), phenomenological research does not require a large sample. We sought to collect sufficiently rich lived experiences that could help us reveal the investigated phenomenon. The interview was conducted with five music teachers who had worked in kindergartens as music teachers for over 15 years. All of them had known the researchers for over 10 years and cooperated with them in different events and projects. The common experience helped the researchers both establish a close relationship during the interviews and get open and sincere stories as well as go back to their re-consideration in order to get additional data. Six stories presented by the teachers were chosen for the analysis.

Data analysis.
All the interviews, with the permission of the participants, were recorded and decoded on the same or the following day in order to take advantage of the novelty of the impression and the impression of the conveyed experience and not to forget the ideas and comments that arose in the process. During the analysis of the data, some of the respondents were contacted repeatedly and asked to specify their ideas expressed during the first interview or to supplement their stories. The research data were structurised by presenting brief descriptions. The latter were prepared, given the requirements of Saevi (2013) for a hermeneutical phenomenological text: an everyday and familiar topic was discussed, specific experiential material was used, and an unconventional writing style was applied. The received stories were not compared with one another. Each story presented in our text was seen as a unique experience. To ensure the reliability of the research data, the interviewees were sent the stories and asked to read them and to confirm that the written story revealed the one retold during the interview. The texts prepared by the researchers did not receive any comments. In the presentation of the research data, the names of the research participants were changed.

Results of the research

The topic of the lived body directs the researcher's reflection towards how, in the framework of the investigated phenomenon, our and other peoples' bodies are lived (van Manen 2014). The main question raised during this reflection is: how does the music teacher live his own or other peoples' bodies in the process of teaching? The analysis of the research data resulted in the identification of three characteristics of the lived body: an eloquent look, a talking face, and a narrating body.

An eloquent look

> In a music lesson, I sing one of my favourite songs. I am completely focused on singing. The voice is full and rich. The song is sad, and I put my heart into singing it. When singing the second stanza, I observe the children's response: oh, how well they are listening. From that moment on, I split into two teachers. One continues singing, the other is observing the children. Their eyes look special: widened, not blinking, fastened on me. They do not express any emotion: no interest, or joy, or admiration, or sadness. Just wide-opened eyes, looking at me and as if not seeing me, a glance that makes me feel the significance of my being with the children with all my body. The children are totally immersed in music, they are totally with me and the song. Absolute communion. The nondescript look is in fact very eloquent (Daiva).

The story is interesting in two aspects. The first one is Daiva's 'splitting' into a singing teacher and a teacher reflecting on the children's response. There is a clear distinction between the two actions: whatever is happening with the body and what comes to her head when observing the children. The Cartesian Self as the dualism of the mind and the body is lived and experienced in the context of the children's look.

What is a look? In a physiological sense, a look is an action of a human organ – the eye, directed to a particular object under observation. Sartre (1980) was one of the first philosophers who paid great attention to the topic of the look. When describing another's look directed at us, the philosopher argues that another individual's look is not just the eyes looking at us. The eyes of another individual indicate that they are looking at us, however, we do not notice the shape or the colour of their eyes. What we record is not the eyes but the look, which may be questioning, demanding, supportive, or eloquent. In the contact with the children, the look contributes to Daiva's understanding that the children are totally with her and the song. It is the look that prompts the children's response to what is happening in the classroom.

On the other hand, another person's look helps us experience ourselves. According to Sartre (1980), we become visible in the face of another person's look and become the object of other people's observation. The look may evaluate us, embarass, or make us feel important. Teacher Aida says that, as soon as the children's eyes are fixed on her, "I feel the significance of my being with the children with all my body.". Teacher Laura shared her impression that "the children's looks remind me that I visited the hairdresser's, dyed my hair, or put on a new blouse. I forget about it, but read it all in the children's looks."

A talking face

> I have visitors in my lesson: it is observed by university students. They do not embarass me, and we work in the same way as in every lesson: I am telling the children a musical story, we learn a new song, and we improvise with musical instruments. I am telling them about a cheerful hare, a cunning fox, and a lazy bear, I am 'frightened' when the hare meets a wolf, 'glad' when the fox deceives him, 'surprised' when one child tells me he saw a fox in the forest, and 'angry' when they one after another start telling me what animals they have seen. Dozens of facial muscles convey my joy, interest, fear, anger, or surprise. I must look stupid to the students with all my expressions (Laura).

This story highlights a distinctive, well-defined role of the face when teaching children music. The face of the teacher becomes alive, talking, and responding. Laura perceives her own face not merely as a part of her body, but also as a story-teller, a mediator of her relationship with the children. Philosopher Lingis (2010) defines the face not merely as an expressive part of the human body, but also as a repository of signs. Other phenomenologists also define the face as a place where the signs hide, as a source of communication which shows us and our emotions and expressions (Levinas 2001) and reveals what is passed over in silence (Merleau-Ponty 1986).

It is interesting to note that Laura 'discovers' her talking face when observed by other people. Just like Daiva, Laura sees herself through the eys of others. In front of the students, her usual facial expressions seem strange and stupid to her. Sartre (1980) also notes that an individual becomes attentive to his own body not because of himself, but because of others. That means that individuals are constantly alert to their bodies not from the viewpoint of how they see it, but how other people may see it. Laura feels the unconventionality of her facial expressions when comparing herself in an everyday environment and when being observed by the university students.

A narrating body

> In a music lesson, I am different. I take off my high heels and put on comfortable, unrestricting clothes. Together with the children, I sit on the floor, roll about to the sounds of music, walk on all fours, and imitate different animals. I turn into the leader of a lions' gang, a slowly crawling snail, or a motionless tree branch. My body identifies itself with a character, tells the story, and invites the children to get involved in the situation. I become something else, and am no longer a teacher to the children, but a playmate, a participant of the created situation. My body responds to the children's movements, repeats them, and extends them. Our bodies converse (Jonė).

Jonė's story reveals the experience of her different body which differs from the everyday and not reflected-upon one. Our body is totally normal to us when, being beside other bodies, it behaves in accordance with the learnt and automated patterns, when we feel relaxed and calm while our bodies perform synchronic actions that do not seem in any way unusual to others. However, work with children requires different body activity patterns. They are invented, adopted, and learnt by ourselves. In Jonė's story, the body becomes a carrier of thoughts, it transforms into a character and tells a story. The body becomes a means of achieving the goal of musical education.

The role of another body is relevant here: the way the physical being of another person beside oneself is felt and the experiences it causes. Jonė experiences the transformation of her body when watching the children's movements and characterising the response of her body to them. In a phenomenological sense, it is through the body that we are able to feel and see others as well as to find the relationship when we do not only feel, but also feel the feeling one. Our I does not only see the Other as an object, but also perceives our own subjectivity, the way the Other sees Me. Philosopher Levinas (2005) argues that our body is not merely cognizable to itself: it is also perceived by others. The phenomenon of the double sensation appears, defined by Merleau-Ponty (2005) as the key condition of communicating with others. As argued by van Manen (2012), when children are young, through the senses of the body they learn how they are evaluated by others and how others respond to them. The body language of teacher and children in a lesson becomes the basis of musical communication.

Conlusions and discussion

Any generalisations in phenomenological research would contradict the very idea of the methodology, however, one can conclude that the methodology of hermeneutic phenomenology proposes a way to get to know the daily routine of teachers.
The current study sought to present the experiences of music teachers' work in a kindergarten through their stories about the memorable moments of their professional activity. When reading the collected stories, one may think that nothing significant happened in the situations remembered by the respondents. We hardly see any conflict, resistance, or disagreement. However, the study reveals that, despite the smooth process of the work with children, the teacher's inner life is filled with doubt, considerations, and reflection.

The teachers' stories about their bodily experiences in different situations indicate that, for them, memorable moments relate to physical experiences. Just like argued by van Manen (1990), the teacher's body participates in events and 'tells' about specific experiences not only reflecting on them from the perspective of the present, but also revealing how the situation was experienced at that moment. Physical experiences create preconditions for revealing such moments of the teachers' everyday life which would otherwise be overlooked or considered as irrelevant. Aida feels the children's looks with all her body, Laura perceives her face as a carrier of emotional information, while Jonė experiences a different, purposefully transformed body of hers. One can agree with Lingis (2010) who argues that the body is not 'silent': it keeps talking through a look, facial expressions, and the body language.

The dimension of corporeality highlights the role of another body in a teacher's work when the presence of children or colleagues becomes the basis of the teacher's self-reflection. To quote Merleau-Ponty (2014), we are not always aware of and attentive to the actions and responses of our own bodies. On the contrary, in an everyday environment, our body frequently responds and acts 'automatically', subconsciously. The teachers became aware of themselves when other people appeared next to them: the presence of university students in her lesson made Laura question the normality of her facial mimics, eloquent looks of children noticed by Aida was the non-verbal expression of the children's immersion in music learning. The teacher recognized the meaning of the looks and interpreted them as an indicator of the quality of her performance. That echoes Husserl's (1991) idea about the perception of ourselves and our experience through another person. The teachers' experiences of their performance in the presence of others stimulated their attentiveness, encouraged them to raise questions about the relationship with their activities, and triggered reflections on the similarities and differences of themselves and other people.

The experiences of the teachers revealed in the study are not finite or leading to unambiguous conclusions about the work of music teachers being characterised by one or another feature. Specific experiences of each teacher lead to a deeper understanding of, and reflection on, the complex nature of a music teachers' work. By phenomenological research we seek to grasp potential meanings, however, not the ones which would imply their absolute universality regardless of time, culture, gender, or other possible circumstances (van Manen and Adams 2010).

On the other hand, the research reveals several unexpected aspects that expand the understanding of music teachers' work in kindergarten. The presented descriptions of the meanings of music teachers' work encourage us to continue a discussion about what it means to teach music. The research outcomes may inspire further research in the following topics: bodily experience of music related to teachers' social and cultural environments or the competence of a music teacher to use bodily experiences in musical learning. The knowledge gained could contribute to the improvement of the early music education processes.

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No mind without body
Reflections on embodied learning of young children

Wilfried Gruhn
Musikhochschule (University of Music)
Freiburg, Germany
mail@wgruhn.de

Abstract

Music abilities of infants and young children develop according to their level of aptitude, the musical environment, and the informal guidance of parents and/or teachers. However, the primary modality of music learning is connected with the body and bodily movement. Neurobiological research has demonstrated that learning causes structural and functional changes in brain areas. The question is how educators and care givers can stimulate infants' brains to support those changes.

For more than 20 years the Freiburg Gordon Institute for Early Childhood Music Learning (children from birth to 6) has investigated the relation between musical abilities and movement in observational studies, test procedures and empirical experiments with electromyography (EMG). A Criterion Based Observation Form (CBOF) was deployed to collect data on children's musical (tonal and rhythmic) behaviour and their motion control. Other studies applied a motor test for children age 4 to 6 (MOT 4-6) to study proprioceptive abilities as well as reaction time, balance and fine motor coordination, and supplemented it by a music aptitude test (Gordon's PMMA). Finally, an EMG motion study focused on proprioceptive sensibility (PAR quotient) and related it to children's results in PMMA sub-tests. The paper presents research results that focus on body movement in early music learning and contributes to the embodiment of cognition.

All test procedures exhibit a strong association of musical abilities with motor development. The empirical results confirm what has been exposed by observation and testing: the higher the score in PMMA, the better the results of EMG measurement. There is a significant linear correlation of the percentile rank in motor and music abilities.

The recent focus in neuropsychology on embodiment underpins the educational value of learning through enactment. For young children, the body and bodily movement offer the most appropriate and effective means to children's learning. There is no learning and no cognition without an integration of body functions. Children do not learn and experience music only in their head, instead body movement opens an access to the mind and enhances the development of mental representations.

Keywords
Early learning, embodiment, proprioception, motor development, mental representations

Introduction

Musical abilities of infants and young children develop according to their level of musical aptitude which provides them with the potential to learn. Additionally, parental support and beneficial environmental conditions have a strong impact on children's motivation to learn and their commitment to music. During the first years of life they lay the ground for their further musical involvement and achievement. And even at a very early age one can observe that and how the body and bodily gestures build embodied narratives to express themselves and load bodily gestures with meaning. "Children enter into a musical culture where their innate communicative musicality can be encouraged and strengthened through sensitive, respectful, playful, culturally informed teaching in companionship" (Malloch & Trevarthen, 2018)(p.1). And it becomes quite obvious that even small children internalize music through gestural movements. However, the way they move and use their bodies is rather diverse and differently cultivated.

This was the initial motivation to research infants' movements and look for potential correlations between their musical aptitude and motor control. In 1998 – 1999 we performed a longitudinal observational study with preschool children where body actions and musical articulations were rated separately using a Criterion Based Observation Form (CBOF). The focus was on the type (imitative vs explorative) and quality of movements (flow, coordination, synchronization) and on the accuracy of rhythm patterns as well as on the intonation of tonal patterns. The results clearly confirmed a significant correlation between bodily and vocal actions (Gruhn, 2002).

What does that mean? Does music support motor development or the other way around: does a good motor coordination indicate a higher degree of musical aptitude? To answer these questions, we complemented the investigation by an empirical study on motor abilities and music aptitude. The first Freiburg movement study started in 2009. Four to six year old children performed a motor task (MOT 4 – 6) (Zimmer & Volkamer, 1984) where reaction time, fine motor coordination, balance and body control were tested, followed by an aptitude test consisting of tonal and rhythm listening tasks (Gordon's Primary Measures of Music Audiation, PMMA)(Gordon, 1979). The entire sample (n= 28) was divided into an upper and lower achievement group according to the results of the music aptitude test. Then, both subgroups were compared separately regarding their scores in the motor test (Gruhn, Haußmann et al., 2012). Again, children exhibited a highly significant linear correlation (Pearson r =.579) between music aptitude and motor development (figure 1).

Linear correlation between motor control (y-axis) and music aptitude score (x-axis).

To prove these results, another physiological test was applied using electromyography (EMG) in order to measure the activity (tension) in the skeletal muscles (figure 2).

EMG measurement of the tension of three main leg muscles (peroneus, soleus, tibialis) with electrodes on children's legs and the corresponding proprioceptive amplification ratios (PAR quotients of measurements medio-lateral and anterior -posterior).

The results confirmed once again the former findings: the higher the music aptitude score the better the proprioceptive amplification ratio (PAR) which indicates the motor sensitivity (Gruhn, Haußmann et al., 2012).

These findings support a strong connection or even an interaction between movement (body) and the musical mind (musicality), but not in a simple unidirectional way in the sense that movement explains musical abilities or vice versa, it rather makes

clear that both abilities develop in synchrony and on a similar level because motor activities reflect musical activities as embodied musicality. This also confirms former studies on the effects of integrated physical and music education (Brown, Sherrill et al., 1981) as well as the investigation of effects of early musical training on motor learning (Penhune, Watanabe et al., 2005). These studies refer to a strong association of body movement and musical activities during an early stage of learning.

Thinking and movement

As demonstrated by empirical studies, cognitive processes are strongly connected with the body. Perception always simulates movement, and bodily conceptions shape abstract thinking. According to the neuroscientist Rodolfo Llinás is mindness an evolutionary internalization of movement (Llinás, 2001)p. 5). Since thinking is a premotor act (Llinás, 2007), movement constitutes a core mode within the development of communicative interactions and, therefore, has become a new focus of interest (Müller & Wolf, 2018). Whatever humans and other mammals do in communication is initiated or accompanied by movements. Therefore, the neurologist and movement expert Daniel Wolpert has emphasized that to understand movement is to understand the whole brain. From this perspective, he concludes: "We have a brain for one reason and one reason only, and that's to produce adaptable and complex movements. There is no other reason to have a brain. […] Movement is the only way you have of affecting the world around you" (Wolpert, 2011). Accordingly, studying memory, cognition, sensory processing at an early age requires a focus on action.

This can be exemplified by the evolution of species, for example the sea squirt (Ascidiacea), a translucent and gelatinous marine invertebrate animal which belongs to the chordates. At an early stage of development, it shows a rudimentary form of a brain. Afterwards, it swims around, and the motor systems governs it to find a stable ground to settle. From that moment on the brain degenerates until it disappears nearly completely because it is no longer needed since there is no reason for further movement.

This elucidates that movement is the evolutionarily earliest and most important way to interact with the environment. All further elaborated forms of communication, such as speech, gestures, or writing, are also mediated via the motor system (see Wolpert, 2011). The interaction of thinking and movement must be seen as a vital condition for music experience and music performance (Gruhn, 2017; Hiekel, 2017; Oberhaus & Stange, 2017; Wöllner, 2018) and has established the prevailing concept of embodied cognition.

Experiencing music in early childhood

This is strikingly reflected in the way children experience music. Jeanne Bamberger has researched on it throughout her academic life (Bamberger, 2013) and discovered different types of embodied representations which she called figural and formal (Bamberger, 1991). Based on experiments with children's notations that were seen as windows into their cognitive representations (Bamberger, 1982), she has demonstrated that children focus their attention on the flow and weight of the sound rather than measuring the height and duration of the notes (figure 3). It is striking that in the upper and lower example the numbers do not indicate the order of the particular events, instead they refer to the felt weight of each sound while clapping the rhythm (figure 3).

Children's notations of a simple rhythm with symbols and numbers (according to Bamberger, 1991, p. 72) (with permission).

This makes clear that and how children experience sound in a different way compared to adults (Gruhn, 2018) who count and measure. The essential categories of weight and flow have been introduced by the dancer and dance theorist Rudolf von Laban (Laban, 1988). They precisely describe the characteristic mode of experiencing sound qualities which are unrepresentable in standard notation, but reflect corporeal sensations.

Children's learning is grounded in mental representations that are gained and expanded through experience (Gruhn, 1997). Learning itself refers to changes and differentiations of those representations or – in other words – in changes of neural connections. Here, the question is how educators can stimulate those changes since we do not have immediate access to the brain – except through the body and its movements. Whatever is learnt musically is basically acquired through movement. Brain stem stimulation is the key entrance portal to the brain and its cortical development. The lived experience of a syncopation (knowledge of) is different from a verbal description (knowledge about) and should not be taught theoretically, rather than through body experience accompanied by rhythm syllables (rhythm solfège). Vocal performance and corporeal implementation prepare the musical mind to develop mental representations and, therefore, determine musical experience which, then, generates musical perception and cognition.

Learning is essentially based on the differentiation of "same" and "different". However, this distinction calls for a cognitive act which is driven by different criteria. What "same" means for an experienced adult (e.g. 2 notes of an octave) seems "different" for a child without the knowledge of the different features of pitch class (chroma) and pitch height (frequency). Through learning children develop their understanding of adults' conventions to focus on different aspects of the sound. As teachers, we must understand the unbiased criteria for the differentiation of "same" and "different".

Embodied learning and communicative musicality of children

In recent years, the concept of embodiment has become a rather favourite concept in learning theory and psychology (Gruhn & Röbke, 2018; Koch, 2013; Malloch & Trevarthen, 2009; Oberhaus, 2006; Paparo, 2016). If we see musical thinking as an internalized form of movement which has developed throughout evolution, then the constitution of musical thinking through audiation (Gordon, 1980) should be linked to the embodiment of learning. This refers to the integration of the entire body into the teaching and learning procedure. Learning calls for an enactive process where the objects are transformed into corporeal actions (Rowlands, 2010). Children gain knowledge through action and interaction; for the mind is strictly bound to the body. There is no mind without a body function. Thinking – and musical thinking as well – replaces and therefore represents movement (see Llinás, 2001, 62). Consequently, movement functions as a practical means to establish and nurture musical thinking. Therefore, who confines movement, confines thinking.

Furthermore, as far as music can be seen as expressing movements of the inner life, one can consider motion as a form of a gestural narrative (see Malloch & Trevarthen, 2018). In the learning process a child connects the inner motion of music with the corporeal motion of the body. And this interaction entails embodied learning, i.e. learning with and through the body. Here, Malloch and Trevarthen speak of motor intelligence (2018, p. 3) which is based on the intention of an envisioned purpose. By this, the connection between intentional thinking and movement becomes manifest.

In music learning educators should, therefore, play on this intentional corporeal thinking.

Through body movement the brain and its mental representations can be stimulated immediately and most efficiently. The neural structures immediately reflect the activities of children's body actions which terminate the process of building mental representations.

Conclusion

These basic assumptions about learning in early childhood lead to the following consequences:

1. Learning can be defined by the development of mental representations. This is a process that happens within the neural structure of the brain and relies on a physiological change of the neural connectivity. By this, neural conditions on the molecular level merge with cognitive functions of learning. Therefore, we argue that
2. early childhood education should integrate the body as a primary source of learning. It is not the head (brain) that learns, not the eye that watches, not the ear that hears, it is always the entire person – the body and the mind – that are involved in perception and cognition. That is what René Spitz has addressed as coenesthetic perception (Spitz, 1965) which means a general permeability of one's own body.
3. Since all cognitive functions of perception and cognition, of learning and understanding are bound to a body where thinking is represented by movement, no mind can grow without a body. Early learning, therefore, can only be achieved when we view the body as a condition of the mind. Learning, then, turns into embodied cognition.

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Acquiring novel words in a second language through mutual play with child songs – the Noplica Energy Center

Laura E. Hahn
Centre for Language Studies, Radboud University
Nijmegen, The Netherlands
l.hahn@let.ru.nl

Maaike ten Buuren
Radboud University
Nijmegen, The Netherlands

Monique de Nijs
Radboud University
Nijmegen, The Netherlands

Tineke M. Snijders
Max Planck Institute for Psycholinguistics
Nijmegen, The Netherlands

Paula Fikkert
Centre for Language Studies, Radboud University
Nijmegen, The Netherlands
p.fikkert@let.ru.nl

Abstract

Child songs are a great source for linguistic learning. Here we explore whether children can acquire novel words in a second language by playing a game featuring child songs in a playhouse. We present data from three studies that serve as scientific proof for the functionality of one game of the playhouse: the Energy Center. For this game, three hand-bikes were mounted on a panel. When children start moving the hand-bikes, child songs start playing simultaneously. Once the children produce enough energy with the hand-bikes, the songs are additionally accompanied with the sounds of musical instruments. In our studies, children executed a picture-selection task to evaluate whether they acquired new vocabulary from the songs presented during the game. Two of our studies were run in the field, one at a Dutch and one at an Indian pre-school. The third study features data from a more controlled laboratory setting. Our results partly confirm that the Energy Center is a successful means to support vocabulary acquisition in a second language. More research with larger sample sizes and longer access to the Energy Center is needed to evaluate the overall functionality of the game. Based on informal observations at our test sites, however, we are certain that children do pick up linguistic content from the songs during play, as many of the children repeat words and phrases from songs they heard. We will pick up upon these promising observations during future studies.

Keywords
Language games, child songs, movement

Introduction

Child songs are a great means for language learning (Davis, 2017). A number of studies show a positive effect of using child songs within early language education (e.g. Albaladejo, Coyle, & Larios, 2018; Chou, 2014). Clearly, the songs' positive emotional connotation and their salient structure make them a good mnemonic for children as well as adults (e.g. Gingold & Abravanel, 1987; Lindstromberg & Boers, 2008; Purnell-Webb & Speelman, 2008).

Another important component of early childhood is movement during play, preferably outdoors (e.g. Aarts, Wendel-Vos, van Oers, van de Goor, & Schuit, 2010). Mutual play can serve as an informal learning context in which children pick up knowledge without being instructed explicitly (Acar, 2014).

The Noplica foundation designed a set of language games to stimulate language learning through mutual unsupervised play (www.noplica.nl). The language games are combined into playhouses, of which prototypes have so far been installed in an orphanage in Maharashtra, India and at schools in Rotterdam and Nijmegen, the Netherlands. So far, a Dutch and an English version of the playhouses have been created. One of the games of the Noplica playhouse is the Energy Center (see Figure 1).

Figure 1: Energy center set up in a language lab, with two children playing and led-lights indicating energy produced.

In this game, three children play together at a panel with hand-bikes. Each child choses one of the hand-bikes. Upon movement of the bikes, child songs start playing and colorful LED-lights indicate how much energy each child produces, that is, how steady the child is cycling. Soon after the cycling has started, the child songs are accompanied by musical instruments, one instrument for each hand-bike. The children can cycle for as long as they wish and get exposed to a set of twenty different songs. The songs feature different topics and vocabulary and are sung by male and female singers in a child-friendly way. During our informal observations at the prototypes we saw children cycling eagerly, competing for the LED lights to go higher and higher and becoming submerged in the songs. Children also switched bikes during playing, cheered each other to cycle more and were clearly enjoying game.

The aim of the current set of studies was to investigate whether playing in the Energy Center has a positive effect on children's vocabulary in their second language. That is, do children know or acquire more words after they have played in the Energy Center? We will present results from three studies: Study 1 is a field study at a Dutch pre-school with children that had Dutch either as their first (L1) or second (L2) language. The children had access to the Energy Center on the playground of their pre-school and listened to twenty Dutch songs. Before and after playing, a picture-word-matching task was run to investigate growth in vocabulary.

Study 2 was run in a language laboratory in the Netherlands with groups of Dutch children that did not know each other prior to the beginning of the study. Children visited the lab in groups of three children and played in the Energy Center for approximately ten minutes. They were exposed to an English version of the child songs. Again, a picture-word-matching task was run to investigate whether the words featured in the Energy Center songs are recognized better than two other sets of novel words.

Study 3 was run at an Indian orphanage with pre-school children of mixed language background (Hindi, Maharathi, and others). The design was the same as in study 2 (English child songs, picture-word matching task), however, this time children only listened to the songs while sitting in a circle, as the Energy Center was not yet installed at the field site.

Study 1: Field study with preschoolers in the Netherlands acquiring Dutch vocabulary

Method

Fourteen preschoolers (7 female, mean age: 3 years, 5 additional kids excluded) were recruited from a Dutch daycare and were tested on their receptive vocabulary in Dutch before and after they had access to the Energy Center (Dutch version). Participants either had Dutch as their first language (L1 group, n = 7) or as their second language (L2 group, n = 7). All children were diagnosed to be at-risk for language delays in Dutch. The Energy Center was installed on the playground of the daycare. Children had access to the Energy Center within groups of three to four children once a week over the course of four weeks. Each group would play approximately ten minutes, so that each child accumulated an estimated average of sixty minutes of playing time in the Energy Center. The Energy Center featured a set of twenty child songs with Dutch lyrics. The songs were playing in random order. A subset of three songs was additionally played in the classroom of the children for a single day. On this day, the three songs were repeated three to five times in a passive to semi-passive listening context, meaning that children were not listening attentively to the songs most of the time. Before and after the four-week playing period with the Energy Center, children were tested on their receptive vocabulary with a picture selection task (Pre- / Post-test). Children were asked to point at the correct picture in a panel of four pictures (30 trials, 1 per target word). Half of the target words came from the songs that were only played in the Energy Center (n=15, Energy Center Context). The other half of the target words was featured in the three songs that were played in the Energy Center and additionally in the classroom (n=15, InClass Context). The dependent variable was the percentage of correct responses in the Pre- and the Post test for the two learning contexts (Energy Center only, InClass) and the two Language Groups (L1, L2).

Results

Both Language Groups performed better during the Post-test than during the Pre-test (see Figure 2). The L1 group also showed an increase in vocabulary after having played in the Energy Center without additional exposure to the songs. The L2 group, however, needed the aided benefit of in-class exposure.

Figure 2: Boxplots of vocabulary growth (post-test percentage correct minus pre-test percentage correct) for the two language groups and learning contexts. Thick lines = group medians, boxes = 1st and 3rd quartile, whiskers = 1.5 interquartile range, single points = outliers.

A repeated-measures mixed 2 x 2 x 2 ANOVA on the factors Language Status (L1, L2), Learning Context (EnergyCenter, InClass) and Time (Pre, Post) was performed. Percentages correct were higher in the post- than the pretest for both language groups (main effect of time, F(1,12) = 11.48, p =.005). A main effect of Learning Context (F(1,12) = 18.45, p =.001) was due to overall higher scores for the Energy Center items (also for the pre-test), showing the experimental lists were not completely balanced in difficulty/familiarity. L1 children numerically scored higher than L2 children, but there was no significant main effect of Language Status (F(1,12) = 2.50, p =.1). Importantly, there was a significant three-way interaction (F1,12) = 16.45, p =.002): the two language groups differed in the degree of vocabulary growth between Pre-and Post-test in the two Learning Contexts.

We therefore run separate ANOVAs for the two Language Groups with the factors Learning Context and Time of Testing. In the L1 Group, there was no interaction between Learning Context and Time (F(1,6) = 3.50, p =.1), while in the L2 group there was (F(1,6) = 16.35, p =.007). The Vocabulary Growth (post minus pre-test percentage correct) for the L2 group was larger for the InClass-words (t(6) = -3.0467, p =.03) than for the Energy Center (t(6) = -1.87, p =.1).

Taken together, our results show that children benefitted from playing in the Energy Center, as they knew more words during the Post-test, than during the Pre-test. For the L2 children this benefit was increased by additional exposure to a subset of the Energy Center songs in class. For the Energy Center to be successfully integrated into educational practice, the language background of the target group has to be taken into account.

The current study has two important limitations: one is the lack of a baseline condition. Preferably, another group of children would have been tested that did not have access to the Energy Center at all. This would have allowed us to compare the baseline growth in vocabulary of this second group of children with the children that did play in the Energy Center. Second, follow-up studies should aim at balancing the baseline familiarity of the target words between the two learning contexts.

Study 2: Lab study with Dutch preschoolers acquiring English vocabulary

Method

Thirty-four Dutch monolingual preschoolers (17 females, 15 children excluded, mean age: 3.79 years,) were tested on their English vocabulary with a picture-word-matching task after having played once in the Energy Center (English version). Children did not know each other prior to their visit to the lab. Before playing in the Energy Center, children went through a picture-word matching phase (in English) on a tablet PC: 18 pictures were shown consecutively on screen. Each picture was either named ("Look! A bike! Touch it!", "Look! A chair! Touch it!") or not named at all ("Look! Touch it!"). After this Matching Phase, children played in the Energy Center for as long as they wanted. The Energy Center featured two sets of three songs each (Version A (12 children tested) and B (24 children tested)). The songs contained a subset of the words from the matching phase (e.g. bike). During the Test Phase, children saw a set of three pictures on the tablet PCs and were asked to touch the correct picture. The pictures were distributed across three conditions: Novel = not named during the Matching Phase, Matching = named only during the Matching phase of the experiment (e.g. chair) and Energy Center = named during the Matching Phase and in the Energy Center Songs (e.g. bike).

Results

Children performed around chance level regardless of the experimental condition (see Figure 3).

Figure 3: Percentage of correct responses in the three experimental conditions of study 2, dashed line = chance level. Boxplots: thick lines = group medians, boxes = 1st and 3rd quartile, whiskers = 1.5 interquartile range. Underlying violin plots: distribution of the single data points.

A one-way repeated-measures ANOVA indicated no significant differences between the three Experimental Conditions (Novel, Matching, Energy Center) ($F < 1$).

Study 3: Field study with preschoolers in India acquiring English vocabulary

Method

Sixteen children (7 female, mean age: 4.0) were recruited at the campus of Snehalaya Foundation in Ahmednagar, India. Children either had Hindi or Marathi as their first language and did not have English language lessons in the past. However, they were used to overhearing English from volunteers visiting the campus and some children did know a couple of English terms (e.g. “tree”, “selfie”). Children were tested on two-consecutive days. On day 1, children executed the Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 1997) to assess individual differences in English vocabulary. On day 2, children were tested in groups of three children and first listened to three songs from the Energy Center (English version). Each song was played three times, meaning that children heard nine songs in total. Children were sitting in a circle together with the researcher and a teaching assistant. They were instructed to move and clap along to the songs. After exposure to the songs, the Matching Phase began: the

teaching assistant introduced the English vocabulary of the songs by showing the group of children pictures of the target words. Like in study 2 above, target words were distributed across three conditions: Energy Center Songs (words being named in the songs from the Energy Center and during the Matching Phase), Matching (words only being named during the Matching Phase but not in the songs) and Novel (words not named at all). For the words from the Song and Matching condition, the teaching assistant would name the target word several times (e.g. "Look! A bike! Bike! Bike!"). For the Novel words, the teaching assistant held up the picture of the target word and only said "Look!, How nice!". During the test phase, children were tested individually. Like in study 2, children now saw pictures of three target words at the same time and were asked to point at the right picture ("Show me the bike!").

Results

Children performed better in the Matching and Energy Center condition than in the Novel condition (Figure 4).

Figure 4: Percentage of correct responses in the three experimental conditions of study 3, dashed line = chance level. Boxplots: thick lines = group medians, boxes = 1st and 3rd quartile, whiskers = 1.5 interquartile range.

A one-way repeated-measures ANOVA indicated a significant main effect of experimental Condition ($F(2,30) = 4.50$, $p = 0.01$). Follow-up t-tests revealed that performance was significantly better for the Energy Center Songs ($t(15) = 2.91$, $p = .01$) and Matching condition ($t(15) = 2.60$, $p = .02$) compared to the Novel condition. Children performed equally well in the Matching and the Energy Center condition ($t(15) = 0.13$, $p = .9$).

General Discussion

Taken together, the results of our studies are inconclusive. Only in the first study a general benefit of using the Energy Center could be observed. However, study 1 misses a baseline condition with another group of children that did not have access to the Energy Center. In study 3, performance was good on the words used in the Energy Center songs, however, this performance was not better than for the words that only occurred during the Matching phase. We were thus not able to prove an additional benefit of hearing the songs from the Energy Center. In study 2, performance was around chance level in all three experimental conditions. Crucially, participants in this study had the least prior exposure to the language that was featured in the Energy Center songs and were only playing for a rather short amount of time. Moreover, the lab environment was admittedly detrimental for the effect of the Energy Center. Unlike in study 1 and 3, in our lab study children were recruited from different day cares. Therefore, they did not know each other prior to the start of the experiment and where therefore rather shy during playing. In addition to this social component that was missing from the experimental context, children in study 2 also only had rather short exposure time to the songs of the Energy Center. During this short time, children had to actively cycle to listen to the songs. In study 3, the Energy Center songs were played for a fixed time and children were sitting in a circle instead of having to move the hand bikes. This rather active listening context together with the more relaxed test environment might have improved children's performance for both the Matching and Energy Center condition.
A general shortcoming of all our studies are the relatively small sample sizes. For the results to be reliable, a replication with more children accompanied by a power analysis seems warranted.

Conclusion

The Noplica Energy Center provides a promising means to stimulate vocabulary acquisition in illiterate pre-school children. For the Energy Center to work best, it seems crucial for it to be integrated within the daily activities of children (e.g. within a day care) so that children can access the Energy Center over the course of at least a month. Moreover, children should have some prior experience with the language that is featured in the Energy Center. Once children can play the game regularly and together with their peers, successful learning seems possible. However, more well-powered studies are necessary before firm conclusions can be drawn.

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‘Fake it till you make it’.
How do kindergarten staff in kindergartens with a music profile talk about their musical identity?

Nora Bilalovic Kulset
Norwegian University of Science and Technology
Trondheim, Norway
nora.kulset@ntnu.no

Kirsten Halle
University of Stavanger
Stavanger, Norway
kirsten.halle@uis.no

Abstract

The aim of this study is to investigate the musical identity among adults working in kindergartens with a music profile. The intention is to find aspects that might have transfer value towards other kindergartens and not the least the ECEC-education system when it comes to the music curriculum. The need for this study is based on a decrease in the presence of music both in the ECEC-education and in kindergartens. We interviewed 8 staff members in a well reputed music kindergarten in Norway and asked them about their musical identity. Results indicate that separately they – in terms of kindergarten staff – hold a quite average view on themselves as musically capable and thus have – as most kindergarten staff in Norway – a rather negative musical identity. However, together as a staff, their musical identity is quite the opposite. The adult companionship in the music making in this kindergarten is astonishing comprehensive and marks a pronounced distinction from the average kindergarten, where the refrain is that the adults are scared to sing in front of each other.

Introduction

According to a vast body of research, many kindergarten teachers feel a lack of confidence when it comes to sing and make music in kindergartens' everyday life (Ehrlin 2014, Ehrlin and Tivenius 2018, Ehrlin and Wallerstedt 2014, Stunell 2010, Hallam et al. 2009, Kim and Kemple 2011, Kulset 2016). The ECEC education system is offering music as a subject, but still there seems to be an ongoing decrease in music's place in kindergarten and the kindergarten staff's confidence within music making (Østrem 2009, p. 28). One might say that their musical identity is negative.

Considering the many positive outcomes that grow from music making and singing songs, such as language acquisition, empathy promotion and friendship building (Kulset 2018, RabinowitchCross and Burnard 2013, Kirschner and Tomasello 2010, Linnavalli et al. 2018), not to forget the emotional and aesthetic pleasure of music as an art form, one should think that music and singing songs would be an obvious part of everyday life in all kindergartens. However, the studies mentioned above tell us that this is not the case.

We have tried to turn the situation around, not only by teaching music in the kindergarten teacher education programme for almost twenty years, but also by travelling around Norway to give talks and workshops on music in kindergartens. Yet, we observe that the situation remains somehow unchanged. Indeed, music as a subject in the kindergarten teacher education in Norway is minimised and even left out as a mandatory subject named 'music'. Instead, music is merged with the other aesthetic subjects and given the name 'Kunst, kultur og kreativitet', 'art, culture and creativity'.[1]

While music as a subject is decreasingly visible in the kindergarten teacher education, music making and singing songs are correspondingly less visible – and audible – in the Norwegian kindergartens. Since we are unable to change the curriculum for the kindergarten teacher education offhand, we decided to have a closer look at some of the kindergartens that do make music and sing songs on an everyday basis. Who are the adults working there? What has made them 'musically capable' to such an extent? How do they talk about their music making and how do they talk about themselves as musical subjects? What is their musical identity, and how did they achieve this identity? By asking these questions, maybe we could find a secret ingredient to improve the kindergarten teacher education programme when it comes to music.

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1 In Norway, we use the term 'kindergarten' for all pre-schools, crèches, or playgroup activities led by educated kindergarten teachers alongside child care and youth-workers and other care givers. Children start school at the age of 6.

Musical identity

We use the term musical identity as coined/defined by Macdonald, Hargreaves and Miell (2017), Macdonald, Hargreaves and Miell (2002), pointing towards how our view on ourselves as capable (or not capable) musical subjects influences several aspects of our self-perception and identity formation. Also Denora (2000) and Ruud (2013) argue that our musical identity is a vital part of our self-biography. Would I describe myself as a musical person? Am I someone who is able to join in when people are singing together? Do I feel the beat in a song and let my body show that I can feel that beat? Am I afraid to hit the wrong notes with my voice? Do I feel musically uncapable because I don't play an instrument? To hold a positive musical identity means you consider yourself as a human being capable of using your innate musicality in an everyday life situation with other people. Opposite, to hold a negative musical identity refers to a feeling of insufficiency and incapability when it comes to everyday music making, often expressed by the presence of an overwhelming voice shame (Schei and Schei 2017).

The study

The starting point for the study is our proposed theory that 'understanding offers a more sustainable foundation (for incorporating more music making in kindergartens) than musical skills and knowledge of repertoire'. We believe that your musical identity, how you regard yourself as a musical human being, is detrimental to your capability and confidence in making music. Thus, we wanted to investigate how adults in kindergartens with a music profile talk about their musical identity.

We have individually interviewed eight staff members from one such kindergarten with a music profile. They were not aware of the aim of this study. We told them we just needed to hear a bit about everyday life in this particular kindergarten while we were developing a larger action research project that this study is a part of. In this way, we tried to minimise the researcher effect which of course was present all the time they are a part of a music kindergarten and they knew that we are music researchers.

The questions:

1. How did you feel when you started working in this kindergarten – how did you experience your role in music making situations, as a music maker?
2. What kind of role do you think music plays in the kindergarten?
3. What do you need know, or what kind of skills do you need to do music in kindergarten? Is there something particular that is good to have or that you think is necessary?
4. How dependent are you on other adults, some key person, being present in the kindergarten for you to be able to make music?

Results and discussion

Their hidden negative musical identity

First of all, we were astonished to find that most of the staff members expressed a feeling of insufficiency when it comes to music making – even in a music kindergarten. These informants are highly skilled in music making in the kindergarten. Nevertheless, we find the same sort of statements among the staff members when it comes to music making as in any other kindergarten. Considering these staff members are the peak of music making kindergarten worker, this gives rise to concerns. They are still bothered with voice shame and culturally given views on musicality and their own (lack of) capacity to make music. Once again, findings from previous studies are thus confirmed.

Interestingly, respondents' initial answers and statements seemingly displayed a positive musical identity. In fact, on the question 'What do you need to know, or what kind of skills do you need to do music in kindergarten? Is there something particular that is good to have or that you think is necessary?', most respondents answered that there is nothing you need, other than to just do it.

> A lot of people are concerned that they must be able to play an instrument, have a musical background, be able to read music and such. But for me it is not that you have to be able to do something specific, rather that you have an understanding of the effect music has. Many believe that they must be able to play an instrument to work here and be with the kids. That we have such a classic background and can play all instruments. Of course, it is very nice when someone can play an instrument or five, but that's not the most important. It's not the singing or playing instruments, but just being in the music. With dance and movement, feel the pulse. To be together in the group and have a joint experience of something. And even though there are ten people there and there may be ten different perceptions of what is going on, we still…(showing with hands that they are together)

Their own perception of their musical identity is clearly a positive one. 'We are the kindergarten that do music, and we know that everyone can sing and dance, and we do it!' However, when further elaborating on the initial answers, the presence of voice shame and a cultural given view on musicality, and their own (lack of) capacity to make music, emerged. One might say they have a hidden negative musical identity.

> To play it by ear, as things happen in the everyday life, that's easy and fun. But if it turns into specific tasks - performing - then I get...then I think…I'm not musical! I can't do this!
>
> I know I don't always hit the right notes, but it doesn't matter to me. I think the singing creates something anyway. I don't feel happy with all things I do musically, but it's not that I get annoyed about it afterwards. I do it because I notice that it has an effect on both myself and those I am with. It's not always completely successful.
>
> N: What do you mean by successful?
>
> I think of the quality of the singing or that I have not remembered the lyrics or... but... the companionship created by the singing counts the most. Nonetheless, I do self-judge myself a little, but less than I did before, and I do not put it on myself that 'I sang false or wrong'. It's just...yes.
>
> In my childhood I did not listen to classical music. It's something I've discovered after I've started here. I wish I knew more about such things, and somehow helped the little ones also be a part of it. After all, it is an important thing to bring along, all the well-known classical music pieces.
>
> K: What do you think is important about that?
>
> Oh, it's really so important! It is our history, the whole world history, it is important that we know about it. The children hear this music all the time, just turn on the TV! But I wish they had known more about the songs, who the composer is and so on. I'm not good at that.

The latter statement is from a staff member who sings all day long, and who is what we would regard as an excellent role model in both communicative musicality and everyday music making to anyone else in the staff. Still, she talks about knowledge in western classical music history as an important feature she doesn't have, and that she should have had to truly be able to offer these young children a meaningful musical environment. Where does these attitudes come from? Is it us, the musicians and music knowers who let these attitudes drizzle down on the 'non-musicians'? According to SlobodaDavidson and Howe (1999), it is precisely our group, the 'officially musical ones', who establish and reinforce such misconceptions of musicality and of important musical knowledge.

> There are so many students and parents staying with us who say: 'But I can't sing, I'm not musical!' Then I reply: 'No? What is it to be musical?', and then we start that discussion. And then they say: 'But it's so easy for you to say, because you just do it, it's so easy for you!', and I just: 'oh no, you are so mistaken, it is NOT easy for me'. And we are very clear on that, that it is scary. And then people get all: 'What? It is? But it doesn't look like that!' and I just 'fake it till you make it'. It's not just a piece of cake, that is so important.

'And we are very clear on that, that it is scary. Fake it till you make it'. These are pretty harsh statements. Are they faking their positive musical identity that make them also claim that everyone can sing, and that you don't need to know anything specific to make music? One of the staff members even told us that she is so scared to sing in front of other adults that she often starts to cry.

Moreover, several of the staff members talk about working alongside staff members that are confident in their music making as challenging.

> So, when you come to a new place and people are much better than you, they play the guitar and they play instruments, then you immediately feel like 'oops'... When I was working in another kindergarten, no one was neither singing nor playing. And here everyone is so incredibly skilled and forward that you actually lose a bit of your … (makes an excusing face).
>
> After all, you have all these musical talented people in this kindergarten that play both guitars and drums and have really good singing voices and all those things that make you feel like you are … well … like I don't know how to do these things.
>
> So you just have to think that: my god you have to be able to contribute with... and there is no one who will think that … that I don't know how to do it … but it is more your own feeling that: 'Gosh, you do it, you know this one so well'.

We are currently looking into how the staff members breaks this 'music making ice' and nonetheless make music together on such an extensive level in spite of experiences like these.

The guitar players as positive musical pathfinders

> To make the children sing along during circle time I feel it's very good to have a guitar. It builds up so much more of that interaction than what we can do with just a voice. So, it's not that... you can contribute to very much even if you don't have an instrument, but for me I feel it gives me a push when someone is playing the guitar, it creates a better atmosphere.

In short: if there's no guitar, it is much more difficult to sing and get the children to join you. 'It (the guitar) builds up so much more of that interaction than what we can do with just a voice'. Let us stop for a moment and have a short look at the guitar. We found that the guitar players – all male – hold central key positions for the music making in the kindergarten to happen. Knudsen et al. (2018) point to different musical pathfinders in kindergarten, where the male guitar player is one of them. The guitar players in this kindergarten, however, is different from the more normal character as outlined by Knudsen et al. (2018) (who makes music with his guitar through practicing his own guitar skills, often even on his own with no children present). The guitar players in this kindergarten, on the other hand, function both as supporters, initiative takers, motivators and role models. At the same time, the guitar players all expressed a high awareness in not always take the space and the lead with the guitar, but instead create a safe space where anyone can join, even without the guitar:

> Personally, it is important that I don't always grab the guitar, but also give the other adults a chance so they learn to feel safe in the music making, such as singing without being accompanied by an instrument. The voice is an instrument as well, I experience that all the time, you can just use your voice, sing songs and do rhymes. It excites the children just as much. There are always some adults that are more self-confident than others, and if you observe de adults you can see that someone might want to do something, but then they back out. Well, then we have to do something about that. We simply have to make an opening, a space, we have to accommodate.

The guitar players are in short creating a safe music making space for other staff members. They function as musical pathfinders that spread a positive musical identity in the group as a whole. 'You can do it, I will help you do it'. Most staff members also talk about the head of the kindergarten in that same way: as someone who both inspires them and also in fact demand of them to make use of whatever musical capital they may have.

> I think there are many ways in which one might be 'musical'. The head of the kindergarten has a way of being in her music making that is very kind and gentle, mild and inviting. It makes you feel confident in everything you do. Everything is accepted – it makes you feel free to simply try. I think that's important.

Their joint positive musical identity

It would seem that the central key persons, the musical pathfinders, are able to transfer their positive musical identity towards the entire staff. Individually, the staff members in this music kindergarten do not talk very differently about their musical identity or their musical skills than adults in other kindergartens that struggle with music making. They too talk about shortcomings, voice shame, and the wish for a supportive guitar to excite the children. What would have happened to their extensive music making if they were working in another kindergarten? They might not have made music in their everyday life at all.

The game changer is the word 'we' – the most used word in the interviews. It is together they achieve the positive musical identity that makes each one of them capable of using their innate musicality. It is together they become a music kindergarten where everyone sings, dances and plays all day long. The adult companionship in the music making is astonishingly comprehensive and marks a pronounced distinction from the average kindergarten, where the refrain is that the adults are scared to sing in front of each other. A vast body of research on the social benefits of singing together supports why doing it together is the key (see f.ex. Kreutz 2014, PearceLaunay and Dunbar 2015, Grape et al. 2002).

Conclusion

What kind of skills are needed? These findings represent a significant insight into how important adult companionship is for music making in kindergarten. This again points towards how fruitless it might be to solely focus on repertoire knowledge and other musical skills during the ECEC education, as long as the adult companionship is missing. This brings us back to our theory that 'understanding offers a more sustainable foundation (for incorporating more music making in kindergartens) than musical skills and knowledge of repertoire'. It is not the musical skills or knowledge of repertoire that make the musical pathfinders in this kindergarten able to include the rest of the staff in this joint positive musical identity. Rather, it is their understanding of what music might be to human beings, their understanding of human musicality as something everyone possesses. Moreover, it is their ability to invite the rest of the staff onboard and by this creating the joint positive musical identity that neutralises their individual negative (or culturally normal) musical identity.

Therefore, we hypothesise that by offering kindergarten teacher students theoretical knowledge on 'why music', their music making will strengthen. In this way, they will acquire both an attitude towards why music is important to human beings, and a language for 'why music' that stretches beyond the culturally given view on musicality as something only a few possess. In contrast, will learning new songs change their misconceptions of 'musicality'? Or will it simply add to the account 'fake it till you make it'?

Thus, theoretical knowledge may create an attitude towards music making and musicality that encourage kindergarten teachers to make use of their innate musicality. The consequence may be that we need to reconsider the present music curriculum for the kindergarten teacher education and find an appropriate balance between the development of practical skills and theoretical insight in the few music lessons that are offered. Moreover, it is also important to be critical of what kind of theoretical insight the students are presented to, as the purpose of the theory is to support and build each student's own musical confidence. And most important of all, these findings indicate that the presence of adult companionship in kindergarten music making needs to be addressed. How can the newly graduated kindergarten teacher create such an adult companionship at his or her new working place? What skills are needed to be able to invite the other adults onboard and by this creating a joint positive musical identity that neutralises individual negative musical identity?

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Using singing in early childhood classrooms: Teachers' attitudes, skills and practices in Ireland

Edel McDonnell
Dept. of Music, University College Cork,
Cork, Ireland
edel.mcdonnell@cit.ie

Abstract

The literature on young children's singing development shows the importance of vocal range, the child's vocal mechanism (parameters of the child voice), pitch-matching accuracy in relation to solo and group performance (text and pitch), human vocal model (song teaching approach) and timbre (chest versus head voice use). How Early Childhood Teachers (ECTs) engage in singing with young children identifies a gap in the literature. In Ireland, ECTs follow either of two frameworks: Aistear[1] and Síolta[2]. However, neither of these schemes provide specific guidelines which support singing with young children.

The purpose of the study discussed here is to provide a broader perspective and a deeper understanding of how ECTs engage in singing with young children in Ireland. This paper presents findings from the first phase of a three-phase doctoral research project with ECTs. The first phase will provide a systematic way of identifying ECTs' attitudes, skills and practices in singing in early childhood classrooms. The study will identify what instructional strategies ECTs use and how they engage in pre-school singing. Qualitative data will be collected via in-depth semi-structured interviews conducted with ECTs.

The presentation will also share key points from existing literature on children's singing and conclude by raising questions that would guide the construction of a model for effective singing with preschool children.

Finally, the necessity for continued professional development in singing for ECTs is highlighted through facilitating ECTs to competently apply new knowledge, skills and understanding of singing with preschool children. The research findings also raise awareness around the complexities and contributions of singing among ECTs and aims to lead to developments in Irish Early Years Education Policy though content and processes.

Keywords
Early childhood teachers, singing in early childhood, Irish curriculum

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1 *'Aistear' from the Irish language translates as 'a journey'.*

2 *'Síolta' from the Irish language translates as 'seeds'.*

Introduction and Rationale

The Irish early childhood curricular frameworks do not provide specific guidelines for early childhood teachers (ECTs) on how to teach young children singing in their classrooms. Informal evidence gathered from personal experience of early childhood education in Ireland suggests that ECTs are not successfully supporting the singing development of young children in their settings. The reasons for this lack of support may be surmised, based on the literature from other countries but to date no systematic study in Ireland of ECTs' attitudes towards children's singing, their knowledge of children's singing development nor their skills and teaching practices for singing has been carried out.

In order to explore these issues this study (which is currently underway) is framed by the following questions:

1. What are ECTs' attitudes, skills and practices of singing in the early childcare settings?
2. What type of singing activities are ECTs using in their daily settings?
3. Following the completion of an intervention framework[3], did the ECTs competently apply new knowledge, skills and understanding of singing with preschool children to make necessary changes within their practice?

Literature Review

In the Irish preschool education system, policy makers and curricula writers do not seem to acknowledge the benefits singing has for young children (Hallam, 2010). As well as this, the two Irish Early Childhood Teaching Frameworks, Aistear and Síolta, have not made music or singing a compulsory component throughout Irish early childhood practices. In addressing these gaps, this research will firstly look at the classroom environment in which early childhood music learning takes place in Ireland, and will then discuss the usefulness and efficiency of this environment in achieving its aims.

According to Barrett, Flynn and Welch (2018a) 'music should be a compulsory requirement in any early childhood programme'. A large body of research consistently shows that music has many benefits for children in early childhood education curricula. The various research areas of literature have shown the benefits for children when engaged in music, particularly singing. These research areas include physical, psychological, social, musical and educational (Welch, 2012). In another study by

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3 This intervention framework refers to an adapted model of research over three phases. This type of research method 'impact on individual and community level behavioural outcomes' (Fraser, Galinsky 2010).

Barrett, Zhukov, Brown and Welch (2018b) the empirical findings show the benefits for young children include the positive impact on the development of singing skills when access to music education is available. Hallam (2010) also demonstrates the positive effects of engagement in music for preschool children such as the development of literacy, perceptual and language skills. Suthers (2001) shows the value of music experiences in an early childhood curriculum. An example of such a music experience from this study would be the caregivers' routine, an experience which involves the children interacting with songs, rhymes and fingerplays.

A case study in an Australian Early Childhood Education Centre conducted by Barrett et al. (2018a) suggested that 'music provision is best supported when there is a high value for music amongst staff'. This study revealed that both the director of the centre and the early childhood teachers' (ECTs) valued music in children's learning and development and therefore music opportunities are more likely to be implemented. Another study conducted by Kim and Kemple (2011) highlighted preservice teachers' high value for music in early childhood education but suggested a low lack of confidence in implementing music activities existed. ECTs' participation can be marred as they feel anxious when they sing in their work environment (Swain and Bodkin-Allen, 2014).

A study by De Vries (2006) reported on the impact of professional development (PD) musical activities with staff at an Australian childcare centre. The researcher (De Vries) provided the PD for the staff over an 8-week session. De Vries concluded that ongoing support and practical follow-up from the PD was still needed upon completion of the 8-week session. De l'Etoile's (2001) study on the training of child-care workers in music suggested the study seemed to be effective at improving caregivers' attitude towards the implementation of music in the childcare settings. In this study training materials were developed by the researcher for the caregivers which were required to attend three in-service training sessions. The in-service programme revealed an improvement in the caregivers' attitudes and knowledge about music activities for young children.

In their case study of music provision and support in early childhood education, Barrett et al. (2018a) suggest that 'practice-based, sequential and sustained PD provides early childhood educators with opportunity to overcome deficits/gaps that may arise from training'. In this study, the centre provided non-compulsory PD including a Kodály Training Course and an annual music conference. This centre used a cascade model of PD where one staff member undergoes the formal Kodály training and then mentors her other colleagues through informal PD sessions.

Taken together, these studies reveal that ECTs value music, but lack confidence for singing and that professional development needs to include practice-based training over a period of time with follow-up. It is well established the many benefits singing has for children in early childhood education curricula and why it should be a compulsory component. The ECTs' initial musical training, their PD, as well as their own values for music along with the Aistear and Síolta initiatives will be explored through the in-depth semi-structured interviews and the online questionnaires.

This study hopes to document and understand the ECTs' individual musical needs within their practice. Furthermore, the practical training required for the ECTs will advance the emerging field of research and practice in early childhood music.

Method

Qualitative data will be collected via in-depth semi-structured interviews with six ECTs based in the Cork city area. A KAP (knowledge, Attitude, Practices) online survey with ECTs and early childhood owner/s from both private and community settings throughout Ireland will be carried out. The online survey will provide information about ECTs' viewpoints, understandings of singing in their settings, explore ECTs' initial professional education (IPE) and continuing professional development (CPD) in relation to singing. Additionally, the survey will identify the owners'/mangers' perspectives on how they perceive singing in their workplace.

Participants will be recruited from local and national early childhood organisations and through social media. Semi-structured interviews use open and closed questions which allow for greater detail in the responses and flexibility from the research participants (interviewees). A greater level of standardisation, 'factual information and/or descriptions of experiences, beliefs, or events' can be achieved using this type of qualitative research (Conway, 2014; 251).

This semi-structured interview method is suitable for the first phase of the study as it will begin to address the research questions and help design the online questionnaire based on the interpretation of the semi-structured interviews.

The interviews will be audio recorded and then analysed qualitatively. Qualitative analysis techniques, themes and subthemes will then be identified through the texts from the transcriptions of the audio recordings.

Findings

At this stage of writing the conference paper, the interviews and analysis are still in progress. The findings will be given in the spoken presentation. However, pilot interviews already suggest that teachers have concerns around repertoire choice, confidence in their own singing abilities and knowledge about teaching music in early childhood. This knowledge refers to ECTs' musical pedagogy and knowledge about children's vocal ability and development.

Conclusion

The necessity for continued professional development in singing for ECTs is highlighted in facilitating ECTs to competently apply new knowledge, skills and understanding of singing with preschool children. The research findings also raise awareness around the complexities and contributions of singing among ECTs and aims to lead to developments in Irish Early Years Education Policy though content and processes.

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The relationship between music and language development in early childhood: An alternative view

Amanda Niland
School of Education and Social Work
University of Sydney, Australia
Amanda.niland@sydney.edu.au

Abstract

Early childhood music classes are popular in many countries, and a Google search of programme websites shows many claims made for the developmental benefits of music. In particular, the value of music for language development is often stated. But what are the implications of such claims for children and for early childhood music educators? This paper explores links between music and language development drawn from a range of disciplines that paint an alternative picture to simply viewing music as a tool for enhancing the non-musical aspects of children's development. Overall this exploration seems to indicate that rather than music being a separate domain of learning and development to language, in fact musical and speech and language development go hand in hand: children's innate musicality makes them responsive to the musical aspects of speech, which they then instinctively use to develop their speech. This perspective on the relationship between music and language can serve to encourage music educators and researchers to reflect on their understandings of music and its role in young children's lives, and to challenge themselves to think critically about the relevance and validity of many commonly made claims about the benefits of music, and about the way these influence early childhood music pedagogy. Implications for music education practice are discussed and an alternate question for music educators is proposed: How might the embodied nature of young children's music-making support them in 'learning how to mean'?

Keywords
Musicality, language development, meaning-making

Introduction

Much of the currently available information about early childhood music education focuses on the role of music in supporting children's learning and development. This includes peer-reviewed publications, articles in parenting magazines, curriculum information provided by early childhood education and care (ECEC) settings and marketing materials for commercial EC music programs. Advances in neuroscience and the ability to study music's effect on the brain have led to new depths of understanding about how music is processed, which in turn has resulted in many claims about the benefits of music, only some of which are actually derived from research. Further, the attention given to this non-musical developmental focus would seem to suggest an implicit argument that music's value for young children lies in its developmental benefits rather than in the joys of musical experiences. This argument in turn suggests an implicit belief that the arts for their own sake are adjuncts to life and hence to education, rather than being central to human existence and cultures (Dissanayake, 2009).

Interestingly, much current early childhood music research takes an alternate perspective, providing evidence of children's innate musicality and linking music to children's individual and social identity development (see Young, 2016). However, beyond the academy, the role of music in early childhood continues to be commonly understood and explained in terms of its perceived effects on non-musical aspects of learning and development. In this paper, I will outline and analyse some examples of what research actually shows about the relationship between music and language development during the early years, and through this pose alternate ways of understanding the role and value of music within early childhood curriculum.

I will also argue that any analysis of the benefits of music for language development should be based on an explicit theoretical framework, including clear definitions of music or language. Much of what is written about the relationships between music and language development is based on both music and language being described in terms of their elements and structures, rather than in terms of their role in children's lives. There is also a common implication that language equals speech (eg. Chen-Haftek & Mang, 2012). However, language is much more than speech, and children use many languages or symbol systems to communicate and make meaning, including music (Wright, 2015). In this paper, explicit definitions of both music and language are provided, and used as a theoretical framework for the exploration of the relationship between music and language.

How is music defined? What does it mean to young children?

Music has been defined in many ways. Definitions often focus on how it is produced, or on its aesthetic and emotional effects. For example, one dictionary describes music as: "the science or art of ordering tones or sounds in succession, in combination, and in temporal relationships to produce a composition having unity and continuity" (https://www.merriam-webster.com/dictionary/music). Acknowledging the cultural constructions of such definitions, and seeking to convey a broader understanding of music, 20th century composer Varèse defines it simply as organised sound. Brandt, Gebrian and Slevc, add a human aspect to their definition by proposing that "Music is creative play with sound: It arises when sound meets human imagination" (2012, p. 3). Another definition that acknowledges music as part of life and culture is that of Small, who says, "music is not a thing, but an activity, something that people do" (1998, p. 2). Music has also been described as one of the languages of childhood (Acker, Nyland, Deans & Ferris, 2015), used by children to make and express meaning in their interactions with others. This latter understanding of music can be linked to the proposition that human communication is inherently musical and reciprocal in the ways that tempo and vocal quality are used in interactions (Erikson, 2009; Malloch & Trevarthen 2009; Papousek & Papousek, 1971; Trevarthen, 1999). The research that has identified these musical qualities in early vocal interactions between infants and mothers has led to the development of the term 'communicative musicality' (Trevarthen, 1999), a concept which has influenced many early childhood music researchers over the last decade, as it supports recognition of the musical qualities of language, and hence the notion that music is intertwined with communication development. The understanding of music that underpins this paper is a broad one, encompassing the social, cultural and communicative perspectives of the definitions presented above, and a belief that music is a central aspect of life, culture and human development.

How is language defined? How does it develop?

For the purposes of this paper I adopt a conceptualisation of language as communication: the innate human need to make and share meaning with others, using a range of symbol systems that are culturally and socially constructed, and hence diverse across the world. Speech is only one part of this broader definition of language. Children's communication development can be seen as a journey of 'learning how to mean' (Halliday, 1975), and as encompassing non-verbal and verbal language in all its real and digital forms, including written and artistic forms of representing meaning such as music. Children play an active role in their developmental journey as effective communicators (DEEWR, 2009), in collaboration with the adults in their lives. While the processes of communication development may to some extent be similar in their trajectories, each child's journey is unique

depending on their individual characteristics, relationships and their social and cultural environments. For this reason, the commonly-used term 'language acquisition' does not adequately encompass the purposes of linguistic communication or the complexities of children's journeys, as it neglects the child's inner processes and the active role these play.

Research into children's language and literacy development often focuses on the mechanics of language or literacy, therefore adopting a deficit approach, beginning with what children can't do. But as Brandt, Gebrian & Slevc say: "we don't just speak to be heard, we speak to be understood" (2012, p. 3). Researchers such as Halliday also offer an opposing perspective, seeing children as motivated and competent meaning-makers, and language development as being a reciprocal process that occurs through everyday interactions (Torr, 2015). The process of gradually developing the ability to use the formal sounds and structures of spoken language, according to Halliday, shows children enhancing and refining their effectiveness as communicators. Halliday sees these processes as being led not by the acquisition of particular skills but by children's innate intentionality and competence as meaning-makers. Halliday and others (e.g. Arthur, Ashton & Beecher, 2014) see language and its development as cultural and social practice, arguing that cultural concepts are intertwined with language, so that in learning to use language children are also learning about the cultural and social practices of their communities. Therefore, the learning of speech and language are far more than learning its mechanics: its sounds, words and grammatical structures. Halliday regards meaning as central to children's language development: "A child who is learning his first language is learning how to mean. In this perspective, the linguistic perspective is to be seen as semantic potential" (1975, p. 8). Halliday thus analyses children's language development processes in terms of intention, function and meaning, rather than in terms of levels of use of the particular sounds, words or linguistic structures; rather, he sees these as tools for meaning-making. Halliday analysed children's early use of language in terms of the child's purpose, and language itself as encompassing three types of meaning and function: ideational, interpersonal and textual (Torr, 2015). He then terms the actual words and structures used to make meaning as 'lexicogrammar'. Young children may use language with an ideational purpose when seeking to represent their experiences, and with an interpersonal purpose when seeking to convey information or instructions. The same words can thus be used to achieve different purposes. To illustrate, a toddler saying 'car' could be seeking to tell someone that she has just been for a car ride (ideational), or could be asking to go in the car or to have her toy car given to her (interpersonal). The textual function of language applies to children's use of visual symbol systems such as writing or drawing, but could arguably also apply to their use of music or dance to as forms of meaning-making.

Given the propositions that humans are innately driven to be communicators and meaning-makers (Halliday, 1975; Torr, 2015), as well as being innately musical (Blacking, 1974; Cross & Morley, 2009), and that children generally learn language not through formal teaching but through talking, listening and non-verbal communication in their daily lives, it follows that, as Vygotsky argued, language and thought are intertwined and the development of one cannot be considered without the other (1978).

The role of play: How do young children learn music and language?

As already noted, music is often included in early childhood curriculum on the basis that it is valuable for language and literacy development. This is commonly associated with a structured, skill- or concept-based approach to music education curriculum and pedagogy, underpinned by a belief that children learn best through teacher-planned and teacher-led instruction (Young & Ilari, 2012), that is, through a transmission approach. This belief has led to a narrowing of understanding of young children's play as something children do in order to learn, a view of it as something educators can control and use to guide children's learning (Nilsson, Ferholt & Lecusay, 2018). However, as both anecdotal observations and socio-cultural theories of learning show, children can and do lead much of their own learning without intentional instruction from an adult (consider a toddler learning how to walk or beginning to use spoken language). There is a strong body of research into how children learn through play, as active agents driving their own development (Pramling Samuelsson & Fleer, 2009). Acknowledgement of children as inherently capable learners can perhaps best be supported by an understanding of play as learning, something children naturally do, rather than play for learning, where play is seen as a tool to be harnessed by adults to achieve goals set by adults (Nilsson, Ferholt & Lecusay, 2018). Further, contemporary early childhood pedagogy in many countries is based on recognition of socio-cultural theories of development (eg. DEEWR, 2009; DfE, 2017). These theories recognise that meaningful learning occurs in the course of children's daily lives and interactions with those around them, including through play, driven by children's internal motivations and influenced by the social and cultural practices of their families and communities. Viewing teacher-led instruction as the most beneficial approach for supporting young children's music and language development also fails to take into account the large and growing body of evidence for humans' innate musicality (Cross & Morley, 2009; Dissanayake, 2009). As Erikson says, "human social interaction is organised musically" (p. 449).

Music and language learning and development: what does the research suggest?

Spoken language and music share many similar characteristics, and similarities can be identified in their respective developmental pathways. For example, infants' vocalisations towards the end of their first year begin to reflect the pitch patterns of speech in their first language, and similarly toddlers' improvised song reflects rhythms and tonalities from the music that surrounds them (Papousek & Papousek, 1971). There is also research evidence to suggest that, when music is more emphasised in a culture, the effects on both language and musical development trajectories can be enhanced (Brandt, Gebrian & Slevc, 2012). This has been taken and used by some in marketing a 'music makes you smarter' approach to using music (Scanlon & Buckingham, 2004; Vitale, 2011).

Music therapy research has shown music to be beneficial for children experiencing communication disability or delay. In a number of small randomized control or case study research projects, it has been shown to be associated with increased joint attention (Kim, Wigram & Gold, 2008), vocal imitation and turn-taking (Duffy & Fuller, 2008). A study of 18 preschool aged children with developmental delays, involving an 8-week intervention that used musical improvisation and songs based around children's individual interests, found significant improvements in many aspects of the children's interactions and communications. Results were obtained with quantitative testing using standardised language assessments and Nordoff-Robbins music therapy rating scales. The researchers drew links between the multi-sensory, embodied and social aspects of musicking and linked the findings of improved speech to the rhythmic prosody that is part of both speech and musical structures. This supports Erikson's arguments about the inherent musical qualities of speech (2009).

Another aspect of language development where a relationship with musical development can be seen is in relation to speech delays. There is some research evidence to suggest that delayed speech development may be a predictor of difficulties with literacy learning (Carr, White-Schwoch, Tierney, Strait & Kraus, 2014), and researchers have linked this to children's difficulties with the prosodic rhythm and metre of speech, concluding that auditory processing problems may underpin dyslexia. This evidence has been used to support the use of music to assist children with the temporal aspects of speech development. Other research however disputes such conclusions, instead providing evidence for difficulties with visual processing and phonological awareness being at the heart of literacy learning problems (Bosse, Tainturier & Valdois, 2007).

Rather than taking a clinical or mechanistic perspective on language development and how it can be supported by music, there is also some research that takes a more holistic view, supporting the central argument in this paper that children are active drivers of their own learning and development, competent meaning makers who use a range of modes of communication, including music. For example, Salmon (2010) conducted action research with children and teachers to explore ways in which creative musicking might support children's thinking and through this their language and literacy development. Salmon states: "Teachers should encourage their students to use multiple ways of knowing to mediate their experiences with the world." (p. 938). Salmon identifies the importance of what Vygotsky termed children's private speech in their thinking and meaning-making. This is the verbal and non-verbal vocalising that children do in their play, to organise and make sense of their ideas and move their thinking forward (Salmon, 2010). They may make sounds or use speech to communicate the imagined worlds they are creating, perhaps bringing toys to life in the contexts of their play narratives. This private speech typifies the musical nature of communication argued by Erickson (2009). For example, in creating the engine sounds of a truck being pushed along, the 'voices' of toy dinosaurs, teddy bears or dolls, children are using pitch, dynamics and tone colour in musical improvisations.

Implications, challenges and questions

This paper has provided evidence to support the notion that music and language are inextricably intertwined - language is musical, and music is a language - underpinned by an understanding of both music and language as forms of meaning-making that are socially and culturally constructed aspects of life. The implication of this for early childhood and music educators is that rather than analysing the ways in which music can support specific aspects of language development such as vocabulary or articulation, it is more fitting to acknowledge that children's linguistic and musical development are inter-related. This then allows music to be given a central place in early childhood curriculum for its own sake, rather than for its perceived non-musical developmental benefits. This does not mean ignoring or dismissing research that has shown links to specific neurological or behavioural responses or changes as a result of musical interventions. It simply means applying a different theoretical lens to these findings, and hence an alternative approach to curriculum and pedagogy. Specifically, it means an approach that respects and trusts children as active agents in their own learning, and educators as facilitators, partners and co-constructors of language and music with children, rather than instructional leaders. It is also a response that sees learning as part of everyday life, and in early childhood as embodied through children's play and daily interactions. Given the appropriate environments and relationships, children are curious, energetic and creative meaning-makers and learners. As educators, recognising these important dispositions for life, can open up possibilities for learning and development in music and language.

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How music matters to young children in museum spaces: Adopting feminist new materialism as a means to reconfigure

Jayne Osgood
Centre for Education Research and Scholarship (CERS), Middlesex University
Middlesex, UK
j.osgood@mdx.ac.uk

Pam Burnard
Faculty of Education, University of Cambridge
Cambridge, UK
pab61@cam.ac.uk

Abstract

This paper pursues new understandings of the ways that 'child' and music/soundsensing/soundmaking come to matter in the cultural institutions we recognise as Museums. We compost (Haraway, 2016) data generated from a recent qualitative study: MUSICEUM, to ask whether normative Museum practices offer possibilities for very young children to encounter space, place and sound in generative ways. MUSICEUM offers an assemblage of findings that illustrate the ordinary, yet always political, entanglements of bodies and matter. Theoretically framing our investigation by feminist new materialism and deploying Barad's (2007) concept of 'spacetimemattering' creates possibilities to think differently about the nature of agency, relationality, and change without taking these distinctions to be foundational or holding them in place. This prompts a speculative reading of multi-sensory, corporeal, affective encounters with time and space, as uninterrupted flows of 'nows' that matter (in terms of materialdiscursive constructions). In this paper we also attend to troubling and expanding 'spacetimesoundmattering' (Barad, 2007) to consider the possible implications that anthropocentric intentionality has for children's playful experimentation. What if childhood is conceptualized as a space-time-sound continuum where what we think we know about early childhood music education is opened up to new possibilities that transform how we understand the nature of children's engagements with/ in museum spaces? Can attending to the unexpected found in affective encounters and generative soundings of young children in museums offer possibilities to reimagine childhood, music and museums?

Keywords
Reconceptualising childhood, spacetimemattering, music/sound, museums and access

Introducing what matters

Research around the experiences of young children and the complex entanglement of beliefs, assumptions and knowledge of early childhood practitioners towards early childhood music is opening up to new possibilities that transform how we understand the nature of children's engagements with/in museum spaces. The norm of the linear maturation process sees young children as 'fairly musical', and yet the music activities that are offered to children are generally not child-led and rarely leave children opportunities to explore instruments on their own. One of the key challenges at the interface of early childhood theory and practice is that knowing (knowledges), doing (actions) and being ('truths') cannot be taken for granted (Lenz-Taguchi, 2010). Attending to children as active participants, engaged in world-making practices, insists upon materialised re-configuration of early childhood in museum spaces (Hackett, et al (2018). In recent years feminist new materialism has (re-)shaped educational practices and educational research so that greater attention is paid to affect, materialities and bodies (PhEMaterialism, 2018), a framework for inquiry that has found expression in museum research (MacRae, Hackett, and Holmes, 2018). A series of guiding questions are emerging which raise issues and offer illustrative examples of the affordances of working with multiple feminist perspectives in research committed to exploring the posthuman child and educational transformation (e.g. via networks such as The Commonworld Collective, Decolonizing Childhood Discourses and PhEMaterialism[1]).

There is a considerable body of research around the experiences of children and families in museum spaces (e.g. Borun et al., 1997; Leinhardt et al. 2002; Dierking 2010) often aimed at improving displays and exhibitions from a curatorial perspective or understanding the learning experience of those involved from a museum educator's perspective. There is, however, a dearth of research around activities involving the material, cultural and affective dimensions of sound making, musicking or music-making for such groups; although some museums have explored the role of music in their programming more widely (e.g. Ridding, 2017) this rarely involves very young children. As such, the young child, their experience, the uniqueness of the museum environment itself and other related spatial concerns; and the role of communication, particularly between adults and children, remains under explored.

While children's music-making/soundsensing/soundmaking activities within a museum, aimed specifically at young children and their families, clearly represent a different proposition to an approach which directly incorporates music into an exhibition for all

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1 see https://www.decolonizingchildhood.org; http://commonworlds.net; https://www.facebook/com/groups/403539713163770/406149726236102/; https://www.decolonizingchildhood.org; http://commonworlds.net; http://commonworlds.net

visitors, there are, nonetheless, crossovers. Johnson's belief that 'music has the power to engage visitors emotionally with the people and a story behind the objects' (Frost, 2011) has significant resonance for activities taking place in museums, especially those which explicitly seek to make connections with the space (and the objects within it). But in museum education there is resistance to asking questions about how very young children navigate museum norms, and even less about how their experiencing body 'dwells with the improvisatory and serendipitous' (Hackett et al., 2018:7) in sound and music-making encounters of matter, place and space within the museum. Debates are framed in ways that marginalize the social construction of childhood and fail to ask what makes a child act the way she does. Is this the world of Museums that we are inherently aware of - that remains open, yet still resistant, to change? What are the possibilities for new ways of knowing, being affected, and encounters which focus on resonances between children's rights discourse, the intra-action of bodies, and the materiality of Museums to offer sounding spaces in childhood?

Of course, it is acknowledged that museums are politicized spaces and post-colonial theorizing actively disrupts ways of thinking about cultural institutions such as these, where the rules for children come from adult cultural practices. As a result, have we lost touch with the real-world potentials and possibilities of building, and being allowed to build, common-world relationships with/in museums? To what extent is being in touch with the world(s) represented in museums, about a world represented and so preventing what Taylor calls building "real common world relationships. And, as a result, the real world gets lost" (Taylor 2013, p.62). Currently, there is a mix of hope and frustration attached to young children's encounters with music and soundings in museum spaces (Elwick et al., under review).
The aim of the MUSICEUM Project addresses the overlapping matters of concern raised by the following questions: How can museums become spaces where children become active in world-making? What are the possibilities available when children experiment with sound, music and movement in museum spaces? What new knowledges get produced through bodily encounters with matter, music and museums?

Introducing 'The Musiceum Project'

'Musiceum' was a university funded scoping project conducted in 2017-18 to identify what characterises museums as spaces for early childhood music-making. 'Musiceum' set out as a mapping and scoping exercise, involving: literature and policy analysis; interviews and observations within two case study museums; and a one-day SUMMIT which brought national stakeholders' with diverse perspectives together to map and critically analyse current research, programmes, practices, policies and debates on inclusive community engagement, early years, music and museum education (Burnard, et al., 2018).

The one-day SUMMIT was a significant element, since it facilitated sharing stories of museum practices, opportunities for critical discussion, formal presentations as well as improvisational performances. A range of stakeholders including early years practitioners, museum educators and officers, artists and researchers attended. The SUMMIT underlined the devolved nature of museum education in the UK, including the emerging convergence of some aspects of Early Years educational priorities, inclusion, and diversity issues in museum education, and music-making programmes for young children and their families in museums.
Aspects across the multiple bodies of literature (drawing on disciplines comprising education, psychology, and musicology amongst others) were especially relevant and included:

1. reconceptualising how young children experience museums through multi-modal arts practices
2. reconfiguring how we might understand and inscribe sound-making practices in highly regulated museum spaces
3. engaging diverse communities more widely through arts programmes that offer sounding spaces more attuned to young children.

A difficulty in critically reviewing the literature, and understanding the perceptions and practices of museum educators, community engagement and early childhood music/ arts practitioners, was the lack of research which seeks to go beyond reading webs of knowledge production. Our concern is to arrive at a position where both practice and knowledge might be reconfigured through processes of collaboration with museums, musicians, music-educators and children, within and beyond museums and into community spaces.

In this paper we assume a feminist new materialist framework which grants legitimate agency to the 'what' (object, thought, location) that shapes children's experiences of musicking. This insists that we attend to vital materialism (Bennett, 2010) and relational dynamics that play out in museum spaces. This approach allows us to reach understandings of 'how' music, music-making and music education is done to/on children, and also identify what else is unfolding. We put several feminist new materialist concepts to work ('spacetimemattering', material-discursive musical entanglements, events, and encounters) to revisit data and so trouble reductionist accounts of what we think is going on.

Our concern is to shift the lens from focusing on how music-making framed by anthropocentric intentionality shapes children's experiences to considering 'what else' (Manning, 2016) emerges through children's engagements with musicking and sound-making in museum spaces. This is important for early childhood practice as it sets the foundations for adults to learn from children and their explorative entanglements with the material-discursive-semiotics that shape musicking[2] encounters. The question of how objects and subjects of inquiry are entangled, emergent and contingent, is posed and considered in terms of the 'spacetimemattering' (Barad, 2007) contours of museums. We make the case for reconceptualising the child and music, by reconfiguring what children's engagements with music, sound and matter can become.

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2 Musicking' is a term coined by Christopher Small (1999) with which he wanted to highlight that music is a process (verb) and not an object (noun) and that 'to music' is to take part in any capacity in a musical activity involving or related to music performance such as performing, listening, rehearsing or composing. Musicking is about relationships which unite the living world. Small, C. (1999) Musicking – the meanings of performing and listening. A lecture. Music Education Research (1), 1, https://doi.

Figure 1 The bronze sculptures
(see www.withtheheartofachild.com; https://nicolaravenscroft.com)

A diffractive analysis

What follows is an example of the affordances that a diffractive analysis of minor encounters and ordinary affects (Stewart, 2007) offer. We take the installation of a bronze sculptured penguin, and the affective charges that are generated from its entanglement with/in museum space as a means to move beyond the subject/object divide. We make our starting point a bronze statue and what it makes possible. We want to argue that statues are entangled within the materialdiscursive environment (light, space, time) and are active in producing new ways to re-imagine sound, bodies, movement and childhood.

The child-sized sculptures offer materialdiscursive accounts of childhood from across planet Earth. However, it was the penguin (Ambassador of Antarctica) replete with spikey hair and played like a mbira (African thumb piano) that hailed attention. A huddle of bronze statues is usually grouped together in exhibitions, as ambassadors of each continent. Yet within this museum context they were intentionally scattered around the room, facing different directions. The penguin is central to the bronze installation and an iconic reminder of our duty of care to planet Earth, and its future. We want to attend to the ways in which statues become-with space to generate affects, produce new ways to encounter sound and bodies, and offer world-making possibilities.

Figure 2 Images of the bronze penguin

The penguin provokes a series of questions that can open up ideas about museum artefacts, music and child spacetimematterings. Pursuing what else the penguin might make possible in our museum and musicking practices with children offers some interesting surprises. In 'the wild' penguins deploy vocal and visual 'displays' to communicate nesting territories, mating information, partner and chick recognition, and as a form of defence against intruders (SeaWorld, 2015). Displays matter to penguins, displays are central to museum practice. But we attend to what might become possible when displays become inter and intra-active.

The intentional positioning of a penguin, as part of a child-centred, interactive 'display', produced unanticipated ruptures from which we can learn a great deal[3]. A child-penguin encounter unfolds within the music-making session, through processes of soundsensing, the affective charges permeate the currents of the session, linger on in video footage, and continue to work upon us to inform our grapplings with what else museums might become for children. Through this encounter the penguin and child are acting upon each other to produce something more, that insist we recognise the liveliness of matter, and attend to what gets produced through sound and touch. When children are given opportunities to freely explore and experiment with an aretefact (in this case the penguin) world-making opportunities are presented. A child-penguin entanglement directly addresses some of the hierarchies that are inherent within museum education and music-education.

The penguin-child encounter: what else?

The bronze statue of a penguin stands tall and proud, the child is drawn to the penguin and her attention moves away from the central singing activity of the group. Standing level with penguin the child becomes transfixed by the eyes and face. This curious creature found only in the Southern hemisphere, part bird, part mammal, in bronze form is hailing the attention of this toddler within a prestigious cultural institution. For now, the aim is bringing artefact, music and child together. The child is invited to join in soundmaking with the penguin's hair in time with the singing.

In this moment, the penguin and the child's body encounter each other (differently). The relationship and interplay between their bodies is non-hierarchical unlike the strong hierarchies that characterize museums and music education cultures (Osgood et al, 2013). The penguin seems to offer possibilities and a distinctive invitation to engage with soundsensing and soundmaking in other ways. The cold bronze invites curiosity and wonder; the waves and flows of the penguin's body magnetically draw the child to touch. As if experiencing some form of electric shock, she immediately

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3 See Burnard et al (2018) for a detailed account of the pedagogical intentions underpinning the arrangement of statues, and the more general choreography of the spacetimematter.

and intuitively recoils, stands back to appraise the penguin afresh. The penguin's skin is cold, not smooth, in fact it is edgy, at times rough, at times spikey in texture. Cold yet resonating to the touch. Despite the recoil, the pull of the penguin's cold, spikey surfaces invites the child to re-connect and continue this brave exploration. During these intra-actions between child and penguin, the penguin's hair is plucked to demonstrate its musical qualities, and so encounter the penguin in a particular way. As the penguin vibrates other possibilities are presented. The child appraises the other possibilities that the penguin might offer, intently studying the cold, dark 'eyes' of the penguin offers a diffractive pause.

Figure 3: soundsensing (1)

The assemblage of child body, bronze child-sized penguin, vibrations, sensations and affect produce unanticipated musical possibilities, possibilities that rely on space and opportunities being made available for exploration and unmediated musical encounters. The child's sustained engagement with the penguin has much to tell us about childhood and chance encounters to seriously play with sensing sound. Through processes of provocation, evocation and affectivity the child encounters the penguin in multiple ways over a relatively sustained time. Lowering her head to the floor she encounters the penguin's feet. This involves carefully balancing her weight to satisfy the intrigue offered by this non-human actor. Stroking the feet produces another soundsensing (vibration) that materializes and is performed relationally, a pulse, which when followed arrives at the chest of the penguin (the sound made by the plucking the penguin's hair which becomes a musical heartbeat that connects child and sculpture). These soundsensing processes (touch, feel, sensation, sound) are fleetingly materialized, from human, non-human and more-than-human entanglements.

Figure 4: soundsensing (2)

Here, bronze penguin and child become co-constitutive within the museum-music-making-assemblage; we are forced to attend to the ways that bodies constantly adjust to the textures, sensations, vibrations, the unanticipated affects that are generated. Both penguin and child express agency and intentionality, both actively produce something unanticipated, troubling and joyful. They transform what emerges in the 'in between' spaces, which resonates with Ellsworth's (2005) description of 'affective pedagogy' as that which: 'involves us in experiences of the corporeality of the body's time and space. Bodies have affective somatic responses as they inhabit a pedagogy's time and space' (p.4).

Counterpoints

The challenge was both to understand the ways in which materiality generates affect and how the child engages with materiality and affect in the moment. Beyond what the penguin symbolizes, a feminist new materialist lens insists that we ask what else does the penguin make possible? Focusing on the penguin as material-discursive, requires attending to what is produced through the interweaving of child with sounds, textures, temperatures, vibrations that a bronze penguin makes possible, and what questions are inspired and provoked.

Attending to diffractive lines of enquiry invites us to resist falling into the traps of recognition, interpretation and representation. By taking matter seriously, in this case the bronze penguin, following Manning (2016), we ask 'what else'? What do these entanglements produce that enable us to view the child differently? To encounter music (as soundsensing) differently? To sense museums differently? How to reconfigure the encounter of music as sensory sound connections? What are the possibilities? When matter is taken seriously – as productive and generative – what other stories can be told about the child? the environment? Antarctica? Global warming? The Anthropocene? What might it mean for the 'museum' space? How does the pastpresentfuture come to life through musiceum assemblages? What generative possibilities exist in the coming together of sounds, artefacts, spaces and bodies?

Not over, a poetic beginning

In the soundspaces of museums
What matters to young children?
Stillness matters
Silence matters
Sounds take place in the moves of intensity
Across things that seem solid or dead
The architectural space subdues children in its shadow
Obscuring the artwork; silencing children
Situated uncomfortably within this hierarchical space
We stratify children's sounding practices
All that occupies exclusive museum institutions appears strange
Ambiguous objects entangled and silenced
In history, antiquity, the discourse of concealed meaning
How should we create opportunities for expanding 'spacetimesoundmattering' in museums?
Can we diffractively analyse
to decentre anthropocentric modes of being with children
using sound-full connections that are ingrained in their material-discursive entanglements with/in soundsensing and soundmaking in
the coming together of sounds, artifacts, spaces and bodies in museums?

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“It’s about how we move together, and how we influence each other’s practice”: The actions in Action Research that helped build a SALTMusic community of practice

Jessica Pitt
Royal College of Music
London, UK
Jessica.pitt@rcm.ac.uk

Abstract

This paper presents findings from a two-year action research project – SALTMusic - that combined the expertise from speech and language therapy and early childhood music practices, to develop a new pedagogical approach to working together with families with young children (aged two to four-years-old) with communication difficulties using music. At the heart of the project was communication. We became aware that words and talk have become more dominant in the world than the referents they stand for (Barad, 2007). Communication comprises more than words. Inter-action (in our case, musical inter-action) as described by Susan Blum (2015) was positioned as the primary signifier of communication in this project.

The first two research questions focused on how the two different professional disciplines combined their practices and understandings to form a community of practice, and to discover the characteristics of the new pedagogical approach that emerged as a result of their joint-working.

Action research was selected as the most useful design for the study. With an underlying tenet of influence or change (Cohen, Manion & Morrison, 2008), this philosophical position fitted well with the desire to discover a new pedagogy. Through interdisciplinary team-working changes in practice occurred through collaboration and the establishment of a self-critical community of practice (Pitt, Arculus & Fox, 2017). We adopted cyclical action research processes of: planning, acting, observing, reflecting, then planning afresh in the light of the discussions, then repeating the cycle (Schön, 1983). Five such cycles allowed for deepening reflections in and on action and opportunities to think about, amend and develop new pedagogical processes (Huhtinen-Hilden & Pitt, 2018). Using Etienne Wenger’s (1998) three dimensions of practice required to form a community of practice: Mutual engagement, Joint Enterprise and Shared Repertoire, this paper describes and discusses the two-year joint-working process, the tools and artefacts that were influential in helping practitioners and parents metaphorically shift and move in their approach to interacting with children with communication difficulties. New ideas about young children’s communication emerged. Co-delivery and reflecting together has resulted in a trans-disciplinary communicative approach that could be used in a variety of contexts.

Keywords
Music, interdisciplinary, communication, parents, action research, two-year-olds

Introduction

This paper discusses a collaborative project that brought together the expertise of speech and language therapists with that of early childhood music-arts practitioners with the aim of developing new pedagogical approaches for working with children (between two to four years old) and their caregivers. This paper begins by outlining the research and theoretical terrain, followed by the methodological aspects, moving on to discuss the community of practice formation. I argue that the action research design was instrumental in the enablement of inter-disciplinarity rather than preserving distinction between the two disciplines of speech and language therapy and early childhood music-arts practice. It was the 'actions' or intra-actions (Lenz Taguchi, 2010, p.xiv) that intertwined the SALTMusic project. Metaphorical movements and shifts were required in the process of becoming a community of practice (Wenger, 1998). Similarly, the children and caregivers who attended the SALTMusic group activities moved and shifted in the ways that they interacted together in order for new forms of communication to be opened-up to them. As a result of this intermingling and interacting new musical pedagogical approaches have been found that liberated anxious parents and enabled children to communicate with capacity, being seen as competent and creative. The models of practice that have emerged can be seen to be trans-disciplinary, of benefit in a variety of communication contexts.

The dominance of talk

Language is an important system of rules that helps communicate our needs, wants and inner thoughts to others. Having a good vocabulary is seen as an important attribute alongside many other emerging skills of independence for a child about to start school. In some parts of UK around half the number of children start school with poor language and communication skills (Hartshorne, 2009). Words, or rather the word-gap, of some children when compared to others from different socio-economic strata in society, can begin to feel anything but neutral. Especially when the 'gap' is attributed to parenting and the home (Waldfogel & Washbrook, 2010). Erica Burman (2017) argues that being obsessed with getting children talking by immersing them in a language-rich environment has no clear rationale to support how this helps children to talk, nor what type of adult-directed talk is the most effective.

There is, Susan Blum (2015) suggests, a fixation on 'Wordism': Words are seen as the size of units that signify language, therefore more words are better, with the responsibility on parents to get their children using more words. Parents can feel anxious that their children are not using words, nor increasing their vocabulary, and they feel guilty and anxious about their children's development.

Reframing the territory

We decided to challenge this dominant 'Wordism' discourse by basing our understanding of communication on Blum's findings from linguistic anthropologists, whose studies of other cultures suggest that inter-action is the first unit of language (Blum, 2017, p.8). From this perspective, children with communication difficulties might already possess varied, engaging interaction modes.

This understanding about language and communication is supported by the turn towards materialism of posthumanist feminist philosophy. Karen Barad (2007) suggests that language has had too much power in the world and that we should turn our attention to matter and materials, becoming more centred on the interconnectedness of everything to everything else. This notion was particularly relevant, not only for the children and their families who participated in our research but also the team members who came from two completely different disciplines and yet shared an interest and understanding about working with children with communication difficulties and their families. Conceiving of the whole project as an entanglement of connections enabled us to see the separate disciplines, the sounds, the materials, the space, the artefacts and the humans as interlinked. In this way we could think about an intra-active pedagogy (Lenz Taguchi, 2010), where boundaries blur between the human and the non-human and the latter helps shape human learning through the entanglement of all.

Networks and actors

Alan Prout (2011) suggests a framework for thinking about childhood (or perhaps 'humanhood') entitled ANT (actor-network-theory). His theoretical conceptualisation is of complex melanges of social, cultural and natural networks. Actors: human, non-human, artefacts, technologies, global companies or nations are connecting and disconnecting through stable and less stable intersections. Childhood has to be understood through and within the particular network in which it is produced.

This is an interesting frame for thinking about children with communication difficulties and their families. The various networks that may already be caught up with their being in the world may bring feelings of, for example difference, deficiency, separateness, and/ or specialness.

This study brought together artistic, sociological and medical (health) disciplines to explore and seek for common ground. By bringing together these actors /networks the hope was to contribute to "understanding and constituting contemporary childhood society" (Prout, 2011, p.9).

Community of Practice

One of the research questions of this study was to investigate how the two disciplines of speech and language therapy and music-arts practice combined and assembled their respective tools, knowledge, artefacts, practices and understandings about children and caregivers to become one community of practice (Wenger, 1998). Etienne Wenger (1998) suggests that we think about the growing togetherness as mediated through three different aspects:

- Mutual engagement
- Joint enterprise
- Shared repertoire

Early childhood music education in UK comprises largely freelance self-employed portfolio career professionals who, too often, have little opportunity to share their practice with other early childhood professionals (Pitt, 2018). In order to join a community of practice one has to be an insider (Rogoff, 2003), that is the only way that intra-activity, movement and shifts in thinking can take place[1].

Freelance arts practitioners may feel mutually engaged with others, they may have a sense of joint enterprise but if they are not included there is no chance of sharing repertoire and truly joining in the enterprise in a mutually engaged fashion, as described by Wenger (1998).

This project opened a space for the sharing and construction of new repertoire; it provided an 'insider' space for speech and language practices; early childhood music-arts practices; adult caregiver parenting practices and the expressive practices of young children be intermingled with the materials, artefacts and tools included in the multi-sensory environment and then selected by the human actors for use in the SALTMusic session.

Action Research Methodology

The most suitable design for this study was one that focused on actual rather than abstract processes (Kemmis & Mc Taggart, 2005, p.277), located in practical wisdom, or what Aristotle referred to as Phronesis: the capacity to make 'good' or right' judgements as part of a discerning attitude of practice (Elliott & Silverman, 2015, p.45). The approach taken by all the professional participants was based on pedagogical sensitivity (Huhtinen-Hildén, 2012), with a shared interest in adventuring in the environment using music and sound, being mindful and taking care of the learning

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1 I have written previously about the ways that a musician working within a multi-disciplinary team was able to join an integrated community of practice (Pitt, 2009)

process at all times (Huhtinen-Hildén & Pitt, 2018). Action research was originally intended by Kurt Lewin to change the life circumstances of disadvantaged groups (see Cohen, Manion & Morrison, p.297). These emancipatory, ethical dimensions were also appealing for SALTMusic, where a centrally important tenet to the approach was the "understanding that young children are competent and capable of creative expressions that are valuable and integral to the group's overall aesthetic experiences that are considered necessary for all human thriving and belonging"(Pitt & Arculus, 2018, p.17).

Colin Robson (2002, p.215) outlines three aspects of action research: improvement of practice, improvement of understanding practice and improvement of the situation where the practice occurs. To improve and understand practice, characterised our aims.

We adopted cyclical processes of planning, acting, observing, reflecting and then planning afresh. Figure 1 shows the cycle of reflection and action based on Schön (1983)

Figure 1 – Salt music cycle of action research (based on Pitt, Arculus & Fox, 2017)

There were five cycles of action and reflection. Parents and children were included in the cycles of action research, through evaluative discussions and the sharing of edited films collected through each cycle of 'intervention'. These gave all of us the chance to review and reflect on the inter-activity and inter-connectivity between the materials, the objects, and the humans (Lenz Taguchi, 2010).

Findings: Willingness to 'shift' to a new paradigm

> "Not doing what we already do that we know works. We'll do that […] but actually we'll take it into the next paradigm."
>
> Music practitioner 2 (Focus group at start of the project Sept 2016)

This aspirational statement expresses the desire at the start of the project to move from what works, towards taking risks and stepping into shifts in practice, thinking and understanding as part of the working together; part of the joint enterprise. The two groups of practitioners did not know one another, the following extract gives an insight into the ways that the team began to establish a working relationship.

Speaking about the first recruitment 'taster' session:

> Musician 3: "I thought it went well, it was pretty much what we'd normally do in a session so perhaps you'd have more…(tailed off)"
> SLT[2] 1: "No…I thought it was really good. The only thing was establishing the speech and language roles within that very well-established group. It was so lovely, but it was almost so…what (laughter) would you like us to feed into that? Whether you want to adapt a few of the songs and things…"(heard in background "yup, yes")"
> SLT 1: We wondered about that planning time before the group. Whether we could have a set collaborative planning.
> Musician 1: That would be really useful
> Musician 2: it's not just useful it's essential. It's as important as running the group because otherwise we just run a load of great groups.
> Musician 1: so it's time before and after.
> Musician 2: yes, and it is about the shared practice. It's not about - this is music and it's really great. It's about how we move together, and how we influence each other's practice."
>
> Second focus group (September, 2016)

2 *SLT – Speech and Language Therapist*

Etienne Wenger (1998, pp.72-85) talks about three dimensions at play when practice becomes the way that a community develops: mutual engagement, a joint enterprise and a shared repertoire. Each of these dimensions has different aspects that enable individual practitioners to coalesce as a community.

1. Mutual engagement –. Practice is not abstract, it "resides in a community of people and the relations of mutual engagement by which they can do whatever they do." (Wenger, 1998, p.73). Mutual engagement depends on interactions and negotiations of the meanings inherent in the actions that the community do together. The comments in the extract above demonstrate the subtle ways that the SLTs were negotiating their role within the established session, gently suggesting that a shift was needed in established practice. Musician 2 supports the negotiation, verbalising that movement will be required for influence and change to occur.
2. A joint enterprise – "The enterprise is joint not in that everybody believes the same thing or agrees with everything, but in that its communally negotiated" (Wenger, 1998, p.78). The professional experiences and expertise of the individuals were diverse, with different understandings about working with children and families. The group united around the common aim of the project to coordinate their various views together to form a unified approach. In the extract below the SLT uses the word 'weave' to speak of the ways that the joining together might happen:

> SLT1: we didn't know, because we know you're doing some really great things …]…Whether you want to weave in some…(trails off)
> Musician 2: No we want to weave you in definitely
> Musician 1: We want to learn from you."

The joint enterprise was constantly evolving based on negotiating "what was important, what to do and what not to do…when artifacts are good enough and when they need improvement or refinement" (Wenger, 1998, p.81). It was a dynamic process that became the rhythm (Ibid., p.82) of the project.

3. Shared repertoire - Through joint endeavour, the community develops and creates resources which are their shared repertoire. These resources can be "routines, words, tools, ways of doing things, stories, gestures, symbols, genres[3], actions or concepts that the community has produced or adopted in the course of its existence." (Ibid., p.83). The artefacts and tools that were created as part of the project are discussed in the section that follows, they stand as evidence of the community sharing joint enterprise and mutual engagement to produce shared repertoire artefacts that may have application and benefits far wider than the project.

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3 *Wenger uses this term to mean a class of artefacts or actions similar in style (p.288).*

Findings: New tools signify movement

One of the principle artefacts that was created as part of 'joint enterprise' (Wenger, 1998) was the tool to collect information about each child's experience in the session. The 'data collection tool' (see Appendix A) was created over the course of the first three cycles of action research, with revisions discussed at the focus group meeting at the end of each cycle. The revisions included the parents' perspectives plus reflections from observing the children as they watched themselves on the video playback. A new iteration of the tool was produced for the planning phase of the next cycle.

The final version (see Appendix A) was agreed by all the professional participants to represent every aspect of wellbeing and involvement (Laevers, 1994); social interaction and expression, it was subsequently used for two further cycles of action research (See Figure 2 that illustrates the process of arriving at the final artefact). It continues to be used for the ongoing SALTMusic groups' reflections beyond the lifetime of the project.

This artefact, a new material created as part of the 'shared repertoire'(Wenger, 1998) of the community of SALTMusic practice, would never have existed had these particular professionals, parents, children, objects, sounds and interactions not come together at this time and place. It is a unique artefact created to stand for the deep reflection, discussion, intentions, intertwinings of material objects with other matter, human and sonic through inter- and intra-action as a result of 'joint enterprise'. The tool stands as a signifier of the 'movements' in thinking and understanding that were part of the process of action research and intra-active pedagogy-making.

I would like to suggest that we consider the status of materials and tools equally with the human participants in this process. By removing humans from the centre of the research process we can view the human element as part of an entangled whole in which the community of practice resides.

Figure 2 – Research in action: the process of generating the new artefact

Findings: Inter-action - the essential element

> "If we were to teach other practitioners one thing, I think the most essential is intensive interaction. Without meaningful inter-action with another person there is no desire from the child to want to communicate and I feel we have seen children pass through who were initially locked in their own bubble and unable to give anything of their personality from a lack of ability to interact. For this reason, the intensive interaction[4] is the seed that we sow and that everything else grows from. Of course, the SLTs know this and have demonstrated this so ably both in their CPD session and in their practice and have been a great example for us to build into our own practice. I think as practitioners we probably do this instinctively, but it has been so valuable to gain a solid understanding of it[…]as it gives huge confidence to us to be able to communicate why we do certain things."
>
> Music Apprentice 1 interview

A central understanding that has arisen in thinking differently about communication is the fundamental role that inter-action plays in the emergent pedagogy.

4 *Intensive interaction is a technique from speech and language therapy practice (Nind, 1996, Nind & Hewett, 2013). It comprises: 1. C (see) the offer, 2. Copy the offer, 3. Celebrate the offer (Laurie, 2019).*

We found that putting inter-action as the cornerstone to practice, both parents and practitioners discovered the myriad ways that children used to communicate despite their speech and language difficulties. The Communication Pyramid (see Figure 3), a tool that the speech and language therapists use in their practice, illustrates the hierarchy of communication skills, with the preceding skill level being acquired before the next can be developed. Sharing this tool with parents/caregivers was found to be highly effective for them to understand why we recommended less talk and encouraged a focus on inter-action. Children were found to inter-act in the following ways:

- Movement
- Gesture
- Laughter
- Vocalisation
- Eye contact
- Play with objects
- Giving and/ or being comfortable with attention
- Watching with interest
- Participation in group or one-to-one activities
- Singing own, or known songs
- Rhythmic activity
- Making choices when invited
- Leading and being led

Interaction, through the various domains listed above, was noticed when attunement and attention were given, when silence and space was made available. Donna Haraway (2015) speaks of Despret listening to a blackbird and understanding, in that attuned listening, what importance sounds like. By listening and waiting we became aware of what importance sounds like for young children with communication difficulties and their caregivers.

The Communication Pyramid (adapted from East Coast Community Health, S&L Therapy)

Figure 3 – Sharing repertoire: The Communication Pyramid from speech and language therapy

Discussion

The dominance of words as a means to represent things in the world limits the accuracy in representing a project that was full of sonic splendour: moments of 'floating intentionality' (Cross, 1999, cited in 2010, p.68), laughter, sonic freeplay based on dramaturge John Wright's (2006) notion of 'finding the game'. The 'environment' that was created week-by-week by human choices of objects, instruments, and other materials cannot be adequately described in words nor can the impact of the fragrances of essential oils: rose geranium, clementine and basil that were sprayed in the air, all were integral elements of the entangled intra-active pedagogy (image one). The video recordings of the inter-activity are also artefacts that represent SALTMusic, as were the observations, the private jottings, the post-it note memory joggers, the inter-action and discussions each week that were not written down. The different elements were entangled together sometimes in ways that were hard to prise apart in order to suggest one had more impact than another in shaping the community and its processes of change. It is difficult to assert that it was the music specifically that caused the change in the children's communication because it is impossible to disentangle which bits of everything were music - without interaction, or the objects, or emotions, or the sense of wellbeing, or the multi-modal immersive space. It was, as Karen Barad suggests, an entanglement (2007) through which music affects and is affected by, everything else.

Image 1 Immersed in playful inter-action

Seen through this lens music as a temporal art form, entangled in the immersive multi-modal play space, shaped and ordered the interactions. It facilitated vocalisations through anticipation and release games that nurtured confidence. The rituals that music afforded in a liminal, immersive space conveyed a sense of belonging that does not require words. In fact, by removing words as the principle means of communication, music (manifest in movement, vocalisation, play with objects as well as singing / playing known material) was foregrounded and could be seen as a more useful means of interaction.

The networks that have connected together have permitted a construction of these children as capable, creative and able to contribute aesthetically to their community. We have arrived at an understanding that the pedagogy is intra-active: the interactions with the materials, the space, the music, the people mingling together for learning to occur. The pedagogical practices can be trans-acted in many contexts: with the elderly, with children with additional needs, and in professional development work.

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SALT Music Project:
Date:
Child pseudonym:
Setting:
Music specialist:
SLT Therapist:

Codes for frequency:

A	Never
B	Occasionally
C	Sometimes
D	Frequently
E	Always

Codes for social interaction: SI

1	Own agenda Freeplay
2	Own agenda Group
3	Watching with interest
4	Comfortable w/attention
5	Group participation
6	Family interaction
7	Practitioner interaction
8	Peer-to-peer interaction
9	Child-initiated interaction

Codes for expression: Exp

1	Laughter
2	Vocalisations
3	Symbolic noises
4	Natural gestures
5	Single signs/words
6	Sign/word combinations
7	Singing
8	Rhythmic activity
9	Actions to song

Codes for Laevers Scale - LW & LI

1	Extremely low
2	Low
3	Moderate
4	High
5	Extremely High

Reflective Journal Questions:
What question do I have at the end of the session? What will I try next time?

LW Start session:	LW High point
LI Start session:	LI High point:
SI:	
Exp:	
Commentary:	

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Beware the neuromyths! A critical discussion on the 'brainification' of early childhood music

Susan Young
University of Roehampton
London, UK
susanyoung351@gmail.com

Abstract

Background
No one can have escaped the frequent references to neuroscience and the brain that now crop up in our reading of academic and pedagogical literatures in early childhood music education. For a conference dedicated to the 'body-in-music', this curious isolation of 'the brain', as if completely detachable from the living, moving, feeling body of the child, is particularly striking.

Aims
In this paper I offer a critical discussion on the 'brainification' of early childhood music. My aim is not only to analyse the problematic and questionable nature of the science that lies behind many neuro-claims but also to analyse why the neuromyths have taken such a hold.

Main contribution
The aim has two parts and so will require two approaches to address it. One approach will be to examine studies in neuroscientific research and to point out that dominant neuromyths are either based on out-dated studies that have now been long superseded or based on studies that have limitations in their study design and thus in their findings. The second approach will be to ask why, when the research base is so easily dismissed as outdated, methodologically weak or limited, do the neuroscience ideas occupy such a prominent position? The answers lie in the current cultural context which prizes science and the certainty and stability that neuroscience (falsely) promises. So neuroscience can appear to add authority to an argument. I will go on to explain how the prominence of neuromyths goes hand-in-hand with the current policy environment for early childhood education and care which constructs children as a form of future investment.

Implications
Michel Vandenbroeck from Ghent University has cogently argued that what is considered to be valid in science, what is taken to be true is always influenced by the surrounding context and the image of childhood which we hold. Yet, he says, there are always choices in how we understand and construct children. It is our responsibility to make ethical choices – and to beware the neuromyths.

Keywords
Neuroscience, early childhood music, neuromyths, brain development

Introduction

There can be no doubt that neuroscience has come to wide attention in recent years. Neuro-imaging methods have become more sophisticated and more widely available and the quantity and range of neuroscientific research has grown considerably. Early childhood music educators are naturally enthusiastic about any new knowledge that might enhance their work with children and rightly take an interest in neuroscientific research. However, the application of findings from neuroscientific research to educational practice is far from straightforward.

In this paper, I explore and critically examine the recent 'brainification' of early childhood music and the resulting emergence and prevalence of so-called neuromyths. I will argue that early childhood music education is particularly susceptible to neuromyths because it represents a meeting place of several powerful ideas: brain science ideas, early intervention, music as having instrumental purpose and financial interests.

Nothing here is an argument against neuroscience. Rather it is an argument for a more thoughtful engagement with neuroscience in 'post-truth', social-media times, coupled with critical reflection about the understandings of scientific truth and childhood that currently prevail and how these have created a space in which neuromyths can flourish.

Neuromyths

The scientists involved in neuroscientific research accurately report their studies in obscure journal articles and use scientific language that is complex to read. Journalists, university marketing offices and sometimes the scientists themselves translate these small findings into simplified and often hyped-up media messages to increase their publicity (e.g. Mehr, 2015). Neuromyths are simplifications, mis-interpretations and sometimes deliberate twistings of original information selected from research. The popular spread of neuromyths seems to occur because people are attracted to and then easily persuaded by ideas when presented alongside neurological jargon. Evidence from research studies has shown that an explanation that includes neuroscientific information is thought to be stronger than one that does not include such information; even when the neuroscientific information is completely irrelevant to the main explanation (Weisberg et al., 2008).

There has been concern about the prevalence of neuromyths in education for many years and attempts to dislodge them by correcting the misinformation. Concerted efforts have been launched by the Royal Society, the Wellcome Trust and the OECD to correct neuro-misinformation (see Royal Society, 2011) and there are many books, blogs and articles with similar aims. Yet neuromyths persist in spite of clear evidence that disproves them. The well-known story of the Mozart Effect provides a good example of how a neuromyth originated, how it was activated by the media and then maintained by individuals who were profiting from services and items based on the belief that listening to Mozart makes you smarter. Moreover, the continuing persistence of the idea that music can support the development of intelligence owes much to the lingering influence of the Mozart Effect myth. Even when this myth in its simple form has been largely dismissed, its echoes continue to resonate through the early childhood music education field.

The instrumental value of the brain science rhetoric and its simplistic, deterministic promise fuels the spread of neuromyths. Professional bodies, commercial providers of early childhood music and their many associated products and services have benefited from weaving simple neuroscience messages into their public relations materials, their funding bids and their claims to expertise. Vested interests start to stitch together explanatory narratives that trade on the persuasive impact of 'hard' science and liberal ideologies of inclusion; both of which discourage critical analysis. In the UK, there is a context of marketisation where private classes, often defined by a particular branded approach, arts organisations and community musicians are forced to compete (Young, 2017). In this competitive, individual-enterprise, environment the need to find an edge over possible rivals encourages the 'talking up' of work. There is no room for complex, nuanced discussions, collaborative dialogue or humility. Bite-sized statements with brash claims to brain-based benefits are slotted in to this discourse. Individuals and organisations must be able to speak the clipped language of outcomes, benefits and evidence or they will lose the funding or commissioning opportunity to those who use the language with familiarity and without concern or conscience. It puts many professionals in a deeply equivocal place; aware of how they have little choice but to act on the terms set by the organisations, managers and people who grant the funding. Professional and academic wisdom, knowledge and expertise in these circumstances is deeply undermined and undervalued.

Neuromyths flourish in a 'post-truth' world

A key characteristic of a neuromyth is its punchy simplicity: 'Mozart makes you smarter'; 'music boosts brain development'. A successful neuromyth offers an intuitively simple solution that promises to hold the answer to complex problems. These two inter-connected features - economy and easiness of implementation in relation to potential power - are essential to the appeal, traction and persistence of neuromyths. Yet, despite their brevity and simplicity, neuromyths are very difficult to unravel and refute. In his well-known essay 'On Bullshit' Harry Frankfurt defines Bullshit as information that has less concern with truth and more concern with emotion (2005). A careful and honest rebuttal of myths, fake news or bullshit, requires fact-checking, revelation of the falsehoods and replacement of hype with fact. However, this process lacks the direct emotional appeal of the original. The rebuttal makes for slow, dull reading in comparison with the slick, superficial communication of social media one-liners. Analytic thought is costly in both time and effort and therefore resisted. Brandolini coined the term 'bullshit asymmetry' meaning that the amount of energy needed to refute bullshit is an order of magnitude bigger than to produce it (2011).

Social media takes much responsibility for neuromyths. The brevity of the medium results in a vagueness disguised as factual. Skimmed over quickly, without engaging in analytic thinking, there is a tendency for readers to take mental shortcuts and believe what is presented. Social media messages are often determined by the desire to persuade and to profit, rather than to be precise. Any follow-on discussion is typically driven by emotion backed up by anecdotal, personal information rather than a desire to search for and share understanding of facts. Moreover, social media tends to deter curiosity and deliberation. Asking questions may equate to antagonism rather than being valued as critical engagement and an avenue for learning.

Possible solutions

There are two possible solutions. One is to publicise the presence of neuro-nonsense, to exhort all those concerned with early childhood music education to find the time and effort for in-depth, theoretical reading, to equip them with evaluative tools and knowledge of scientific methods and to warn against the serious consequences of not spotting and interrogating myths. This is a slow and laboured process that, so far, has had very little success.

The other solution is to find ways to convey the truths that are more accessible. The gulf between laboratory and public communication is well recognised and there are varied efforts to bridge it. Some have suggested that research reporting needs to inform but also to hold other appeals to our emotions and enjoyment. This suggestion accepts the reality that accurate, but overly technical or academic text is unlikely to

compete with catchy clickbait. Therefore, translating complex ideas into accessible, but accurate, content may play an important role in encouraging people to read and share reliable information. This is a task currently being undertaken by some academics who aim to bridge the worlds of neuroscience and education (e.g. Goswami, 2006).

Reductionism, reliability, (mis)readings

Neuromyths rely on certain naïve, popular beliefs about science and the brain that I explore in the next sections.

Reductionism

This conference is dedicated to the body-in-music. What is most striking in 'neuro talk' is the focus on the brain, as if this organ is detachable from the body and its environment. Biologically, to discuss the brain as disconnected from the extended neural system, the endocrinal and circulation systems that give life-support to this vital organ makes no sense at all (see Bruer, 2011; also Young, 2018). Environmentally the pathogen, parasitic, poison and air-quality/pollution environment all affect brain function, as do the availability of food and the quality of nutrition (ibid). Socially and culturally to consider brain processes in isolation from the social and material relationships and welter of richly varied cultural experiences is reductionist in the extreme. Reductionism also extends to the nature of the 'music' applied in studies. Experimental study design typically requires music to be reduced to minimal elements such as listening to individual tones or small rhythmic units that have very little relationship with lived musical experience (Mehr, 2015). Laboratory-based, experimental studies, by their very methodological design, cannot take account of the complex relationship between the brain and its myriad internal and external conditions. Moreover, the sheer quantity of variables both inside the body and beyond the skin make it almost impossible to apply conclusions from reductionist research about neuroscience to intrinsically relational contexts such as an early years music setting. This is not to say that a scientific study of brain processes in music is futile, but comprehensive understanding of the nature of the child-in- music requires a theoretical and empirical approach that incorporates multiple methods and levels of analysis: neural/biological, cognitive/psychological and social, material and cultural (Young, 2018). Neuroscientists themselves have pointed to the massive leap which is necessary to extrapolate from the results of laboratory-based studies that focus on a micro element of brain function to, for example, effective practices in learning and teaching.

Reliability

Behind every neuromyth is a naïve belief that scientific findings offer a truth that is indisputable. But scientific investigation is a process that continually questions what went before. It does not therefore arrive at absolute conclusions, but at a series of increasingly refined propositions. Many current neuromyths have their origins in studies from over 20 years ago when brain imaging techniques were relatively crude and the findings from those studies have now been long superseded (Bruer, 2011). More recently many questions have been raised surrounding the reliability of neuro-imaging techniques and research methods. Brain imaging relies on complex measurements and statistical packages which some have suggested have serious inherent weaknesses (Eklund & Nichols, 2017). Popular images of brains with brightly coloured areas are representations which are the products, not just of big data from a large machine, but of a creative process in which complex mathematics are transformed into visual representations in order to enhance a specific argument. Beyond the machinery per se, weaknesses in study design include small sample sizes, lack of control groups and the lack of replication. This latter issue, the failure of positive findings to be replicated in repeat studies, has recently become of major concern to the field of science, most notably in psychology yet neuromyths are typically based on the outcomes from single studies (Mehr, 2015). It is also important to appreciate that academics in universities work in a precarious 'publish or perish' environment that tends to reward high profile findings and productivity over slow, painstaking, steady research: except that the latter is more reliable. Scientists are only human and the professional and economic pressures, the biases, foibles, egos of scientists do not mean they are necessarily presenting research that is completely impartial. Overall, therefore, studies may be trumpeting findings with much more assurance than is justified by their methods.

(Mis)readings

At the next level, in the interpretation of studies through media channels from scientific to journalistic language a number of translations typically occur such as the slippage of correlation into causation, the misunderstanding of the meaning of 'significance' in statistical terms, the extrapolation of findings from one small, specific population to a general population and a shift from the language of proposition to certainty.

Neuromyths and policy

As explained in the opening paragraphs, one of the difficulties with reductionist science explanations is that they tend to float clear of messy, troubling and real-world social issues. It is no coincidence that neuromyths have taken a hold at a time when the situation of many young children, certainly in the UK, is worsening. Part of their current appeal is the offer of simple-answer solutions which avoid having to face deep-set social problems that are difficult to solve. Moreover the 'brainification' of early childhood locates responsibility back into the family in biological explanations for disadvantage that avoid examining the wider social and political circumstances which are our collective, rather than individual responsibility. In the UK an emphasis on providing charitable funding to music work which targets so-called 'disadvantaged families' also draws heavily on a rhetoric of music's benefits to cognitive skills through, even if not explicit then implicit, neuro-talk (see examples in Gillies, 2014; Jensen, 2018). This pressure to satisfy funders with meaningful and applicable findings has seen a rise in the desire to find neuroscientific findings that dovetail with wider policy emphases to individualize and personalize poverty (see Penn, 2017). Equal opportunities via the optimisation of the brain are underpinned by the neoliberal belief that every child, every parent, is able to take control of their own fortune. Under such policy regimes parents are blamed for poverty (Jensen, 2018) and early childhood interventions can be framed as a remedy for the shortcomings of parents who are failing to stimulate and develop their young children's brains adquately. adequality. The emphasis on brain development can be related to global economic dynamics and the concept of human capital in which individual children are implicitly conceived in terms of their future capacity to generate capital. As both Vandenbroeck (2014, 2017) and Gillies (2014) have argued, neuroscience and a return on investments in an economic view of early childhood become interwoven. This view relies on a particular kind of individualism in which the young child is constructed through the active efforts of its parents, even at the cellular level of brain development. The policy belief in alleviation of disadvantage by apparently intervening and improving children's cognitive abilities is strong and frequently crops up in rationales for early childhood music. Gillies (ibid) has further demonstrated how the policies and practices of early intervention are rooted in biological rationales drawing in neuroscience that now increasingly link social interaction through parenting with brain development outcomes. In these rationales the use of music in parenting practices bolstered by theories of communicative musicality and attachment find ready partnerships. All this raises serious ethical and moral issues around social justice (Vandenbroeck, 2017).

Responding to neuromyths

There may be the view that some neuromyths and some applications are relatively harmless or can even be useful if they generate attention and funding for early childhood music activity. In my opinion the promulgation of misleading information is damaging at every level. At the first level of research integrity, researchers have a responsibility to carry out their work as rigorously as possible and not to over-claim their research findings. Academics and educators have a responsibility to ask questions about the provenance of information they read and to access and read original reports of research. Educators also have an ethical responsibility not to spread neuromyths and to recognise how they are used for profit, persuasion and to reinforce certain unjust policies. Finally, neuroscience discourse seriously undermines other forms of knowing about children and music, and alternative understandings of political workings, and thereby constitutes a wider social danger by obscuring the genuine causes of disadvantage in poverty and social inequality (Vandenbroeck, et al., 2017).

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Discovering your instrument by creating and composing with sounds. Musical composition as an interactive tool in elementary music education and as an impulse for a complementary method in instrumental teaching

Irene Malizia
Jam Music Lab Private University
Conservatory for jazz and popular music
Vienna, Austria
malizia@jammusiclab.com

Abstract

This paper presents a project about a creative approach to instrumental music education, based on sound experimentation and composition. This approach is also a starting point for reflection about the role of musical composition for children and the role of the experimentation for teachers in elementary music education context.

The project aims to introduce children to the violin through physical contact with the instrument, sound experimentation and technical experiences. This project can be adapted to different ages categories, changing the specific objectives and the complexity of the sound and of technical elements.

The method consists of the application of instrumental sound experimentation and music composition as a multifunctional element in musical learning; it is a suitable teaching method in elementary music education. The basic idea is to use the instrument as a tool to create a personal composition, using different sounds, techniques, timbres, discovered by the child him-/herself. We can structure this educational process in 5 main phases:

1. First approach with the instrument through discovery and experimentation. The child will try, by listening/manipulating/creating, some unusual sounds, timbres and techniques on the violin in order to stimulate his/her sense of touch and of hearing, improve his/her motor skills as well as developing his/her curiosity.
2. Second approach with the instrument through playing. Learning how to re-create these different sounds on the instrument leads to improving practical and motoric skills.
3. Sound analysis. This stage focusses on reflecting on and learning the main characteristics of these sound (long/short/legato/staccato/forte/piano…) through the audiation of sounds and the observation of techniques,
4. Creativity "on the mind and on the paper". The child becomes a composer, can try different notations and combinations of the sounds in order to create a musical composition.

5. Concert! The child can now have fun and play his/her own composition.

I worked on this project nearly exclusively with violin but of course it is just an example of a general method that could be used for each instrument and in many different ways: You can change instruments and/or musical elements, maintaining the learning method through instrumental sound experimentation and creative composition processes, at various levels.

Keywords

Interdisciplinarity, new sounds, experimenting, composing, creativity, playing

Introduction

«Il lavoro artistico, che si tratti di musica o di arti plastiche, rappresenta effettivamente per il bambino un mezzo per progredire come autodidatta [...] aiutandolo a sviluppare quell'attitudine alla produzione e all'ascolto che lo renderà musicissta abile e sensibile e non musicista sapiente.»

(Artistic work, whether it be music or plastic arts, actually represents for the child a means to progress as self-taught [...] helping him/her to develop the attitude to production and to listening, that will make them skilled and sensitive musicians instead of wise musicians.)

What does it mean to compose in early education?

Often we associate the term 'composition' with something very difficult and exclusive, something reserved only for few people. This is because the children in the school are missing the musical composition in their daily education.

When we are children, we learn how we can paint, how we can draw, how we can write some texts, but not how we can create and compose music. Why? If we can learn all these activities, why not also music composition?

As children, we do not need to learn and to have particular knowledge in figurative art to start communicating with our drawings, therefore why wouldn't it be possible to learn how to compose music without having particular knowledge in music theory?

In the musical context, namely, it is possible to compose music using formal notation, which involves the use of symbols codified by the musical tradition, but also an informal code, which implies the use of symbols, letters, graphics, words, drawings or any other element which can be codified by the composer (or the creator) in reference to a specific musical or sound event.

In order to compose music, it is not at all necessary for a child to know the right value of a half or a quarter note or to know where he/she has to write a note for a d or a f. Through practical experience with the composition, it will be possible for the child to acquire those concepts and learn specific musical notions automatically with some musical experiments and experiences in playing, improvising and composing.

The main purpose of a method that uses the composition as an educational tool to analyse and acquire some musical and instrumental concepts, is primarily not to provide knowledge but rather to develop critical, analytical and explorative senses in the child. Through some experiments and some analytical and practical activities, the child acquires the necessary tools that will make him/her ever more conscious and autonomous.

The validity of the compositional process in elementary music education is very important, not only for its outcome in itself but for the use of logic and analysis that the process constantly requires in every phase of its realization. The composition then becomes a moment of exploration, creation and multiple learning in the elementary music education (Table 1).

The exploration represents the first approach in the compositional process and is therefore also the most important moment. Through exploration and experimentation, the child learns about the world around him/her, discovers the material (instruments, objects), goes in search for ways to use this material (some will be "right", others "wrong", some conventional, some completely original...). The child will first start is exploration alone, without any help and/or advice from the parents or the teachers, in order not to influence his/her first creative and spontaneous impulses. Only in a second moment the teacher's support can come to help to expand the child's exploration. The next phase, the analysis, is the moment when the child will try to understand what he/she explored, how he/she explored and also what he/she produced through his/

her exploration, in order to bring the child to make some reflections on his/her own: Which "objects" (or instruments) do I have here? Which sound material am I able to produce? How can I produce it? What can I create with this material?

Without an adequate analytical moment, this kind of creative process would lose its purpose as it would become a moment of simple entertainment, with minor relevance to the learning process.
The creation is therefore the third phase of this process: The moment that is reflective but at the same time practical, in which we can free our imagination in the act of creation.

I strongly believe that "to accustom the child to work on a project", in instrumental field, musical field or other fields, is extremely important for child education. Delalande also emphasizes the importance of the creative act, interpreting the word «composition not as a musical structure that brings together sounds, but as the act of composing or more generally of inventing music from the initial spark to the finished object». («Non una composizione, cioè una struttura musicale che mette insieme dei suoni, ma la composizione, l'atto stesso di comporre o più generalmente di inventare musica dalla scintilla iniziale fino all'oggetto finito».)

The importance of graphic representation in the creative process

The drawing represents the main creative form that manifests itself during early childhood. During the period of growth, graphic production undergoes numerous changes that occur through various stages. Drawing plays a fundamental role in children's mental development and serves as a link between the symbolic phase of the game and the growth of the mental imagination of the object. In the same way, be able to imagine a sound in the mind, creating a visual and acoustic image, represent an important aspect in musical learning.

The graphic representation of a sound phenomenon presupposes first of all a visual and mental representation and this is only possible through an analysis of the sound. It is through this process that the child comes into direct contact with the sound phenomenon. When he/she tries his/her own representation on the paper, he/she cognitively elaborates an external reality, attributing various meanings (emotional, motor sense, etc.).

Learning by composing. A different direction of instrumental education.

As a composer and as an educator, I have had already different opportunities to work together with children, and with each project I see how important it is for the children to get to know and mix different musical languages. Whether the children have musical experience or not does not matter in this case. Lately we hear quite often that every child should learn to play an instrument and do music. I think it's not wrong, but actually draws an incomplete picture. To my mind, every child is allowed to make music because it can make music. This is exactly how every child can invent music him-/herself and experience and learn music with it. I have been active in elementary music education for years and have led many workshops in the direction of "Inventing Music and Experimental Composition for Children".

The children are extremely curious and totally open to listen to new sounds as well. They learn so much by doing and creating music themselves. Music instruments are the direct and spontaneous tools with which we can produce musical sounds.

Personally, I always try first to stimulate the curiosity and creativity in the child. The technical and artistic possibilities of the instrument are explored and learned in this context and the composition is often very important not only for the development of creativity but also to support the learning process of a musical instrument. It is important to train the basic technique of an instrument with fun and spontaneity. In my experience, the relation between a child and his/her instrument is mainly obtained by continuously stimulated curiosity, creating a space for creativity and improvisation.

Furthermore, it is also important to help the child to organize his/her small improvisation or composition projects. This enables the child to have his/her own goals and to work out concrete results that will motivate him/her more and more.

I am a composer as well as a violinist and teacher; all three are very important ingredients for my artistic self-image. In the same way, I try to convey these three aspects in my approach to music education.

As a violin teacher I have personal experience in my lessons with using composition as a learning tool. I compose many suitable contemporary pieces for my pupils and also let them compose themselves, with the necessary support by me. In recent years I have noticed that inventing and then playing yourself are two complementary aspects.

Some examples about some realized projects

I would like to present and to explain now two of my projects, showing also some pictures, where I used the composition as learning tool, including also audio material.

Project Nr. 1 (Figure 1 and Figure 2): "Discovering the violin timbres"
In this project I worked with a group of 5 children, from 5 to 7 years old. The aim of the project was to "present" them the violin and to enable them to play the instrument in six weeks. It was focused on some types of different sounds that can be played on the violin (like tremolo forte, tremolo piano, long sound, legato sound sequences, staccato sound sequences). The goal, of course, was to get the children to recognize five different violin effects acoustically and to be able to perform it themselves. None of the children had any musical knowledge or violin experience.

First step: exploration. At the beginning I tried to capture their concentration towards listening to these five effects sounds, making sure that the children didn't observe me while I was playing them on the violin, so as not to be conditioned by my gestures but to let them totally focus on the characteristics of sound. Then I encourage them to discover the violin and try these sounds with their instruments themselves.

Second Step: analyse. Which sounds did I play? Which characteristic did they have? How I can play them on the violin? This second step is about the "understanding" of what I played and about the "learning" of this techniques on the violin.

Third Step: creation. How I can represent this sound? Can I try to use this sound to realize a little composition? For the "creative" phase, I asked the children to represent graphically each of the five sounds, using their imagination, thinking on what we learned about the sounds during the second step and finding a personal notation (either conventional or unconventional).

Personally, I found this project very stimulating and I was really happy to see that in each lesson, the children's interest in the instrument was growing more and more. The main goal was not composing, but using the compositions for playing and learning violin in a different way – and this was exactly what I got.

Project Nr. 2 (Figure 3): "Composing with the violin"
This project I realized with one of my violin student, at the age of 8 and with 2 years of violin experience. In this project my pupil had to learn the fluency and the looseness of the right and of the left hand. I decided to make a sort of "interactive" lesson and not to focus the lesson only on the technical problems. We practiced the technique of tremolo for the right hand and the technique of glissando for the left hand. Both are techniques that require wrist and arm looseness.

In that case the techniques were the main elements and the composition was the "exercise", so that she can compose herself for practicing purpose, helping to understand better those techniques and to solve her physical difficulty. To make everything more varied and interesting, the student did not use only tremolo and glissando, but could also freely use other sounds, defined heights, pauses, rhythms... The record and the all work in progress of this project is described on the DVD "Colori e Multiforme", together with other pieces and projects in "composing with the instrument" that I realized in October 2018.

Conclusion

Aristotle taught us that at the base of every citizen's conscience there must be the teaching of the arts as a basis for the education and not as an elite teaching.

Teaching means exploration, exploration means experience, which means laboratory, which means research. In a 360-degree exchange activity, each input becomes output for a new input at different levels. This can be applied to the work with students, but also with children.

A group lesson with various competence levels (from beginners to advanced) can represent a wonderful research platform with infinite inputs and outputs that can be received and reused in thousand different ways. Playing means analysing; analysing means artistic research; research means understanding; understanding means creating. There is no teaching without research; no research without reflection; no reflection and no creation without observation, no observation without experimentation. If we try to lead our children to think by creating and to create by experimenting, we will be able to train artistic, curious, sensitive and professional adults.

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The body between music and words: Integrated experiences of acoustic readings

Marina Ielmini
Oltrepò Mantovano Music School
Quistello, Mantova, Italy
marina.ielmini@gmail.com

Abstract

Musical practice and play involving children from 0 to 6 years of age represent instruments of a wide educational scope. And if musical activities are integrated with animated readings, to be experienced together with parents or caregivers, whereby the possibility of active listening exists through body involvement, then the educational potential of the proposal increases two-fold. The bond of the child-parent, child-adult of reference dyad can be strengthened by introducing elements of novelty and amplifying patterns of exploration and personal play.

Of course, a central role is played by the emotional relationship, seen as a process in which it is not only the mother or caregiver who is involved, but the dyad: children, from the first days of their lives, show early self-regulating relational skills. With the music school Oltrepò Mantovano of Quistello (Mantua, Italy), accredited to the national "Nati per la Musica" programme, in collaboration with the municipal library of Quistello, a careful disseminator of the "Nati per leggere" programme, a project has been activated, in the 2018/2019 school year, involving the two institutions in the promotion of integrated activities, consisting of music and words, for children in the 0-3 and 3-6 age brackets and their parents. The main aim of this initiative is to spread musical culture in all its forms within the local area: listening, vocal and instrumental production, movement and dance, enhanced by the reading of illustrated books and children's books. Moreover, by opening the experience to adults of any age, not only to parents, but also to grandparents, uncles and aunts, etc., an attempt is being made to bring a larger number of people into contact with musical fun and games. Group activities are organized in the premises of the municipal library, where children and adults are able to share the adventures of the various story characters, through sounds, singing, identifying with them by reproducing situations and playing with the imagination. This project endeavours to bring people without specific musical skills into closer contact with music, besides spreading musical culture throughout the local area. Music at the same time playful, shared, emotional and educational.

Keywords
Movement, education, abstract drawing, relation

Theoretical background and content

Music: "a timeless and ageless art that can involve in ever unique, peculiar and profound manners anybody who, either knowingly or unknowingly, by mistake or deliberately, surrenders to being captured (taken away) by its magic made of sounds, images, sensations, emotions, and memories."
This definition may sound a bit too theoretical, but it is indeed the result of a conversation I had with a class of 5-year-old children (26 in total) at the municipal kindergarten in Quistello where I work. It is important to stress that some of these children (8 of them, to be precise) regularly attend the afternoon music course at the music school "Oltrepò Mantovano" in Quistello (Mantua, Italy). The definition above, which I worked out putting together the words of these children, highlights some crucial elements that express the meaning of making music with children aged between 0 and 6: personal engagement, different engagement channels (visual, auditory, emotional, cognitive), as well as different levels of involvement - either voluntary or deliberate, either direct or indirect -, sharing, and the use of fancy and imagination.

Many of the abilities above can be observed in children from birth. They immediately show a strong inclination for social interaction. Numerous studies have highlighted that the quality of early childhood experiences and social relations have repercussions on the abilities children need to regulate their emotions and to adapt to the social environment. "Emotional aspects are strictly connected to social aspects since a child is born […] In all types of social interactions the emotional aspects of the interacting individuals play a key role as they determine the performance of the relation" (Bonichini, 2012, p.20). For small children and the relations they establish, non verbal interactions are more easy.

The first 6 years in an individual's life are a very important period as, in addition to linguistic development, children acquire the correct behaviour to enhance social relations. For instance, they learn the rules and take responsibility towards others. More specifically, social rules draw from various domains: the moral domain, with reference to what is right and what is wrong; the conventional domain, which governs behaviours in a specific cultural context (e.g. dress code); and the personal domain, with reference to individual freedom (Sarti, Sparnacci, 2016, p.109). Any communication exchange is an occasion to interiorise numerous social rules, whether explicitly or implicitly. The wealth of communicative exchanges lies in the fact that, when talking to someone, different channels are involved: the visual, the auditory, the emotional and the cognitive. A message is not transmitted and received with the help of the auditory channel only. Most of the times, we resort to "collateral" channels to either codify or strengthen the message we want to convey. These include facial expressions, body language, empathy, graphical and visual devices.

An additional means of communication is the body and its movements. "Man moves to satisfy a need" (Laban, 2014, p.8). Such need may be addressed to a tangible object, as well as to intangible values. A significant example of this is a child leaning her arms forward to grab a distant object or waving her hands to draw attention to and at the same time express her mood.

Rudolf Laban, a well-known Hungarian dancer, choreographer and dance historian who lived in the first half of the twentieth century, often mentioned the concept of "movement thinking". He asserted that thinking through movement, when compared to thinking through verbalization, "perfects man's orientation in his inner world, in which impulses continually surge and seek an outlet in doing, acting and dancing" (Laban, 2014, p.21). If you think about young children, who relate to the world with their senses before they do with words, you can understand how offering them the opportunity to move freely and safely is central and important for their development. Following Laban's thinking, movement consists of four key components: the weight of the body as influenced by gravity, space or the distances and directions covered with movement, time as the period quantity spent to perform a movement, and flow as the way movement is controlled by the nerve centres which respond to both inner and outer impulses.

The involvement of the body, the expression of one's experience with movement, and the attempt to organise and coordinate one's idea with the others offer the opportunity to light up fancy and at the same time trigger personal creativity and imagination. "If, on the one hand, fancy, invention and creativity produce something that was not there before, on the other, imagination can also imagine something existing, but which is not among us." (Munari, 2017, p.28). This definition by Munari suggests how important it is to encourage children without creating limits in them. The possibility to change, to create variations and unexpected situations is central in the learning process. A story may be told verbally, as well as in other ways. The body can tell a story and involve the listeners, but a story may also be told with the help of images only, colours, sounds and signs. This is how an abstract shape becomes a bear, and the bear walks along a green line into a wood … "There is no sign without an interpreter; there is no decoding without a message; there is no understanding without confrontation" (Pinto, 2014, p.11).

These theoretical foundations were my starting point to work out a project in collaboration with the educators of the last-year class at the nursery school in Quistello and the teachers of the 3- and 4-year-old class at the kindergarten in Quistello. The project is named: "The body between music and words: ORSO, BUCO! (lit. Bear in hole!)" (Grossi, 2013).

Age and characteristics of participants

The above-mentioned project involved the children and the educators of the last-year class at the nursery school in Quistello and the children and teachers of the 3- and 4-year-old class at the municipal kindergarten in Quistello during the 2017/2018 school year. The decision to involve children from both the nursery school and the kindergarten was motivated by two different reasons. First, a teaching curiosity: to see if and how the relation between story-telling and the involvement at body, graphical and pictorial level evolves in the different age groups. Secondly, the need for educational continuity: playing with this story was a "common ground" in which dialogue and confrontation with and among the children were possible during the visit of the children from the nursery school to the kindergarten, which was scheduled at the end of the school year to help the little ones in the transition to their next school. I was involved as the music expert in the project and the class educators worked in team with me. A dvd containing photos and videos taken while each child was working and delivering his/her graphic outputs was the medium we used to give our feedback to the parents.

Aims of the project

This music laboratory titled "The body between music and words: Bear in hole!" was set up for a multitude of goals. First of all, it was intended as a work for and with the educators and the teachers of the two schools involved (the nursery school and the municipal kindergarten in Quistello (Mantua)). In both facilities, music has always been a central element of the daily routine of the children. At the beginning of the school year the educators had expressed their desire to supplement sound with movement and story-telling to the children. This is why the project was conceived in such way as to put together picture books (more specifically "Orso, buco!" - lit. Bear in hole), movement and music. The project was also made possible by the collaboration with the municipal library in Quistello, which is actively engaged in the dissemination and promotion of cultural events for children and adults.

Adults were involved in the project for the following pedagogical-musical purposes:

- to help them guide and recognize the emotional intentionality that distinguishes a child's behavior;
- to encourage them to fulfil their support function, adequately responding to the signals produced by the children;
- to help them promote musical activities, depending on the development level of the child;

With reference to children, the proposed music was intended to serve the educational purposes listed below:

- the promotion and development of their cognitive, relational and cultural skills;
- the intention to offer the children the possibility to experiment their own selves in play-related, learning and relational activities with their peers and/or with adults;
- the promotion and acquisition of progressive autonomy from an intellectual and social standpoint;
- the stimulation of motivation and the pleasure of learning;
- the promotion of research, confrontation and co-participation strategies among children, starting from the play-oriented, emotional, relational and aesthetic dimension.

In relation to the latter purpose, I personally believe in the constructive circularity of the educational relation(Pugnaghi, 2015), especially with children in the 0 to 6 years range. Founding an activity on this idea means that the adult accepts abandoning all pretext of control and recognises the role of active interlocutor throughout the educational process to the child who thus becomes a co-constructor of the path that leads him/her to acquire specific self-organisation methods in relation to the contexts s/he is involved in, starting from the initial forms of support s/he receives from the adult. In this perspective, the intervention of the adult is not a direct educational intervention, but it is aimed at fulfilling the context-related and relational conditions required for the child to activate new cognitive re-organisations in an independent manner.

From a merely musical standpoint, the purposes of the laboratory were the following:

- to help raise the children's awareness on their voice and body;
- to promote experimentation with the voice;
- to help children acquire rhythmic skills through the movement of the body and experimentation with adequate sound-producing objects and musical instruments;
- to help children develop sensory/movement/sound-related skills through listening, exploration and both vocal and instrumental production;
- to develop baseline rhythmic and melodic skills in children so as to enable them to communicate their selves and their emotions through sounds;
- to support the ability of vocal and instrumental execution, both individually and in group, by encouraging the perfecting of personal creativity;
- to help children raise their awareness as regards their expression and musical/movement skills;
- to help children coordinate their activities with the activities of their mates.

Through mutual experimentation, the play and reciprocal "contamination", adults and children had the opportunity to create something unique and personal, starting from their own spontaneous suggestions.

The activities

My starting point was reading a picture book titled "Orso, buco!" by Nicola Grossi. The ingredients that convinced me to choose this book were: the use of abstract forms to identify the characters, the colour of images, onomatopoeic sounds, which help reinforce the narrative of the story, and the very short text.
The story is about a bear who gets lost and cannot find its lair, so he starts walking along the road (Figure 1).

All of a sudden... PATAPUM! The bear falls into a lair: it is a fox's lair. Together, the bear and the fox walk through the wood, looking for the bear's lair, but all of a sudden … TUMP! After falling into the lairs of other animals and crossing a river and a desert… (Figure 2).

…the bear and the fox meet an elephant who eventually takes all the jolly company home where they have a party at the bear's lair (Figure 3).

Unfortunately, however, one of the company members will not be able to go in: the elephant, of course, as he is too big to walk through the hole! (Figure 4).

This simple story enabled me to play using many elements of storytelling: the different ways the characters walk, the different sounds produced by each character falling, the locations the characters walk through, the pace of narrative accumulation.

I implemented this laboratory in the last-year class of the nursery school in Quistello and in the class with 3- to 4-year old children at the municipal kindergarten of Quistello. I followed the work method below. First of all, I asked the class educators to read this story out to the children, trying to fill story-telling with onomatopoeic elements, which the children could recognise and feel like personal, at every crucial moment of the story, helping themselves with the pictures in the book. This contributed to making the children familiar with the story and enabled us to play a game in which the plot of the story was changed and new and absurd elements were introduced (e.g. the brawny aunt takes all the animals to the bear's lair!). As time went by, together with the children, we had fun trying to use our bodies to simulate the different walks of the animals, their sudden fall into the lairs, their transit from one place to another, with the help of suitable music to make the play more significant. Sometimes music consisted in vocal sounds, either with or without words, accompanied by a guitar, and/or live music (e.g. I used "Pizzicato" by Leo Delibes, "Buffalo Hunting" and "Smoking the pipe", two movements taken from "Dakota" for wind band by Jacob De Haan) reproduced with a guitar or percussion instruments.

With reference to the 4 components of movement theorised by Laban (space, time, weight and flow), I proposed activities that were targeted at body exploration.

Weight: different walks lead to either lighter or heavier body attitudes.

Time: music helped us to set the pace of the various movements, respecting a tempo which was more or less the same (for instance, the musical phrase consisted of 8 bars and a refrain, at the end of which story-telling started or each recorded piece of music used lasted around two minutes). Below is the melody I invented for the bear and its search for its lair (Figure 5):

Lyrics:
ORSO SI E' PERSO E NON TROVA LA SUA TANA
OH CHE BEL GUAIO, QUANTA STRADA DEVE FAR?
CERCA E RICERCA, GUARDA PIU' IN LA
CON GLI AMICI DI SICUR GRAN FESTA POI FARA'.

> Literal translation:
> BEAR GOT LOST AND CANNOT FIND ITS LAIR
> OH, WHAT A MESS! HOW FAR WILL HE BE WALKING?
> HE SEEKS OVER AND OVER AND LOOKS FURTHER ON
> UNTIL A BIG PARTY WITH FRIENDS HE WILL MAKE.

Space: the movements were made within a precise space, as specifically identified for a specific moment in the story. Depending on the moment, the children may be laying on the floor or standing as tall as possible, or the movements may be large or narrow and bound.

Flow: we had fun simulating walks with fluid and fluent rhythms or stiff and angular movements. As our meetings progressed, drawings and graphical reproduction more frequently replaced verbal expression. At the end of the music meetings, children were given the chance to reinterpret the story graphically. In addition to body involvement, the project left much room for instrumental exploration with the purpose of accompanying the dramatisation of the story with consistent sounds that were selected together with the children. We used pieces of wood, maracas, drums, triangles, wood-blocks, wooden agogos, small plates, shakers.

The outcomes

This music laboratory, which was promoted by the Music School "Oltrepò Mantovano" in Quistello, was intended to provide a support tool for children at the time of their transition from nursery school to kindergarten. As far as I am concerned, it was a study of the changes and evolutions that develop in children in connection with graphical production and story-telling. The two schools involved, i.e. the nursery school and the municipal kindergarten in Quistello, worked in synergy with the municipal library within its activities for the dissemination of a programme titled "Nati per Leggere (lit. Born to read)". The rooms of the library hosted three meetings, organised in collaboration with the music school "Oltrepò Mantovano" in the course of the school year 2017/2018, focusing on acoustic readings addressed to children in the 0 to 6 year range and their parents. The common thread to all the readings were the graphical and sound-related choices of the text: geometrical and abstract drawings, and minimal or even invented text. The stories below were read:

- "Solo un puntino" (Pica, Vignocchi, Borando, 2015)
- "Tararì tararera" (Bussolati, 2009)
- "Rulba rulba" (Bussolati, 2013)

Conclusion and implications for future works

The possibility to enrich the music laboratory with plays including structured movement and moments of spontaneous graphical production and processing, in addition to the exploration and manipulation of instruments and sounds, was a highly fruitful and training time for the involved educators. They had the opportunity to develop a parallel path to the music laboratory. The educators at the nursery school focused on colour and emotions emerging from colour and its manipulation; at the kindergarten the teachers worked on lines and shape, and their possible combinations.
As far as I am concerned, this project has given me a great opportunity of enrichment: as one normally expects, new hints have emerged from children which are rich in the emotional intensity that only children can transfer.

"There are painters who transform the sun to a yellow spot,
but there are others who, with the help of their art
and their intelligence,
transform a yellow spot into the sun"
(Pablo Picasso)

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Teaching musical rhythm, structural and expressive elements through body movement in preschool age.

Irene Mercone
Miur, lower secondary school 'P.Matteucci'
Granarolo dell'Emilia, Bologna, Italia
irmercon@libero.it

Abstract

Studies on the music-movement relationship (Davidson and Correia 2007; GodØy and Leman 2010) demostrate that the communication of expressive ideas in musical interpretation are conveyed through movement. Gestures are movements to communicate thoughts and feelings. Camurri (2008) uses the term "expressive gestures" to refer to the body movements which convey affective and emotional meanings. Gesture is the way through which the performer gives shape to fluctuations of time, conveying expressive timing (Windsor 2010). The relationship between music and motion has been investigated by a family of computational theories. They present a kinematic model that compares the musical rhythm to physical movement. Studies referring to rhythmic-motor synchronization on music with children aged two to four (Tafuri, Malbrán 2010) argue that synchrony is a skill that improves, if trained through musical activities.

This musical practice focuses on teaching musical rhythm, structural and expressive elements through body movement in young children.

We conducted a research project that took place in a public school from January to April 2017, involving 320 children aged three to five. The musical activities were carried out in small groups of children. Each group had 16 lessons of half. Prior to the project, the teachers trained in a dedicated course.

The three year old children were observed to evaluate the level of the following skills: synchronizing the steps on rhythm of crotchets and quavers (one step for each sound) played at the claves by the teacher; stopping their body at the loud sound played on a drum, after sychronizing the steps on the rhythms and at the end of a childhood melody phrase.

The data showed whether and to what extent the skills were achieved. The project will observe the children over the next three years to ascertain the abilities reached at five years old. The latest results show how motor activity is useful for the development of rhythmic and expressive abilities. In the future, it would be useful to observe how these children could be positively influenced in learning a musical instrument.

Keywords
Bodily experiences, synchronization, musical learning process

Theoretical background

Studies on the music-movement relationship (Godoy and Leman 2010; Davidson and Correira 2007) indicate that expressive music communication is often conveyed through body movements, which are transformed into sounds by the performer and at the same time decoded, understood and interpreted by the listener. Both players and listeners focus spontaneously and naturally on the quality of the movements that produce sounds during the performance. Gestures are movements used to communicate thoughts and feelings.

Friberg &Sundberg (1999) focus on the relationship between locomotion of the entire body and musical performance. They start from the correlation between the final ritardando and our experience of locomotion. They observe that the average velocity curve of runners coming to a stop, fitted well with the average tempo curve of the final recordings of Baroque music. Their kinematic model compares musical rhythm to physical movement.

Music performance is the result of cognitive and motor skills. The performer, after analyzing music, changes musical structures into expressive timing, through gestures (Spiro, Rink, Gold 2011).

Juslin (2003) identifies generative rules that mark the structure of the piece. The performer can clarify cadences, metrical accents and harmonic structures by manipulating various performance parameters (Juslin and Timmers 2010). The primary syntactic elements are meter and grouping (Cooper & Meyer 1960). Meter refers to periodic features; grouping refers to the segmentation of a sequence into smaller subsequences which form hierarchical levels.

Palmer (1997), in research on musical performance, identified that the normative aspects are linked to cognitive functions of grouping, unit identification, thematic abstraction, elaboration and hierarchical nesting. The music performance is constrained by style-specific syntactic properties that transcend individual interpretations.

The Swiss composer and music educator, Emile Jaques-Dalcroze (as cited in Seitz 2005 p.420), observed the relationship between body movement and musical structure. He believed that bodily processes, rhythm, and physical motion were the basis of musical expressivity and music pedagogy.

Studies on synchronization (Fraisse) inform us that rhythmic-motor synchronization on the periodic musical characteristics, is a behavior in which the stimulus (sound produced) and the response (the sound or movement produced) overlap. In children there is a system of anticipation that allows as to predict exactly when the next sound will be produced. In consecutive studies, Malbrán (as cited in Tafuri and Malbrán 2010 p.464) identified the variables of correspondence, continuity, precision and regularity that help the observation with greater precision the synchrony skill in preschool age. In their study conducted with children aged two to four (Tafuri and Malbrán 2010), the authors argued that synchrony is a skill that improves, if trained from birth in musical activities. In fact, that showed that in children who have received musical training from birth, the progress is noticeably greater in their synchronization skills, compared to their peers who have not received them. In addition, the study showed that synchronization was significantly better in children aged two to three compared to children aged three to four. The synchrony skill was observed in variables of precision and regularity, not in continuity and correspondence. Malbrán observed that correspondence and continuity were critical in preschool age children.

Aims of the project

The presented practiced focused on teaching rhythm, structures, expressive elements through body movements in children aged between three to five. According to the Italian legislative framework for kindergartens (DM 252 2012), children use their bodies from birth for self-knowledge and knowing the world. Body and movement become vehicles to gain musical structures and expressive elements.

The three-year-olds were observed. The activities and the evaluation were carried out within the group aged between three to five. The level of the following skills referred only to the three-year-olds were evaluated:

1. synchronizing the steps on crotchet or quaver rhythms played on claves by a teacher (one step for each sound);
2. synchronizing on the rhythm of a sung melody, consisting of crotchets or quavers (one step for each sound);
3. stopping their body at the end of a sung melody phrase;
4. stopping their body at a loud sound, after synchronizing the steps on crotchet or quaver rhythms played on drum by a teacher (one step for each sound).

Age of participants

The project took place in a public school called I.C Castenaso (Bologna) and it was placed within the educational plan of the school. I.C. Castenaso (Bologna) has , as well as a lower secondary school and a primary school. The project was implemented with about 320 children, from January to April 2017.

Method

One teacher for each kindergarten and a lower secondary school music teacher set up the technical team that planned and evaluated the project, which was divided into three phases:

- Training phase: giving training kindergarten teachers on the basis of different activities, methods and musical contents according to the age group; four meetings were scheduled, each taking 2 hours. The training was carried out in the gym. Various materials were used: rhythmical instruments, listening to music, plastic balls that bounce...
  The teachers practiced with comfortable clothing to facilitate the body movements and to experiment with the activities that they would later propose to the children.
- Experimentation phase consisted of teaching these activities to the children. During the first month, the lower secondary school music teacher joined the kindergarten teachers in musical activities. These interventions were planned for the whole school with the technical team. To arouse interest and curiosity in the children, different materials were used, such as rhythmical instruments, a slide whistle, animal images, listening to music and much more. Particular attention was given to the real needs of each group: boomwhacker were chosen to help a baby because the doctors had advised to use light sound objects that she could hold with both hands.

Figure1. Boomwhacker and movements

- Observing phase: observing the three-year-olds in musical activities that have been proposed to the entire three to five group aged, for evaluating the project according to the observation of movements, described above.

The activities

Each lesson included a preparatory phase and an operational phase.
The former involved: an exploration that stimulated and discovered sounds and movements.

The latter involves the: body movements responding to sung voice or rhythm, in a circle or free space in which the children:

- learned by imitation a nursery rhyme or song;
- played rhythms alternated with movements, or rhythms and movements at the same time.

The following is an example of a lesson:

> The children were standing in a circle. The teacher played the slide whistle, creating glissando sequences (switching between high and low sounds and vice versa), using different dynamic and expressive parameters: piano / forte, slow / fast, crescendo / diminuendo, legato / staccato. The children imitated the slide whistle sound with their voices and at the same time the teacher's movement. Then, the children imitated the movements that the teacher performed with the shoulders, head, legs, hands, mouth, eyes etc... up and down, opening and closing and forward and backward movements.

Figure2. Slide whistle and movements

> The body movements followed the glissando: the leg movement went upwards following the glissando towards the high sounds and vice versa, then the return movement downwards following the glissando towards the low sounds.
>
> In the operational activities, the children learnt the "Ecco il topolino".

"Ecco il topolino"

Figure 3. "Ecco il topolino"

The teacher sang and quickly ran her fingers over her body, to indicate the movement of a fast mouse. When the song was learnt, the children sang, making the rhythm with their feet. One step for each song sound, consisting of quavers and crotchets. On the word "buchino", at the end of the song, the children stopped their bodies, hiding the cheese, "il formaggino" in the song. Then it started all over again.

The children trotted on the quavers. On the word "buchino" and on the syllables "chi-no", which correspond to two crotchets, the children stopped their bodies to hide the cheese. The song shows that even on the word "formaggino", on the syllables "gi-no", there are two crotchets. The children had a lot of difficulty performing the two crotchets with two steps. I gave priority to the playfulness of the moment, enhanced by a ball that each child held in their hands to hide it.

The teacher played the drum alternating crotchets with quavers. The children trotted more quickly on the quavers and more slowely on the crotchets, at a walking pace. The teacher alternated quaver and crotchet rhythms with a loud sound on a drum. Each child stopped their body at the loud sound of the drum.

Figure 4. Stopping the body

Then it started all over again, alternating the movements phase with the motionless phase.

At the end of the lesson, the children played crotchet and quaver rhythms on claves with and without body movements.

- Free arm movements on bars five and six;
- claves rhythm on bars seven and eight;
- right vaulting to the melody in bars 12 and 13;
- left vaulting to the melody in bars 44 and 15;
- free leg swing to the melody in bars 16, 17, 18, 19.

The same model repeated until bar 35.

- One step to the rhythm of the claves in bars 36, 37, 38;
- Arms up on bar 39;
- One step to the rhythm of the claves in bars 40, 41, 42;
- Arms up in bar 43;
- One step to the rhythm of the claves in bars 44, 45, 46, 47.

Waltz of the flowers

Figure 5. Waltz of the flowers

In the last lesson the teacher proposed an activity on listening to Pjotr Iljitsj Tsjajkovski "Waltz of the flowers"[1]. The children alternated movements to musical phrases with easy rhythms played on claves, according to the described model.

The outcomes

The teachers observed the children using the following observation form:

I.C. di Castenaso – Project 3/5

Observation form of 3-year-old children -A.S. 2016/2017

	Indicating the number of children who played ***Correctly***	*Indicating the number of children who played* ***Partially correctly***	*Indicating the number of children who played* ***Completely incorrectly***
Synchronizing the steps on crotchet and quaver songs.			
Synchronizing the steps on crotchet and quaver rhythms.			
Playing crotchet and quaver rhythms.			
Playing easy rhythms to the Waltz of the flowers.			
	Indicating the number of children who ***Stopped the body***	*Indicating the number of children who* ***Don't Stopped the body***	
Stopping the body at the end of a melody phrase.			
Stopping the body at the loud sound.			

Figure 6 observation form

1 *Decca Tchaikovsky Ballet Suites Wienner Philarmoniker Karajan*

The observation referred mainly to the four skills described above, but it would also be interesting to observe:

- playing crotchet and quaver rhythms on the claves
- playing crotchet and quaver rhythms to Waltz of the flowers.

The following graph shows the children's results in Fiesso, Giostra, Bentivogli and Stellina kindergarten.

Figure 7 Skills achieved by three year olds

The coloured columns indicate, in percentages, for each school, the number of children who achieved the skill correctly (synchronizing with precision and regularity according to Malbràn's variables), partially correct (synchronizing with precision or regularity), incorrect (without precision and regularity). Each column has a different colour relating to the skill observed. A series of columns with the words "NOT EXECUTED" has been added for each school: each coloured column indicates the number of children, who have not been observed.

It was observed that 80% of the children achieved the violet and black skills (stopping the body at the melody phase and at the sound) and even higher in the case of Fiesso. In Giostra and Bentivogli 40% to50% of children achieved the red and yellow skills (synchronizing the steps) and in Fiesso 80%.

Stellina reached less objectives than other schools, because the kindergarten had less teachers in the organization of musical activities.

In reference to the green skill (playing the rhythm), a very good percentage was reached in Fiesso 60%.

In reference to the blue skill (playing to Waltz of the flowers), only a few children achieved it.

Conclusion and implication for future practice

The results show that the practice was useful to activate different motor responses in relation to heard sounds and melodies. The children improved their skills during the lessons, they progressively improved their attention to synchronization.
The children had fun. They continued to sing and move even after the music lesson. The results are encouraging, and it would be good to continue this musical practice. In the future, it would be useful to observe how these children could be positively influenced in learning a musical instrument. It could be interesting to observe how body experience will help these children in the development of motor-skills for instrumental learning.

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Symbolic play by toddlers: ‘painting’ in three-four time

Félice van der Sande
Chair, Foundation Muziek op Schoot
Delft, The Netherlands
info@felicevandersande.nl

Abstract

The goal of this workshop is to achieve specific musical aims in an activity with toddlers through the use of exciting and uncommon music materials, selected for their varied musical uses.

Keywords
Toddlers, out of the box musical materials, creative musical process, symbolic play

Introduction

This workshop starts with a demonstration of 30 minutes of live children's workshop activities with a group of 2 to 3 yo's from Ghent, who will experience and perform two-beat versus three-beat music and staccato versus legato in various musical characterizations through concrete play and in symbolic play using paint brushes.

After the first demonstration with the children activities with participants demonstrating musical activities for specified musical aims the participant wants to discover. We will work with 'out of the box' materials; such as PVC tubes, paint rollers, barn sponges, wooden blocks and rasp sticks, with wide-ranging musical uses that spark the creative musical process in both children and adults.

Interactive play with children as starting point

This sample workshop demonstrates an intuitive, integrated and playful way to achieve a musical aim using music, new and traditional songs, sounds and play materials.

The new songs used in this demonstration are composed using the interactive play with the children as a starting point, leaving possibilities open in lyrics and musical phrases for reactions of the children. It focuses on the specific musical aims that fit in with the developmental stage of the child and particularly challenge their creativity. This is realised using both play and materials that fall in with the musical aim while also exploiting the element of surprise.

Example 1 [Verven translation: painting]: the song with the paint brushes. Children are making a fast staccato movement with the brush on each note (singing: 'dot dot dot dot') with one movement and one word for each note in a tempo that suits the motoric development. In the second lyric they paint stripes in one movement and one word for one bar; a large and slow movement for toddlers. They can move side-ways, up-ways, make a circle or otherwise. In this way, there is repetition in the movement and music to practise large musical movement simultaneously on music, and there is variation in the game for the concentration and fun.

Example 2 [Joehoe, translation: a way of saying hello/peekaboo]: First children only listen to the song and play peekaboo in 6/8 with some sounds. While there's singing, the toy is disappeared, in the sound making notes it plays peekaboo.
Later it is replaced by movement: When there's singing, the brush is hided, in between the brush is painting. And finally the variation with music making with games, while they are 'painting' their own ideas and colors with the brushes.

Repetition, variation and progression are all key elements where the uncommon musical materials are very suitable to use in countless ways of playing music and for symbolic play.

Varying contexts

Revisiting the same music, rhythms, materials and songs in varying contexts helps build recognition. Recognition opens up ways for further exploration of both the musical and play aspects. Each repetition leads to opportunities for variation:

- Repeating the same musical movement, but using a different physical or sensory experience.
- The change of context allows for highlighting different aspects of the music, foregrounding the various layers within the music through play or movement.

Through direct repetition of the music material within the same session as well as the repetitions in subsequent sessions, you truly realize the activity in all its aspects and ensure that the children internalize it.

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Joined hands delivering more music in the classroom Co-teaching in the Aslan Music Talent Express Program

Ellen van Hoek
Research Group Arts Education Amsterdam University of the Arts
Amsterdam, the Netherlands
ellenvanhoek@hetnet.nl

Jos Herfs
Lecturer emeritus ArtEZ University of the Arts
Arnhem-Enschede-Zwolle, the Netherlands
jjherfs@gmail.com

Abstract

Co-teaching was introduced as an approach to improve knowledge-exchange, efficiency, and sustainability of music teaching and learning in primary schools. Innovative strategies and instruction methods, coming from co-teaching and explored in music lessons, have been systematically described and evaluated in previous work (Van Hoek & Herfs, 2017). The music lessons were based on the program 'Music Talent Express' (MTE) developed by Aslan Music Centre (Aslan MC). Schools co-operating with the Aslan MC are often situated in neighbourhoods with a culturally diverse population and families with lower incomes. Based on principles of stimulating music education and intercultural education the program builds on mainly physical musical activities during the lessons and aims at 'learning by doing'. The music lessons are normally carried out by a specialist music teacher but in this particular project, the lessons were designed and executed in direct co-operation with the classroom teacher. Aim of this project was to develop a way of co-teaching and creating shared responsibility befitting the MTE program, which would on the one hand improve knowledge-exchange between primary education teachers and specialized music teachers, and on the other hand would support moving away from a traditional teacher-centred approach in music education to creating spaces for self-exploration for children. The project covered all learning groups in primary education (age 4-12) and proved remarkably successful in Kindergarten and early-years classes (age 4-8). By having both teachers work together, it was possible, especially in the early-years program, to have children work independently in small groups. In the co-teaching lessons, opportunities were created for children to explore sounds, instruments, and composing. The specialised music teachers concluded that they estimated a higher musical level in the lessons and that, surprisingly, primary education teachers give a new impulse to their lessons because of the different choices of grouping.

Keywords
Co-teaching, music teaching and learning, teacher-learning support, innovative strategies

Introduction

In the years 2010-2013, Aslan MC music teachers in Amsterdam implemented a newly designed musical approach for primary education. It entails a program that provides a continuous pathway for learning music during the eight years of primary education, to be carried out mainly by a specialist music teacher. This project was supported by a monitoring and evaluating research program. After the first phase of the project, the research report concluded that the program appeared to be successful in its aims and that schools appreciated its ambitions, strengths, dynamics and the enthusiasm of the specialised music teachers (Herfs & Van Hoek, 2013). A well-trained and experienced music teacher can inspire the pupils, teach musical skills at a good level, and provide a realistic musical model by example. Nevertheless, according to the researchers, the program's strongest part, i.e. the qualified music teachers, runs the risk of potentially also turning into its weak link. Indeed, although in the design of the MTE program, classroom teachers were supposed to join all music lessons and, by doing so, be able to learn and transfer, they seemed to take a marginal role. Sometimes they would keep order in the classroom but often they would also move out of the classroom or be busy doing some other tasks during the lesson.

The music teachers indicated in reflection reports that they felt able to provide inspiring and well set up music lessons, but also a need to improve their class management. Another research outcome was that the focus of the learning in the lessons was particularly directed on singing, body moving and playing basic music instruments, and that teaching was mainly based on a traditional teacher-centred approach.

Questions were therefore raised about how the classroom teacher could successfully be involved in the lessons in order to support the music teacher and, by doing so, provide knowledge exchange in class management strategies and support the breadth and depth of varied teaching approaches of the music specialist. These questions gave way to the pilot project Co-teaching MTE which was developed as design-based educational research (Valcke, 2007) which goes back to the Instructional Design Theory by Reigeluth (1999).

Research design

The aim of the design-research project Co-teaching MTE was to systematically explore, develop, describe and evaluate (new and updated) teaching methods and processes in the classroom from the main perspective that

1. the classroom teacher is actively involved in the music lessons;
2. teaching is based on mutual equivalence of both the classroom teacher and the music specialist.

The development of the project was based on an exchange between educational theory and practice and the experiences, as reported by the MTE teachers.

In the early phase of the research project a teacher manual and a convenient mock model were developed for joint planning, guidance of doing the teaching in action (practice), and evaluation. These resources were based on recent research literature and online desk research (i.e. Cook & Friend,1995: Fluijt, Struyf, & Bakker 2016). The practical use of the guidance manual and the exemplary model were tested in practice, and later on adjusted, expanded and refined. Inspired by the manual, co-teaching duo's designed and carried out a set of lessons which they reflected on. Their experiences were exchanged within the 'Co-teaching Workgroup' twice a year and in a final focus group discussion

Over the three years eight MTE teachers and ten Classroom teachers voluntarily joined the project and designed 50 lessons working with co-teaching. The lesson designs with the reflection upon by both teachers afterwards, observations of lessons and observations of the workgroups were the basis of the data collection

About co-teaching in music classes

Co-teaching is an innovative educational form, which explores ways to share knowledge, facilitates exchange, and provides more collaborative action. It has a long history and is often applied in the case of inclusive classrooms, where a general teacher and a specialized teacher share their responsibilities for the education (Cook & Friend, 1995; Walther-Thomas, 1997; Fluijt, Struyf & Bakker, 2016). We summarize co-teaching as joint design, execution and reflection of education by a specialized and a general teacher. It is regularly mentioned in the case of music classes, but until now research reports about the application of co-teaching in music lessons are scarce.

The idea behind co-teaching is that, on the one hand, working together promotes a broader range of instruction forms, thereby improving the intensity and continuity of the teaching program for all pupils. On the other hand, it also facilitates exchange between the general classroom teacher who has the knowledge and actual information about dynamics and performance of the pupils, and the specialist teacher who can give specialized support and tools (Cook & Friend, 1995; Walther-Thomas, 1997).

One of the aims of the project was to create opportunities in the music classes for more diversity in instruction methods and by doing so, give way for broader approach of the contents of classroom music education. The following co-teaching strategies, retrieved from literature (i.e. Cook & Friend,1995; Koot, 2012), were formulated and explained to the teams. They were free to choose and to explore these from a musical content:

- One Teaching, One Observing
- One Teaching, One Assisting
- Parallel instruction
- Station teaching
- Special instruction

The approach of the MTE program is to richly provide material and working forms from which MTE teachers can freely choose. And so, they could do in this project.

In the following paragraph, the different co-teaching instruction models will be described as they were applied in the MTE music lessons.

Experiences with diverse instruction models in music classes

One Teaching, One Observing

This specific form was often applied when the music teacher was singing with the class and the classroom teacher 'was keeping an eye' on the pupils. Or when the classroom teacher gave an introduction and the music teacher 'kept an eye'. It was seldom done by observing from aside, most time the 'observing' teacher joined a circle or assisted with the equipment. The teachers shared their observations mostly by sharing 'looks' while acting or verbally shortly after the lesson was finished.

One Teaching, One Assisting

In this specific form, the music teacher was often leading the action while the classroom teacher encouraged and stimulated asking supportive questions. The classroom teacher might take a role in class management in case of incidental behaviour issues. He/she added extra eyes and hands, and by doing so, more pupils were actively involved. "Usually I need all my attention for the noisy children and it is difficult to see the quiet children who are really enjoying the activity". (MTE teacher)

Parallel Teaching

This specific form was tried twice during the project: once both teachers supported one half of the class to add illustrations to the text of a song; the other time both teachers were leading half of the group in a musical game.

Station Teaching
This specific form was relatively often applied in co-teaching lessons (in 17 lessons out of 50). Mostly the class was divided into three groups, and every group filled in a different task. It might be that the groups switched during one lesson, but often the tasks switched the week after. If possible, at least one station was a place where pupils worked independently and incidentally, coached by one of the teachers. The classroom teacher played an important role in dividing the groups. They had a clear idea about grouping and the tasks certain children were able to perform. This will be mentioned later in this article.

Working in stations was new for most of the MTE teachers. Remarkable was that often in the end, the results of the musical learning stations could be put together, creating a complex overall result.

Special Instruction
This was incidentally applied as a select group of pupils was chosen to perform a more complex task.

Complementary sub-activities

During the pilot, it became clear from practice that a specific phenomenon in the music lessons could be discerned, which we called 'complementary sub-activities'. Music is a medium in which different dimensions are happening at the same time, like different (instrumental) voices sounding together, music accompanied by body movements, sounds accompanying a storytelling voice or music supported by (moving) images. These different layers (dimensions) all contribute to the final result but can differ from the musical skills they require to perform the activity. Working with co-teaching in music lessons, the teachers easily came to work with these complementary sub-activities. Both teachers could work simultaneously on a part of the same subject but from their own skills, content and competencies. Both would contribute to the total result. These sub-activities might be prepared for example in the learning stations and in the end put together as a total result. While performing these layers simultaneously both teachers might support different groups of pupils or actions. This form of cooperation can be understood as the musical equivalent of team teaching with the remark that in a musical setting this form of cooperation, even in short-term projects, almost immediately arises. This is contrary to what is mentioned in the literature on co-teaching in other subjects than music (Baeten & Simons, 2016; Cook & Friend, 1995: Scruggs, Mastropieri & Mcduffie, 2007).

We'll describe some examples of musical co-teaching sub-activity strategies:

Putting the result of station working together
Whenever working in stations, teachers often chose musical content for the different stations which, in the end, could be put together in a final total result. Each station would be a part of the total but could be shaped or practiced independently. For example, one station was practicing a bass line on boomwhackers, a second station was about making a new text for the verse of a song, and the third station was improvising an introduction to the song, but many more variations are possible. In the end, while putting the stations together, both teachers could support different groups and so make a more complex final result possible.

A story as the basis of a music project
New in the MTE lessons because of co-teaching, was working with a story as the basis of a music project. Often the classroom teacher suggested a story from a (picture) book and this served as a starting point for a musical setting. Pupils explored different instruments to make sounds with, invented sounds fitting the different scenes, found songs to accompany scenes or actions in the story, made movements to accompany different scenes and made new text or even made word/ rhythm improvisations. During the weeks of the project, the musical work became more complex.

Ways the classroom teachers attributed to the music lessons

Many classroom teachers put forward that they didn't feel they had enough competence to give music lessons. Nevertheless, they gave very valuable contributions to the lessons, depending on the content they felt confident with. Tasks they took on in the co-teaching lessons which did make a difference were:

Learning the words of a song
While the music teacher concentrated on the musical part (melody and accompaniment), the classroom teacher assisted in learning the words of a new song, for example by 'fading' words of the text.

Singing
The classroom teacher sang the main melody with the pupils and by doing so affirmed them, while the music teacher supported the more complex musical part such as the second voice or the instrumental accompaniment.

Inventing and joining in with body movements with the pupils
While the music teacher sang a song and accompanied it on guitar or piano, the classroom teacher assisted the pupils by inventing and making body/ dance movements.

Notation, graphics and pictures
The classroom teacher assisted the pupils with imagining a graphical notation or reproducing a graphical notation or representation with pictures while the music teacher improved the musical interpretation: 'the teachers just jumps in showing the pictures while I'm busy with the song or the other way around'. (MTE-teacher)

Asking learning questions
The classroom teacher supported the introduction of a new item by asking learning questions, while the music teacher supported the musical context and content. Especially with early year groups the learning of new words and making associations were more efficient when it was possible to build on prior knowledge, and who else than the classroom teacher is better informed about this? 'The difference between a cow and a calf, and a chicken and a chick, that sort of things. I brought pictures with the song and we sang and it that was really nice. And she could really get the pupils in there. So those were real highlights for me'. (MTE-teacher)

Grouping
Usually, the music teachers made their own choices for grouping or gave turns to specific pupils in their lessons. In the co-teaching lessons the classroom teachers would also make their choices which turned out to be different and give different results. For example, the music teachers often would go for an equal division of pupils with skills and talents over different groups while the classroom teachers wouldn't have problems with making groups with different 'levels'. Classroom teachers had clear ideas which children could (easily) perform tasks independently. 'Some pupils felt in these lessons really challenged, maybe for the first time'. (MTE-teacher)

Another example the music teachers gave is that especially in the early year groups, while asking questions, they tended to ask mainly the elder pupils and hesitated to ask the younger ones, while the classroom teachers would also give turns to the little ones.

Conclusions

Applying co-teaching in the music lessons led to lessons with more space for self-exploration for the pupils. Music creation such as improvising and composing were more often mentioned as learning goals and part of the lessons. Because of the input of the classroom teacher and by using different instruction methods, it was possible to apply more differentiation. There was more attention for pupils who tend to be invisible because the focus usually is on pupils who either show exceptional musical behaviour, stay behind or show disruptive behaviour. Because of the extra pair of eyes, ears and hands the classroom teacher adds, but also because of their distinctive view, pupils' talents became more visible and by applying more differentiation, these were more addressed. According to the music teachers, the musical results with the same groups

turned out to be higher. Working from co-teaching made pupils feel more involved, the music teachers more supported and the classroom teachers more challenged to give input to the music lessons.

"Planning was named a major challenge for co-teaching. Aided by modern communications tools such as e-mail and mobile phone, all teams did manage to. Nevertheless, they reported experiencing it as a problem."

Because the MTE music lessons focused on varied activities and music making, and the lessons had only a very limited time (mostly half an hour) it was advised to design a small follow-up assignment to use during the week to come. Active, meaningful and challenging (small) assignments would give the pupils and the classroom teacher the opportunity to structure and relive the musical learning experiences and by doing so provide it from a (personal) framework.

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Moving in and out: How Young Children Physically React When Change Of Movement Is Invited During An Early Years Music Class

Kendra van Nes
Independent researcher,
Amsterdam, The Netherlands
kendravannes@hotmail.com

Abstract

In the more than 10 years of providing musical workshops to a variety of age groups, one of the most frustrating yet entertaining things that continuously occurs, happens during the early years music classes that I lead. That is, whether all children are invited to stand, sit, or follow the direction of a person leading the movement (e.g. to dance or another physical change), during every class at least one child will either not change position or will move in a completely unpredictable way. Sometimes these reactions catch me off guard and can spark a moment of chaos, or confusion in how to proceed. However, it can also promote a more spontaneous and creative way to continue the class and stimulate a rotation of leadership.

In this paper, I examine how I, as the workshop leader, can navigate in moments of unexpected physical behavior especially during transitions between activities. I take a closer look at my own practice and how I react to these moments. By using my own experiences and reflections I wish to gain a better understanding as to why a certain behavior happens and how I currently react to this.

In the first example, a child who remains seated while the rest of the group stands is discussed. In the second example, the motivation behind a deviation in movements is looked at. In the third example, attention span is focused on. In the final example the role of the parents is looked at more closely.

Within the discussion, the importance of the children's level of self-regulatory skills is questioned, specifically regarding the unexpected physical behavior of the young participants in an early years music class.

Keywords
Early childhood, music, movement, behavior

Introduction

As a workshop leader in music making with the early years, one of my recurring thoughts is how to optimally integrate the natural physicality and spontaneity in young children's movements. I wish to offer classes in which all children and adults feel comfortable to express themselves and during which shared leadership between everyone attending may occur. Yet, when children's physical expressions become disruptive or require attention, I continue to search for ways in which to best react to these moments. In this paper I reflect on my own practice and behavior as a workshop leader.

I have chosen four examples from my own observations and experiences as a teacher. By keeping a written record of examples and my experiences as well as reactions, I have gathered data, which illustrates in which ways unpredicted physical behavior of the child participants occur, how I react and how the group responds.

Project background and aims

I wish to explore the way in which children physically express themselves during a variety of activities in my music classes. I examine the ways in which I respond to children's physical behavior that is different from expected and what the implications might be for the other participants. Relevant literature regarding children's physical behavior as well as ideas from children's developmental psychology will be used to support and provoke my own thinking as well as challenge the ways in which I respond.

The setting

All examples have taken place during my own classes, which happen either in daycare centers with children and caregivers, or during a parent-child class. The sessions take place either weekly or bi-weekly and all children have been attending for at least two months or more and are familiar with the setting, myself and the other participants. The age of the children ranges from three months to four years old. In some classes, the groups are divided by age, in others they are mixed from infant to preschooler. However, I have chosen to focus mainly on the one- to four-year-olds simply because in these examples they have shown clearer unexpected physical behavior.

Ethics

All persons in this paper have been anonymized.

Scaffolding, Self-regulatory skills and executive functions

Example 1

During a bi-weekly music class at a daycare facility including 12 two- and three-year-old children and two teachers, the following scene occurred:

> After finishing the welcome song, which takes place sitting in a circle, I ask all children to stand up. After some moments most of them get up. However, Paul, a two-year-old, remains sitting despite his active participation during the welcome song just moments before. I invite him specifically to stand up and to join the group in singing the next song about stomping our feet. Paul does not get up and seems to be in deep thought. He isn't looking at anything in particular, yet seems to feel comfortable. One of the teachers takes him by his hand and pulls him up. Once he is standing Paul looks at me and happily joins in by stomping his feet along with the music.

Paul had been actively participating during the welcome song, though once this song was finished his thoughts either lingered or he became distracted which led him to "zone out" for a moment. While he might just not have noticed that the next activity had begun he may also not have felt safe enough to shift position. From my previous interactions with Paul, I observed him to be hesitant and timid at first. Bruner (1996) says that for a child to learn and develop new skills, interaction with another person is key. Influenced by the works of Lev Vygotsky and his concept of ZPD (the Zone of Proximal Development), Bruner uses the term scaffolding to illustrate the support a child needs from a more capable other. This will allow the child to learn skills until she is capable to do them on her own. The teacher who gives Paul a hand seems to offer the support, or scaffold, he needs to feel safe enough and stand up able to join the others in the next activity.

While Paul may have been aware that the rest of the group switched from sitting to standing he, in that moment, behaved like an observer rather than participant. Reflecting on this situation I believe that if the teacher had not been present, or had not reached out to him, it would have taken longer for Paul to join in with the rest of the class. It would have been difficult for me to stop leading the activity and to try to get Paul to participate. Doing so probably would have disadvantaged the other children who might have lost focus if my attention had not been on starting up the next activity.

Example 2
During a bi-weekly music class with eight three-year-olds and one teacher, the following occurred:

> We are singing a song in which hand clapping, feet-stomping and other synchronized movements happen in time with the song. Two boys start using different movements while continuing to stay in time with the song. They start laughing and their gestures become larger and more vivid. The other children begin to notice this and, while they continue to play and move along with the song, they begin to do the same but out of time and some children even stop their participation entirely. I decide to join the two boys by making the same large gestures (swirling with the arms) along with them in time to the song. I gesture to the rest of the group to move in the same way as the two boys and myself, which they do. By the next round of the song the focus is back and we all join together in the next movement.

Moments like the one above happen during almost all of my classes and often more than once during a session. I enjoy that it allows for children to lead part of an exercise without me asking them to do so. The self-initiated action is what I hope to achieve during many moments in class. However, the intentions behind the actions of children are important here: is this behavior a way to express fun and enjoyment of the moment, or are they trying to be intentionally disruptive? By reading facial expressions and body language I try to determine whether children that initiate something new mean for it to happen in a positive or disruptive way. Arnold (2010) believes that 'the concept of reflective abstraction is viable and that young children carry forward all of their experiences in action and can draw on these to represent and think' (Arnold 2010, p. 148). This would suggest that children, as young as the ones in this example, might be able to reflect upon their own actions to some degree and therefore understand their own intentions somewhat too. Whether the actions seem well intended or not (and I am aware that these actions are not necessarily well thought out but rather 'spur-of-the-moment' behavior) may not matter during class until it affects the rest of the group. A consequence could be they lose their focus and the activity becomes muddled.

While leading a session, the difficulty arises when children are given the freedom to lead but actually loose all control. When all participants, both children and adults, lose control of the situation, the activity ends in chaos. It is a balancing act between the amount of freedom which is adequate to give and how sharing leadership works for all participants within the class.

Example 3

After having done some circle-time activities while seated, the following occurred during a weekly music class with 14 two- and three-year-olds and two teachers held in a small space set up with kindergarten-style gymnastics equipment:

> I pick up my hand drum, stand up, start singing a song and gesture for all children to stand up with me. Everyone but two young two-year-olds, a boy and a girl, stand up. We all march in one spot to the beat of the drum. Then I begin walking around the room in time with the music, I ask the children to follow me. After several beats of the group marching along, three three-year-old boys run away and begin playing with the gymnastics equipment around them. Within a few more beats the rest of the group has stopped marching and all children have begun climbing on the equipment, playing with balls or interacting with each other. I stop singing and playing the drum. The two youngest children of the group still remain seated on the mat.

Children at this age often get easily distracted. Executive functions, including attention span, are still developing during early childhood, which makes it easy for under-fours to be distracted by their surroundings (Cuevas & Bell 2014; Rohr et. al. 2018). Rohr et. al. (2018) mention that 'children of different ages, and hence communication abilities, look differently at social scenarios (…), demonstrating that children prioritize their attention to stimuli differently depending on their own personal context' (p. 209). Children behave in certain ways in order to try and make sense of their surroundings. This could explain why some children have a more physical reaction to their surroundings than others. In this way they are, consciously or not, trying to understand and remember the reactions of others caused by their behavior and thus make sense of the world (Arnold 2010).

It also seems likely that girls have stronger self-regulatory skills from an earlier age than boys do (Moser & Reikerås 2016), and therefore, it might be more common for boys to become easily distracted from participating in group activities and to deviate from what the rest of the group is doing.

Due to the chaotic outcome of this activity, I was not able to give any attention to the two children who remained seated. There were also two teachers present, yet they were focusing on the other children as well. If the activity had gone the way I intended, or if we had been able to collectively lead the activity in another more inclusive way, my next step would have been to attempt for the sitting children to join us.

Example 4

The following example occurred during a weekly parent-child class with 6 children and 6 parents:

> After having done some group activities I place a variety of musical instruments on the floor. All children and parents are invited to choose and after some instructions all begin to play. I remain seated and observe or interact with the children individually. After a moment Sally, a one-and-a-half-year-old girl crawls away and positions herself at the end of the room looking outside through the glass doors. I call out her name and she looks at me but does not return to the circle. Her mother is playing a hand drum and is participating in the music making with the other parents and children. She does not try to get the attention of her daughter. I hold up an instrument and call out to Sally again. While she acknowledges me by looking when I call she still does not join the group. For the remainder of this activity, she stays at the end of the room.

Two things stand out to me in this scene. First, I am trying to get Sally to join in and participate in the activity while her mother is not and, second, it is unclear what Sally is feeling. When she makes contact with me by responding to her name she doesn't display any clear signs of happiness or distress. Initially she might have been distracted by something and went there to investigate. However, she chooses not to return during the remainder of the exercise. The other children are using different instruments. Some are banging loudly on a drum. It might be possible that she simply wanted to move away from loud noise.

Verbal skills are not fully developed in toddlers and preschoolers. Therefore physical signs are a way for them to express themselves and can tell a lot about the moment a child chooses to behave in a certain way (Moser & Reikerås 2016). When parents are present during class they can suffice as indicators to figuring out ways of approaching their child's behavior. No one knows their child better than they do. In this example, Sally's mother does not call her back or try to entice her to join the music making by showing her instruments to play with. She is the most capable person present to determine if her child is feeling happy or not and as long as Sally is safe and feeling all right, no interference is needed. During this activity I didn't realize how Sally's mother reacted to this situation, I noticed it only when writing down the example. It makes me consider all the information parents are giving about their children, most likely unaware and without realizing it. Looking back at this scene I realize I could have taken the way Sally's mother acted as a confirmation that Sally was fine and didn't need to be persuaded back to the group.

Discussion

By having taken a somewhat closer look at the behavior illustrated in the examples above, I have attempted to show some of the types of physical behavior young children exhibited during my music classes. The reasons for these types of behavior might often be due to limited control of self-regulatory skills and limited verbal skills, which are both still fully in development in children this young. While the aim of this paper was not to decide whether or not my teaching style is 'correct' or needs improving, I find it offers me support as an Early Years Music teacher to look deeper into the possible reasons of the physical expressions of my participants.

Williams (2018) mentions that 'music activities could be more specifically designed to stimulate children's skills in beat synchronization and motor coordination and so build self-regulation through the early childhood years.' While Williams talks about the importance of transitioning from early childhood into formal school-structure, I question the importance for self-regulatory skills, especially in movement, for young children to be able to positively participate in an early years music class. I believe the value of these types of classes is that the formal school structure is not of importance yet and I am free to design the class without strict governmental regulations. Therefore, what may spontaneously happen may occur in a way I believe meets the needs of the children as long as safety is supported for all participants, especially the children. I hope to encourage myself, as well as other professionals working with the early years, to enjoy the unexpected movements and let these moments bring inspiration for unplanned activities, for ways in which to connect with children directly or to share leadership between different children in a class.

For children to be able to participate in music class and, in doing so, to feel a sense of belonging within the rest of the group, the coordinated movements will help them to become better at the activities offered. Through repetition and continuation of these music-making and physical activities such as walking to a beat, children will use their self-regulatory skills and these will become stronger (Williams 2018; Chang et al. 2013). Age will eventually bring them more advanced self-regulatory skills and control of their physical expressions. However, one of the great values of working with this age group is their freedom to react in non-verbal ways.

By concentrating on some examples occurring in my own classes I have attempted to reflect upon and better understand situations that often arise. By discussing some explanations of the physical behavior children show I have gained a better understanding of these moments. Also, I hope to inspire others to take a closer look at the ways in which young children react and for this behavior to not simply be labeled as disruptive.

I wish for a pre-school music class to be an inviting place where children feel safe and creative and offers opportunity to express themselves freely. It is my hope to guide groups in a way to make this a possibility for all participants, including the caregivers and parents, and to create a safe and nurturing environment. Reflecting on the physical expressions of children inspires me to remain open-minded and to continuously find ways in which to connect to the children in my classes.

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Research on how pre-service generalist teachers improve their formal song leading

Stefanie Stadler Elmer
The Schwyz University of Teacher Education
Goldau, County of Schwyz, Switzerland
stefanie.stadler@phsz.ch

François Joliat
Haute Ecole Pédagogique BEJUNE
Delémont, County of Jura, Switzerland
francois.joliat@hep-bejune.ch

Annamaria Savona
The Schwyz University of Teacher Education
Goldau, County of Schwyz, Switzerland
annamaria.savona@phsz.ch

Gabriella Cavasino
Haute Ecole Pédagogique BEJUNE
Delémont, County of Jura, Switzerland
francois.joliat@hep-bejune.ch

Abstract

Research with pre-service generalist on their developing professional conduct needs to identify the resources or strengths as well as the weaknesses or shortcomings. Pre-service teachers differ widely in their song leading capacity. Hence, we trace their individual developmental pathways to gain a broad view on the phenomena. In this contribution, we report on our first phase of our current research on this topic. The theoretical background is separately presented, and here, we aim at concretizing the connections to the methodology and to give insights into the phenomena. We filmed seventeen pre-service students on the task of teaching a new song to a group of children between four and eight years of age. Immediately afterwards, we jointly watch the film and interview each of the students. We ask the students to carry out the same task three times – every year – during their training in order to allow reconstructing their individual development longitudinally. In this presentation we describe our methods to analyse the complexity of the song leading event in connection with the theoretical statements. First, we start by portraying and discussing similar research recently published by Liao and Campbell (2014, 2016). Second, we outline our strategies to gain an overview of the most relevant sub-events of the song leading process of our novice teacher students. They are based on the theoretical

analysis of the song leading acts that we postulate to consist mainly of demonstrating the whole target song or parts of it, of verbal and nonverbal instructions and demands – inclusive feedback –, and last but not least, of initiating and closing the event. Third, we characterize the situation of novice pre-service students' first formal attempts to teach a new song to a group of children and how they cope with this new challenge. Finally, we give an overview of the main problems of the pre-service teachers, and we present individual strategies to cope with the unexpected and with the increased self-attention and self-confrontation. These are innovative moments that prepare steps towards improvements. The subsequent presentation illustrates some of these coping strategies by a case study.

Keywords

Novice song leaders, process analysis, graphic representation, self-confrontation

Current research on the song leading capacity

In the music education literature as well as in national policies, experts agree on the need to improve the preparation of generalist teachers to teach music (e.g., Hennessy, 2017; Jeanneret, & Degraffenreid, 2012). Many researchers report problems and conditions that weaken the quality in music education. For instance, Russel-Bowie (2009) studied the perceptions of almost 1000 pre-service teachers from five countries in relation to the priorities and challenges associated with teaching music in elementary schools. Challenges identified included teachers' lack of musical experience, the low priority given to music in schools, the lack of resources, time to teach music, subject knowledge and adequate preparation time. From studies on pre-service teacher preparation (see references above) it is generally concluded that gaining confidence in song leading, mastering basic musical skills, and having the opportunity to observe and imitate models are most important. This study – among others – highlights the need for a higher priority for preparing pre-service teachers in this domain.

To our knowledge, the research by Mei-Ying Liao and Patricia Shehan Campbell (2014, 2016) on song leading in kindergarten and elementary school music teaching is currently most pertinent for our research. Yet, differently from our goals, their studies focus on differences between song leading practices in Taiwan and the USA by in-service teachers. Their results show that, in general, culture in terms of the teacher's country of origin did not make a difference. Contrasting two different cultural contexts is a reasonable paradigm, but we are pursuing a different one as described below. Liao and Campbell asked ten teachers to teach six new songs within six visits, each lasting 20 to 30 minutes. Five of the songs were assigned and one could be chosen.

Data were obtained through observations (video recordings and field notes) and interviews. In the first article, Liao and Campbell (2014) have two major foci, the first one on the song leading process and the second on the starting pitch. Regarding the song leading process, Liao and Campbell (2014) refer to several didactic literature sources that all suggested it to be a cyclical one comprised of five steps: focus, pitch/ metre, signal, singing and feedback. Liao and Campbell (2014) used these steps as a transcript chart to analyse the video recordings, but not in order to be scrutinised or verified. They provide some operational definitions as follows (p. 150): "Focus: the teacher draws children's attention to the singing task prior to beginning the song. Pitch/meter: the teacher gives the reference pitch and meter on starting a song. Signal: the teacher uses movement (head nods, hand gestures, whole body movements) to signal children's entry into a song." Campbell and Scott-Kassner (2009; cit. in Liao & Campbell, 2016) found that, in general, teachers start with a short opening, continuously taught new songs and repeated previous ones in individually varied ways, and ended with a short closing. Liao and Campbell (2016) report that

providing motivation – for instance be using pictures, questions, stories – was an important initial step before starting to teach a new song and that the singing class arrangement consisted of two major parts: motivation to sing and teaching a new song. Results showed that most of the teachers (92%) used a whole song and not a phrase-to-phrase approach (p. 28). The other main focus of the article in 2014 was the starting pitch of the teachers' song singing. It is accessed by comparing a sung sound with the help of a piano, and not acoustically. The authors report that the teachers have the capacity to provide a starting pitch for the children's voices, but in general they sing too low. The authors conclude that most of the kindergarten teachers are not appropriate vocal models and that they do not clearly employ the song leading process. Most teachers did not provide a reference note or starting pitch, "so that their children joined the singing several pitches into the first phrase of the song or drifted in at a later point along the way" (p. 157). Most of them gave only little feedback to children on the accuracy and quality of their singing, yet, most teachers "set a pulse, provided a sense of metre (however inaccurate), and cued the children's singing with a gestural signal of some sort" (p. 157). In their article in 2016, they include an analysis of the interviews and report results on five sections: singing class arrangement, song-leading approach, singing activity, equipment and materials, and instrumental application. The authors agree with the general consensus that the preparation of pre-service teachers for song leading should be improved.

Gaining a general overview on specific song leading events – methodological considerations

Though the development of expertise is generally understood as a long lasting and effortful pathway, with regard to the domain specificity of song leading, there are no investigations into how pre-service teachers become professional song leaders in class as generalists.

In order to study the process of developing professional song leading skills, knowledge, and strategies, we investigate the task of teaching a new song to a group of children between four and eight years of age. This task lasts approximately 20 to 30 minutes. We ask pre-service generalist teachers to complete this task three times during their training. We video-record them during the lesson, and afterwards we watch together the recording. The student is asked to talk about the emotionally relevant situations and other narratives such as intentions and metacognition. With these data we aim at reconstructing the individual developmental pathways regarding the song leading capacity.

Despite the free choice of a target song, the collection of song leading situations is the empirical 'field' of our study (to borrow a term from physics), within which any specific case may occur. We assume that every system has general properties that can be theoretically reduced to a postulate set. Hence, we identified the most general properties that comprise song leading events by asking questions such as: What are the main entities, general and specific, relevant and irrelevant units, recurrent sub-events, necessary features and conditions? We have been elaborating a conceptual framework that should allow describing the general features of a song leading event. The theoretical background of the relevant concepts' definitions concerns three reference systems: on the grammar of children's songs (Stadler Elmer, 2015), on the review of many song leading situations, and on our pedagogical content knowledge (e.g., Shulman, 1987) on the subject matter. Song leading is normatively guided by implicit principles and rules, and song teaching as well as song performances are monitored and evaluated intuitively at the basis of implicit norms. The grammar of children's songs is an attempt to systematise and formalise the principles, and rules that permit generating the elementary form of songs (Stadler Elmer, 2015). In analogy to languages, the grammar provides reasonably standards against which to evaluate the songs considered to be suitably for introducing young children into the cultural practice. The grammar of children's songs also allows investigating the song leaders' actions in terms of teaching musico-linguistic rules as they are manifested in the song demonstrations and instructions. In this theoretical view, teaching and acquiring a new song is seen as occurring as a social interaction in which general musico-linguistic rules are jointly practiced in form of a concrete song exemplar. The children acquire the implicit rules by exemplars that follow the song grammar. Hence, each song leading is a concrete and specific example of the general cultural ritual of song transmission.

Our conceptual framework serves as a premise or starting point for further investigations of song leading events, and for reasoning and arguments. Table 1 summarises the concepts and their definitions we use to visualise song leading events graphically. This set of concepts is limited since we only draw on those relevant actions that can be made evident by films. The set is coherent with the criteria proposed by Coutu and his team (2005): First, concepts and corresponding icons have to be mutually exclusive; second, they have to represent concrete and observable behaviours with as few inferences as possible to internal states such as joy and sadness; and third, the size of a unit must be clearly defined. Moreover, the units must frequently occur in the context chosen by the researchers.
Eye contact, for instance, we consider as a relevant action, but not reliably traceable by our two-camera video recordings. In a first step of analysis, the icons and concepts in table 1 serve to gain an overview on individual cases.

Icon	Concept	Definition
	speaking	verbal interaction between pre-service teacher and children – and also simultaneous alternated with speaking about semantics of lyrics
	single verse, melody and lyrics	singing the whole song with lyrics, one verse or more
	single verse, lyrics only	lyrics recited, i.e., verse meter is implicitly present in the poetic language
	single verse, melody only	singing the melody without lyrics by producing single syllables, e.g., la-la-la
	single verse, temporal structure only (pulse, meter, divisions, pauses, syncopations)	the song's temporal structure (pulse, meter, divisions, pauses, syncopations) without lyrics or melody, expressed by body percussion or vocal sounds
	sounds with voice and body	sound production with the voice and/or the body without meter.
	listening	Explicit and attentive listening to the song introduced by verbal or non-verbal instruction
	gestures and/or body percussion	gestures in reference to the lyrics' semantic content and/or metric sound production by body percussion
	movements	Large movements not related to the lyrics' semantic content (dancing, marching, etc.)
	material support	use of material such as pictures, tissues, puppets etc.
	Compact Disk (CD)	song reproduced and/or accompanied by a CD
	piano accompaniment	song accompanied by the piano by the pre-service teacher and/or the class teacher
	guitar accompaniment	song accompanied by the guitar by the pre-service teacher and/or the class teacher
	percussion instruments	song accompanied by percussion instruments by the pre-service teacher, and/or the class teacher, and/or the children, such as drums, wooden blocks etc.

Table 1: Overview on the relevant actions and related concepts in song leading situations. This list is limited to the ones that can be traced on the films. We exclude, for instance, the concept 'eye contact' since it is not systematically traceable on our two-camera-based video recordings.

Based on these concepts and corresponding icons, a graphic overview on a concrete song leading events maps the temporal sequence of how a pre-service teacher organised the main actions and interactions with the children. As a first step of empirical analysis and as descriptive account, the resulting map or grid only provides scarce information about the inherent normative systems, for instance, on the intentions and subjective evaluations of the pre-service teachers during and after the event. These important aspects are subject to further analyses that are being carried out later in this on-going longitudinal study. An example of how these concepts and icons are applied to describe a concrete song leading situation is given by Savona and Stadler Elmer (2019).

On the situation of unexperienced song leaders

Apart from describing the pre-service teachers' song leading as a sequence of generally relevant actions, we study their coping with being faced with a new and demanding task, their intentions, and subjective affective moments during and after the completing of the task. We ask them to jointly watch their lesson on video and to select situations they feel worth commenting. While interviewing, we also ask about their intentions and self-evaluations of various aspects. We explicitly declare our role not to be their mentors, but researchers that accompany them during their training, and we agreed on written consent. In this environment, the joint watching the film evokes the students' interest, but also their self-evaluation. Exposed to their own actions in the film and to two researchers, they have to cope with increased self-attention and self-awareness of their role as unexperienced pre-service teachers and probably low self-esteem. Some admitted to realise discrepancies between the own conception of successful teaching and their recorded performance. Facing oneself on video and reflecting initial steps on ones own professional development – this situation of self-confrontation affected them.

Because they are only at the beginning of their training, we are cautious with feedback. We do not try to assess how well or poorly pre-service teachers' actual belief-forming practices accord with norms. Rather, from a research point of view, we aim at understanding each of the students' individual history of learning to improve their song leading capacity at the level of in-situ actions, of revising their beliefs, and of gaining confidence. The above described methodological procedure that serves this goal is also called dialogic introspection (Burkhart, 2018; Valsiner, 2017). Nevertheless, normative systems apply to our view on the first phase of this longitudinal study when we analyse the students' actions related to the constituents of the grammar of children's songs: We notice that all pre-service students do not yet deliberately work with the songs' melody, including the instruction of parts and wholes, and of providing and requiring a stable pitch level. This general observation is consistent with Liao and Campell's report (2014, 2016). Related to the missing of demonstrative and

instructive acts concerning melody and meter, we notice that pre-service teachers do not have adequate concepts available to specify pedagogical situations and their own actions during the song leading event. Altogether, we could continue reporting the usual shortcomings mentioned in the literature. But we also focus the strategies to cope with the new and uncertain. For instance, some students used a CD to present the target song; some asked the mentoring teacher to accompany their singing with the piano; some declared a concrete and manageable goal yet unrelated to the song. In the interview, we focus the moments individual pre-service teachers report to be affectively significant to them. We interpret these moments to have an innovative potential.

As this study continues, we are constructing further methods to cover both, general aspects of the professional development as well as providing the variability of the learning pathways.

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A case study on how a pre-service teacher learns the target song's melody while teaching children

Annamaria Savona
The Schwyz University of Teacher Education
Goldau, County of Schwyz, Switzerland
annamaria.savona@phsz.ch

Stefanie Stadler Elmer
The Schwyz University of Teacher Education
Goldau, County of Schwyz, Switzerland
stefanie.stadler@phsz.ch

Abstract

In this contribution we present a case study in order to illustrate how the complexity of a song leading event can be reduced by applying a conceptual framework. It allows describing general and specific entities that we elaborated by using normative systems, e.g., the grammar of children's songs, by repeated watching videos of singing lessons, and by identifying and denoting the most relevant acts and units on the basis of our pedagogical content knowledge. These methodological steps make possible to distinguish between general and individual aspects. We analyse Laura's song leading by matching the observable phenomena in the video with the theoretical concepts and corresponding icons. The resulting product is a graphical depiction that visualises the sequence of relevant actions of Laura's song leading event. It serves as a kind of map and as a basis for further in-depth investigations. Here, we present the case of Laura with a focus on her solo singing the target song. She uses a CD to present the song model, and this model influences her singing throughout the event. Her irritability is audible whenever she tries to sing without support of the CD. Towards the end, she improves her melody, except for the verse that is presented on the CD by a male voice two octaves lower than expected.

Keywords
Pre-service teacher, case study, song leading, song singing, music education

Research context and methodology

Classroom singing education is considered to be an essential activity for children between the ages of four and eight. It gives them the opportunity to explore their vocalisation as they develop their language and to gain self-confidence by feeling part of a group. Children first experience music informally and within the family environment, where it is related to the rituals and traditions of their own culture. However, it is usually through educational institutions dedicated to early childhood that they come into contact with musical activities in a formal learning context. Although the continuum of musico-linguistic and cultural enrichment is therefore entrusted to teachers and educators, research in the field of music education has found that the musical skills and knowledge of these professionals are often lacking (see e.g., Hennessy, 2017; Jeanneret & Degraffenreid, 2012). This highlights the need to give higher priority to the training of pre-service generalist teachers. Our project "Song Leading" aims to contribute to research in this field, in the specific context of teaching a song in the classroom.

This contribution presents a case on a song leading event, and it aims at illustrating how we use theoretical and methodological considerations to analyse and describe the empirical phenomena. Here, we do not yet include the viewpoint of the pre-service teacher as given in the interview.

The project's larger context consists in studying how pre-service teachers complete the task of teaching a new song to children aged between four and eights years, and how they improve their song leading capacity during the three-years formal training. They are free in their choice of a song, and each of them is video-recorded three times during the internship. Each lesson lasts between 20 and 30 minutes, and afterwards, each pre-service teacher watches the video of the lesson together with the researchers, and is free to select moments to be discussed. This procedure might be wrongly associated with 'video stimulated recall'. Yet, our aim is not to stimulate memory processes, but rather, we are interested in the pre-service teachers' internal and external observations of themselves, in other words, their thoughts about their own in-situ and video-recorded experiences, and in the dialogue with us as participant observers and researchers. This combination of personal introspection related to watching jointly video recordings with discussions with us researchers we call dialogical introspection (see e.g., Valsiner, 2017; Burckhardt, 2018). In addition to videos and interviews, field notes complete the range of annually collected data.

Case study and data analysis

Thorough examination of a single case provides information about the complexity of a phenomenon that depends on the task, the individuality of the subject under observation, and on the researchers' goals (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Flyvbjerg, 2006; Georg & Bennett, 2004; Yin, 2013). In general, case studies allow generating and testing hypotheses; can lead to the construction of a theory and contribute significantly to the learning processes and skills of the researchers themselves. A case study presents a wealth of details, making it possible for the researcher to be close to the actual situation in which the theoretical and methodological knowledge should prove useful and may need revision.

For these reasons, we consider the detailed description of a case to be the decisive phase of data processing. In our case studies, it is particularly important to pay attention to the frequently mentioned topics that emerge from the pre-service teachers, and to the tacit discrepancies between the agents' and researchers' views on strengths and weaknesses of the task completion. This recurrent issue concerns normative reference systems, and we discuss it in the broader context of this project. Below we will describe the current state of the graphic representation model and the case study in which Laura organises the teaching of a song in a formal learning context for the first time.

The first phase of data analysis consists in summarising the main activities in each lesson in a graphic representation. The purpose is not to compare the work of the pre-service teachers, but to obtain an overview of the relevant actions that structure of the lesson. Table 1 shows the concepts and corresponding icons we use for summarising Laura's relevant actions during her song leading event. They are selected from the whole set that is assumed to account for describing song leading events in general (see table 1 in Stadler Elmer, Joliat, Savona, & Cavasino, 2019).

Analysis of Laura's song leading event

Laura, a pre-service teacher in her first training year, completes the task of teaching a freely chosen song to children in the kindergarten. This lesson lasts approximately 20 minutes. Filmed with two cameras and recorded with an extra microphone, the recordings show rich details of Laura's song leading capacity. Jointly watching the video and interviewing Laura and the transcripts thereof provide additional information about her intentions and thoughts. We select this case, because it allows exemplifying some of the novices' problems with singing a song's melody. What is Laura's specific problem in demonstrating the target song to the children? Our micro-genetic analysis, supported by acoustic analysis with the Pitch Analyzer (see Stadler Elmer & Elmer, 2000), provides insights into her singing during the lesson. Figure 1 gives

an overview on the sequential organisation of Laura's leading actions in the upper part and correspondingly on the children's song related actions in the lower part.

Figure 1: Overview on the sequential timing of Laura's song leading actions and interaction with the children during the lesson that lasted approximately 20 minutes. The icons are explained in table 1.

The icons arranged along the horizontal line read as temporal succession of actions of the song leader and the children, while the vertical arrangement of the icons indicate simultaneity of the actions.

At first glance we see an initial conversation phase that is once interrupted by joint clapping. Here, Laura instructs musical games and activities that are not directly related with learning the target song. This initial phase lasts approximately six minutes. Thereafter, for four minutes, Laura instructs to listen to the target song presented on the CD, leads a conversation about the lyrics' content, and asks once to move along with the song presented again on the CD. The actual song learning phase starts in the middle of the lesson and lasts approximately ten minutes. In figure 1 we see several occurrences of the song, either as lyrics only or as the entire song, but never the melody on its own. We also see that Laura uses three more times the CD, and she seems to instruct singing as well as clapping. The lesson ends with singing all three verses of the song together with the CD.

Icon	Concept	Definition
	speaking	verbal interaction between pre-service teacher and children – and also simultaneous alternated with speaking about semantics of lyrics
	single verse, melody and lyrics	singing the whole song with lyrics, one verse or more
	single verse, lyrics only	lyrics recited, i.e., verse meter is implicitly present
	single verse, melody only	singing the melody without lyrics by producing single syllables, e.g., la-la-la
	listening	Explicit and attentive listening to the song introduced by verbal or non-verbal instruction
	gestures and/or body percussion	gestures in reference to the lyrics' semantic content and/or metric sound production by body percussion
	movements	Large movements not related to the lyrics' semantic content (dancing, marching, etc.)
	CD	song reproduced and/or accompanied by a CD

Table 1: Icons and concepts to describe Laura's song leading event. This list is a selection of the entire set of general concepts and icons to cover such situations. They are limited to the actions that can be traced on the films. We exclude, for instance, the concept 'eye contact' since it is not systematically traceable on our two-camera-based video recordings.

In the following we supplement the descriptive information given in figure 1 by our interpretations that are based on repeatedly watching Laura and her song leading event on the video. We also integrate some of Laura's statements during the interview. Her lesson starts with a group game that appears to have nothing to do with music. We can't be sure that Laura chose this activity as a moment to allow the children to concentrate. But this game, which involves reciting a nursery rhyme together, seems to draw the children's attention to something "disciplined" in form of a shared group activity that requires following some rules. The nursery rhyme exerts the effect of synchronising each child's actions, and it seems to represent the prelude to the next rhythmic exercise on the words "guete naamittag miteinand" ("good afternoon everyone"). The familiarity with which the children perform this action suggests that it already has a ritual character for all of them.

After about six minutes from the beginning of the lesson, Laura starts to work on the target song "Schneemaa, schriib!" by asking the children to listen attentively to the song on the CD. It consists of three verses: the first and third are sung by a child with unstable intonation. The second is sung by a male voice two octaves lower. The song is in F major.

After a short conversation, Laura plays the song a second time with the CD and asks the children again to listen and to move simultaneously. Whereas in the first time, she asked the children to focus song's lyrics, she asked the second time to accompany the song by marching or dancing.

To teach the children the three verses of the song, Laura proceeds as follows: first she recites the text by herself, then she repeats it and asks the children to invent gestures that represent the lyrics' content. Afterwards, Laura sings alone without accompaniment by the CD, and thereafter, she invites the children to sing along with the gestures previously established.

Because song leading essentially implies demonstrating the target song clearly to the children, we analyse in detail how Laura completes this task. Her solo singing five times the target song is an ideal case for an acoustically supported microanalysis of her subsequent singing. The method is devised by Stadler Elmer and Elmer (2000) and often used for such situations. It allows a detailed description of the syllables and related pitches and their timing. Pitch is calculated by two different algorithms, and a detailed notation system permits an overall visualisation of the sung song with its matches with a model as well as deviations. Here, we only verbally describe the results obtained by these acoustic analyses.

With this acoustically based micro-analytic method, we aim at improving our understanding of Laura's difficulties with singing the target song in the situation of teaching.

When Laura sings the first verse twice without the CD accompaniment, in both occasions she varies the melody considerably and deviates from the model on the CD. The first time, only the beginning and end intervals of the verse correspond to those of the original and, although the melody sung by Laura is no longer in F major, it maintains a stable tonal system in D major.

The acoustic analysis of the second time Laura sings the first verse shows an increase in the number of intervals corresponding to the original, but the melody sung by Laura no longer follows a stable tonal system. These two aspects, which seem to contradict each other, can be interpreted on the basis of Laura's progressive musical adaptation during the lesson.

While she attempts to remember the original melody and to sing it correctly, the tonal system becomes unstable, maybe due to her desire to (re)produce melodic patterns that are more alike the original. The instable parts can be interpreted as her intuitive attempt to sing the right intervals of the melody.

Laura continues the lesson and sings the second verse without CD accompaniment. This time the melody corresponds to the original more than the previous times: The key is the same (F major), and only the intervals of the ending do not correspond to those of the original. The second verse, sung on the CD by a male voice two octaves below Laura's pitch level, however, presents a new challenge for her. The song's melody is the same in all the three verses, but the transposition of the melody's second verse two octaves lower seems to irritate Laura. While singing the second verse with the CD, she tries to imitate the "timbral" change of the male voice by singing an octave lower than the previous ones. But this is too low for her as well as for the children. What is the consequence of this difficulty? The melody of the second verse sung by Laura with the CD accompaniment once again deviates from the original. When Laura sings the whole song at the end of the lesson, the melody of the first and third verses match with the original, while the second verse – the one sung on the CD by the male voice – is still tonally unstable.

The way in which the target song is presented to the children during the lesson can be summarised as follows: Every time Laura sings the melody without accompaniment by the CD, she considerably changes it and deviates from the original given on the CD. She sings the first and third verses correctly only when the song is supported by the accompaniment by the CD, except for the second verse, whose melody she can not match with the low-voiced male model on the CD.
The descriptive results of the acoustically supported microanalyses of Laura's five solo presentations of the target song suggest that Laura had to solve two different types of problems during the lesson. The first is that she may have had difficulty remembering the melody correctly without the support of the CD, as she was not yet ready to present it in a stable and correct manner to the children. Laura's second problem, – related to the first – is obvious in her coping with the second verse, sung by a male voice two octaves lower than the melody of the other verses. It seems that she is not aware of this octave transposition, and again, she does not know the song's melody good enough to immediately resist and overcome such irritations. Instead, she sings unstable melodies that are impossible as models to match. These are unfavourable circumstances for a teaching situation.

During the interview, Laura reported that she had the impression that she achieved her goals: The children understood the contents of the lyrics, and they became familiar with the melody. She did not notice that she slightly improved her own singing the melody throughout the lesson. Hence, Laura acquired the song by listening to it many times and singing it accompanied by the CD. She says to have had difficulties singing a melody that was too "high" for her, but says nothing about the second verse sung two octaves lower by the male voice on the CD.

The analysis of Laura's case study shows that her focus has progressively shifted from the lyrics to the practicing of the correct melody.

From Laura's the next song leading session, scheduled for the end of January 2019, we hope to see an improve in her capacity to present a target song, maybe an increase in confidence on the basis of a solid preparation of the lesson and the target song.

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Song leading – research on a key capacity for educators and generalist teachers

Stefanie Stadler Elmer
The Schwyz University of Teacher Education
Goldau, County of Schwyz, Switzerland
stefanie.stadler@phsz.ch

François Joliat
Haute Ecole Pédagogique BEJUNE
Delémont, County of Jura, Switzerland
francois.joliat@hep-bejune.ch

Abstract

The research literature on the professional development of educators and generalist teachers emphasises the need to improve their knowledge and skills in music, especially on the song leading capacity. There is consensus that generalist teachers and educators should have basic music knowledge and skills and should have gained confidence in their music teaching. Singing is the earliest and elementary musical expression. Its sensorimotor nature involves the entire person – body and mind –, and does not require any material resources.

In this article, we provide theoretical assumptions that guide our research on the song leading capacity. First, we embed this topic into a cultural and educational framework. Second, we theorize on song singing and its role in education. Our third and main part builds on the previous considerations and elaborates levels of defining features of the song leading capacity. We assume that cultural achievements – such as song singing – are transmitted between generations, and hence, we find informal and formal practices for teaching and learning. We define the song leading capacity as a compound of skills, strategies, and knowledge of which most are intuitively manifested and automatized through in-situ acts of transmitting songs to children by using signs (vocal sounds, eye contact, gestures, movements, notation, language, visualization, etc.) while adhering to conventions. This definition requires the explication of axioms, assumptions, and normative systems in order to reconstruct song leading processes. We study longitudinally how pre-service teachers learn to improve their song leading capacity during their three years lasting training, and we study experienced teachers' song leading. The present contribution contains mainly our theoretical considerations. In related papers in this volume, they are more explicitly combined with methodological and empirical issues, and illustrated with a case study of a pre-service teacher's song leading.

Keywords
Song leading, vocal learning, professional development, music education

Song singing in the broad contexts of culture and education

Culture is a social process that builds on human nature and evolution. Culture supports the organization of the collective living together by providing practices, facilities, and rituals to regulate affects and to cope with the uncertain future (Valsiner, 2005). A basic mechanism consists in the older generations' transmission of the cultural achievements to the younger ones, and this takes place in infinite manifold ways in living together, for instance, by materials, tools, techniques, interactions, and rituals. Song singing is universally widespread in all societies, cultures, and religions (Jordania, 2011), is an elementary and universal musical practice. It is intricately linked with speech (Stadler Elmer, 2019), and meets at least two of the required features Arom (2001, p. 27) postulates to characterise music, for instance, "an act of creation that actualizes an intention", the use of a scale, or temporal ratios, or periodicity, or symmetry, or some kind of formal organisation. From a biological point of view, the capacity of vocal learning, that is, "the capacity to reproduce by means of the voice that which has been heard by ear" (Merker, 2012, p. 215), is a basic and essential prerequisite for singing and for speaking, that also ties together the topics of music (singing), language and human evolution (Merker, 2012). Although there is no causal connection, there are reasons to believe that human vocalization is the common root of languages and music, and that both systems developed through mutual influence (Cross et al., 2013). In cultural and human evolution, the infinite ways of using the voice to create sounds and the systematization of this potential into languages and vocal music may be taken as a primordial expression of the mental capacity to symbolize and to form shared mental systems for communication and cooperation. This reference to the evolutionary roots of language and music in vocalization helps to understand the ontogeny of speaking and singing that as well are closely related and coalesce in song singing.

Singing is likely to be the first form of human music making – a truism as well for the anthropogeny and ontogeny. In our evolutionary history, song may have preceded language and combined with dance as a shared social activity amounting to the first form of the human arts (Merker, Morley, & Zuidema, 2015). Likewise, for ontogeny, many scholars adhere to the song-before-speech-hypotheses (see Stadler Elmer, 2012). All healthy infants use their voice to produce canonical babbling, the primordial production of syllables (e.g., Vihman, 1996). Canonical babbling can be conceptualized as the precursor not only of speech but of song as well (Stadler Elmer, 2019). Since syllables are the building blocks of both, yet differently formed and organized, it is possible to show empirically how an infant starts applying the contrasting rules for song and speech (Stadler Elmer, 2019). The flexibility of vocal learning is a unique human characteristic not found in other mammals but in some birds (Merker et al., 2015). Therefore, we argue that all healthy children not only are able to learn to speak, but also to learn to sing songs, provided their social

environment share and transmits songs or music as cultural achievements. Vocal development starts at birth with the first cry, and the cultivation of the infants and their vocal expression towards speaking and singing takes place in a careful social environment. In early ontogeny, of all human expressions, for instance, facial mimics, manual gestures, the voice is the most powerful and flexible to express affective states, to build up social contact, and to elicit care. During the first years of life, infants and toddlers adapt to the cultural specific ways of talking and singing, and this early adaptive capacity – especially the vocal modes – signal a young person's social and cultural origin and belonging (Stadler Elmer, 2019).

In normal circumstances, parents and relatives intuitively take care of their descendants and integrate them into their cultural living. Moreover, in industrialized societies, however, after a few years, children's education is institutionalised when they enter compulsory school. Here, cultural entities are subdivided into disciplines and are formally taught in form of teacher-pupil interactions that are supposed to follow national curricula. Whereas in children's early years, language and music are informally transmitted, at school age, they belong with other subjects to formal education. We may say that there is a continuum from informal to formal education, and that the latter builds up on the basis of the former. With regard to music and language and related vocal learning, the early years are most important; survival is only possible through intensive parental care during the crucial time of rapid physical growth – including the brain – and of the highest plasticity for cultural adaptation.

In this informal context, song singing as a cultural practice is a kind of proto-communication, and it serves to introduce infants and young children into a musico-linguistic ritual that has the potential to direct affects towards playful and joyful states that are connected with the social sharing of song singing. The positively tuned affect regulation is due to some structural characteristics of song singing: different from speaking, singing involves the repetition and variation of syllables without semantics. It is densely structured with a periodic meter and follows a symmetric temporal frame that is simple, symmetric, repeatable, and probably enriched by periodic body movements. This densely ruled vocal-motor event, socially shared, fulfils all criteria to be classified as the prototypical ritual.

The concept of ritual plays an important role in the process of transmitting cultural heritage. Ritual is defined as an activity with a precisely regulated course that is socially mediated and acquired (e.g., Staal, 1979). Whatever the purpose or function of a ritual action may be, it is the obligatory form of a precise performance (Merker, 2009). The strict formalization distinguishes ritual actions from instrumental actions, because the latter are oriented towards a purpose, e.g. feeding, planting land, keeping animals, and building shelters. Not only is song singing the earliest musico-linguistic expression, it is also a socially mediated mental means to establish a psychophysical state of shared feelings of social belonging (Bauman & Leary, 1995; Stadler Elmer, 2000, 2015).

The role of song singing in formal education

Whereas the early introduction into song singing is done mostly intuitive, informal, playful, and seemingly private surrounding, song singing in educational contexts may convey various additional functions. Hopefully, children have the chance to enhance their capacity to participate in joint song singing and other musical activities, and to learn and perform the musico-linguistic rules at increasing levels of awareness and flexibility. Depending on standards and contexts, participation in collective or solo singing requires little to very high demands. Hence, at any ages, it is possible to join in this activity. Most important, song singing as a prototypical and elementary cultural device permits to create and maintain shared feelings of social belonging, be it in the role as participants or leaders. The feeling of social belonging is considered a basic human need (Baumeister & Leary, 1995). For human beings to have the sensorimotor and mental tools available for joint or solo singing means to be able to reduce future uncertainty: every song singing means to represent and to feel an experience transformed from the past into the presence with the possibility to anticipate a similar one in the future. The experience of repeating or varying a song is a psychological illusion of conserving or holding on the time that is socially shared through collectively following singing rules. Such experiences are very important for conveying the feeling of social belonging, of a certain stability through the recurrent and ritualised form (Merker, 2009), and of reducing uncertainty (e.g., Valsiner, 2003). Following Wygotsky's thinking on art (1976), we propose song singing to be a cultural technique to guide feelings and to allow experiencing individual feelings as social and vice versa.

Having this said, one would wish every cultural member to have the chance to acquire and to improve the ability to sing and lead songs, since it is a powerful means to guide feelings of one-self and of others. Song singing prepares for the uncertain future by providing mental devices to create feelings of social belonging and of transcending the passing of lived through times.

"Culture is activity of thought, and receptiveness to beauty and humane feeling." With these words, Whitehead (1959) started his famous speech on Aims of Education in 1916. If we judge this to be correct, we must consider the conditions under which song singing is cultivated in education.

The song leading capacity in formal education

As argued above, theoretical considerations about the role of the vocal learning capacity suggest that vocal development of healthy children draws on this capacity to learn to speak and sing, on the condition that social interactions in initially informal family contexts, followed by formal school contexts stimulate this learning process.
In formal music education, literature consensually is full of sad stories about the poor preparation of generalist teachers in song leading (e.g., Hennessy, 2017; Jeanneret & Degraffenreid, 2012). Our research on the capacity of song leading covers the period of entering professional training and becoming a generalist teacher, and we study some experienced teachers. Our main goal is to reconstruct and understand how students develop their song leading capacity during their three years training, and – as an integral part and normative reference – how an experienced song leading can be conceptualized. The task of song leading can be generally presented as follows: A (pre-service) teacher teaches a new song to a group of young children aged between four and eight years. Such events last usually about 20 to approximately 40 minutes (e.g., Liao & Campbell, 2016). We ask all our participants to complete this task three times during their training, or once in the role of an experienced teacher. We video record these events, and immediately afterwards, we jointly watch the video and conduct an interview with the song leading agent about the intentions, own evaluations, future steps and goals, and mainly about affective moments in the event. This focus on personal internal and external observations, combined with dialogues with the researchers, lead us to call this procedure dialogic introspection (Burkhart, 2018; Valsiner, 2017). Furthermore, we analyse the singing lesson on micro levels in order to reconstruct the manifestation of musico-linguistic rules or the children's song grammar that is implicitly intended to be transmitted and learned in a singing lesson. We also undertake microanalysis of the nonverbal and verbal interaction between the song leader and the pupils concerning the various signs used such as singing and speaking voice, eye contact, gestures, movements, etc.

Yet, we first need a general specification of song leading. We define the song leading capacity as a compound of skills, strategies, and knowledge of which most are intuitively manifested and automatized in in-situ acts of transmitting songs to children by using signs (vocal sounds, eye contact, gestures, movements, notation, language, visualization, etc.) while adhering to conventions. The agents' expertise manifests itself in the timing of the leading acts that aim at capacitating the following generations to continue this cultural practice. It can be defined as a procedure to perform the correct form of conventions (Merker, 2009) in order to convey affects such as social belonging, and to provide collective certainty by being predictable through following the rules. The ritual nature of song leading, therefore, aims at achieving normative and aesthetic values, or in other words, a well-formed performance at the basis of the grammar of children's songs (Stadler Elmer, 2015).

While analysing the video-recorded song leading events and the interviews, we elaborate a conceptual framework to identify and denote the relevant entities that can be observed intersubjectively in-situ and in the video footage. The analyses of the video recordings require distinguishing between relevant and irrelevant situations, since they show plenty of details. In order to reconstruct individual song leading events as well as its general properties, we use several reference systems. A first reference system is the children's song grammar (Stadler Elmer, 2015), allowing to capture the abstract and structural rules of the songs that were freely chosen by the pre-service teachers. This grammar conceives of songs to be governed by generative rules that function at the levels of melody, lyrics, and their timing and combine them. It allows us to think in terms of abstract musico-linguistic rules that the song leader implicitly performs, demonstrates, and instructs during the event. The second reference system draws on our knowledge of children's vocal and music learning (Stadler Elmer, 2015, and references therein). For instance, we assume young children to be intrinsically motivated to learn new songs and to be capable of vocal learning, provided adequate songs are presented as models, minimal feedback is given, and their attention span is respected. Yet another reference system is elaborated by studying experienced teachers' song leading on the background of our expertise in music didactics (Joliat & Stadler Elmer, 2019). In this context, we expect to characterise a variety of strategies and skills in song leading. Together, we intend to provide multifaceted kinds of normative models of song leading that allow us to make distinctions, to identify successful and unsuccessful situations. Finally, an overall topic concerns questions about the song leaders' sense-awareness and accompanying thoughts while acting and their after-thoughts while watching the video recording. The themes of the dialogic introspection cover the agent's music learning biography, current state of the art and envisaging some future challenges and chances. Only by genuinely considering the agents' own understanding of the whole situation, we will be able to reconstruct their organisation of the teaching events as well as their story of becoming (even more) professional song leaders. It will hardly be possible to explicate

successful song leading events and stories in full detail, partly because it is normative, manifested in-situ, aesthetic, idiosyncratic, and ultimately inaccessible. Nevertheless, our hope is to conceptualise the general properties of the entire event, and to find certain formal relations among the elements or subunits.

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Learning tonal harmony through bodily interactions and gamification

Marcella Mandanici
Music Conservatory L. Marenzio
Brescia, Italy
mmandanici@gmail.com

Luca Andrea Ludovico
University of Milan
Milan, Italy
luca.ludovico@unimi.it

Federico Avanzini
University of Milan
Milan, Italy
federico.avanzini@unimi.it

Adriano Baratè
University of Milan
Milan, Italy
adriano.barate@unimi.it

Abstract

In this document, we describe a new approach to learning and practicing tonal harmony, a topic that is often overlooked in music education curricula due to the abstraction and complexity of the musical concepts involved. Building on harmonic perception, embodied cognition and gamification, we propose a practice on two fronts: one in the physical space, with perceptual and full-body activities, and the other on a customized web interface, which acts as a benchmark and assessment tool. Preparation games are proposed for each of the 3 experiences implemented on the web platform and further improvements for its development are outlined.

Keywords
Tonal harmony, chord perception, embodied cognition, gamification.

Introduction

Harmony is a fundamental domain for understanding the inner structure of tonal music. The hierarchical relationships of the dominant and subdominant chords with respect to the tonic govern harmonic progressions and rule pitch organization and the progress of tonal melodies (Butler & Brown, 1994, p.194). This makes it possible to construct a two-way relationship between melody and harmony, in the sense that both are mutually dependent. Harmony provides a set of pitches (the notes of the chord) upon which the melody rests, while melody alone elicits its accompaniment, even when not all notes of a chord appear or when other passing notes are present.

Despite its importance for music cognition, tonal harmony is an overlooked subject in music education curricula, mainly for primary school children.

Moreover, the methods for teaching harmony in professional training elicit great criticism because of the frequent contradictions between theory and practice, for their indifference towards the various musical styles, and for their abstraction from perception (Eberlein, 1997). Software tools such as Harmonia[1] and Harmony[2] address university and conservatory students and show melody harmonization strategies and errors through interactive scores. Mapping Tonal Harmony[3] also employs a visualization system, which interactively tracks the harmonic movements based on the tonic, dominant and subdominant area of the composition.

Although these are important tools for helping students at a professional level, they completely ignore the musical qualities of tonal music chords (e.g. the differences of the chord functions such as tonic, dominant and subdominant). This excess of technicality and abstraction in the approach to tonal harmony is perhaps the reason why studies on harmony are not very popular and teachers are so reluctant to deal with harmony in primary school classes. Yet it has been proven that children have a strong harmonic sensitivity and, since early age, they are able to recognize tonal functions and chord qualities (Schellenberg et al., 2005).

A new approach for teaching tonal harmony

The aim of our workshop is to propose a playful approach to tonal harmony based on harmony perception, embodied cognition, gamification techniques and gestural interaction. The musical games address western tonal harmony features such as harmonic changes, different chord functions and melody harmonization.

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1 *https://harmonia.illiacsoftware.com/frontpage*

2 *http://www.harmony.org.uk*

3 *http://mdecks.com/mapharmony.phtml*

The proposed games can be played in two ways: one in the physical space through perceptual activities and full-body movements, and the other employing a customized web platform, which can be freely used in the classroom from any device (computer, tablet, etc.) with a browser and a network connection. The full-body activities aim at connecting the musical perception to body movements and, therefore, to activate the proprioceptive and synesthetic qualities of bodily interaction. In this way, children can build an embodied cognition of musical features, which can be transferred to the experiences on the computer screen.

Representation of the harmonic space

The German music theorist Hugo Riemann in 1896 defined his ideas about harmonic functions, subdividing the tonal space in primary chords – namely tonic (T), dominant (D) and subdominant (SD) – and parallel chords – namely parallel tonic (Tp), parallel dominant (Dp) and parallel subdominant (SDp) (Riemann,1896). As in a major tonality the primary chords are all major triads and the parallel chords are all minor, we decided to organize the harmonic space in a circle: primary chords are in the lower part, with the tonic in the middle, the dominant at the right and the subdominant at the left (see Figure 1); parallel chords are above the corresponding primary chords in the upper part of the circle.

Figure 1. Organization of the harmonic space with the primary chords (major triads) in the lower part of the circle and the parallel chords (minor triads) in the upper part.

This spatial organization fits two important needs:

1. it ensures that every chord position can be reached without touching the others, if used in a physical space;
2. it subdivides the location of the major and minor chords of a major tonality harmonic space in two opposite areas, thus facilitating the perception of chord functions and musical qualities.

We employ this schema as a motion grid for musical games based on tonal harmony, imagining the chord positions projected on the floor and letting users move over them.

Description of the web interface

Our web interface is developed as a wizard containing self-explanatory descriptions. The prototype focuses on three types of experience, conceived as a step-by-step process toward harmony awareness[4]. The topics of the experiences are:

1. Recognition of the implicit harmony;
2. Timed recognition of harmonic changes;
3. Melody harmonization.

Each activity is preceded by a trial session where a short explanation of the goals and some instructions are provided. Then three tests follow, employing different musical materials. Data of user's behavior are automatically logged by the system in a database for subsequent analysis.

> Experience 1: Recognition of the implicit harmony
>
> Implicit harmony is the chord that better fits a melodic excerpt (Bigand, 1993). In this activity, we ask the user to listen to a short melodic excerpt based on a single underlying chord. By selecting the various circles, the user can listen to the chords of the harmonic space and choose the one that better fits the melody. The chords are presented in the same sequence as in Figure 1, but the names of the harmonic functions are hidden and the tonic chord is randomly assigned to one of the six positions, thus introducing an arbitrary rotation of the original layout.
>
> Experience 2: Timed recognition of harmonic changes
>
> In this experience users must reconstruct a melody proving to have understood its harmonic structure, in particular recognizing the points where the implicit harmony changes. When this happens the melody moves towards a new chord leading to a melodic segmentation based on the points where the harmonic change occurs. This process is depicted in Figure 2 where the eight-bar melody of a very popular nursery rhyme is reproduced with its harmonization. The black triangles mark the harmonic changes. Beyond the initial tonic chord (lasting two bars) there are changes at bars 3, 4, 5, 6, 7, and 8.

4 *The address of the web interface is http://didacta18.lim.di.unimi.it/eng/*

Figure 2. Harmonization of a popular nursery rhyme with the expected harmonic changes and the chord positions in the harmonic space.

We represent the harmonic changes described above as stages of an adventurous journey (Figure 3).

Figure 3. Representation of harmonic changes as subsequent stages of a journey (red points).

We cut the song audio file in correspondence of the harmonic changes and linked the resulting song excerpts to each subsequent stage. The user's task is to rebuild the whole song by clicking the corresponding points exactly when the harmonic change is expected, without leaving rests or overlapping the excerpts.

> Experience 3: Melody harmonization
>
> After understanding and experiencing the concept of harmonic change, users are invited to discover what chords are involved in the melody harmonization. To do so, they can explore the harmonic space in the web interface of experience 3 where they can find two modes of use: the exploration mode (default), and the harmonization mode. In the exploration mode, they are free to listen to the melody and play each of the six chords of the harmonic space separately and without time constraints. When ready, they can switch to the harmonization mode where they have to follow the melody proceeding and select the right chord as soon as a harmonic change occurs. The whole process is depicted in the last row of Figure 2, where all chord positions are reported.

Linking the physical with the virtual

Building on previous research about the use of a large-scale responsive environment for practicing melody harmonization [3], we leverage on physical activities to reinforce the learning of concepts to be transferred in the web interface. This can happen through the construction of a mental map of the harmonic space, which can be used to move in the physical space as well as on the virtual interface.

The possibility of connecting virtual and physical spaces through cognitive maps has been studied for helping blind people to navigate unknown space using spatial audio or haptic feedback in virtual environments (Lahav & Mioduser, 2008 and Sánchez, Sáenz, & Garrido, 2010). Here we employ a reverse process, as we transfer the training from the physical to the virtual space through a series of preparatory activities. Some of them are listening games that can be performed with the use of a musical keyboard, others are movement games that imply full-body interaction and embodied knowledge. In this context, the web interface acts as a benchmark of these perceptual and physical activities. This approach may refer on one hand to the concept of blended learning, which combines traditional classroom lessons with online activities (Graham, 2006); on the other hand it may also refer to the concept of algomotricity (Begel et al. 2004), which exploits kinesthetic learning experiences to grasp abstract concepts to be assessed with the use of the computer.

Preparation to experience n. 1: Harmony perception

The chord functions of the harmonic space have perceptual qualities that children can be trained to recognize. The most popular is the tension of the dominant-tonic progression, but other progressions may be presented and perceptually described by children. Teachers who are particularly inclined to creative activities can organize games and quizzes about the perceptual character of the various harmonies and chord progressions. These activities aim at driving children's attention on what "harmony" means from a perceptual point of view.

Games

1. The teacher asks children to describe how they perceive some musical cadences (e.g., the perfect, the plagal, or the deceptive cadence) through adjectives (e.g., strong, melancholic, weak, etc.).
2. Children sing a melody and the teacher accompanies them with mismatching chords (e.g., concluding on subdominant instead on tonic). Children are asked to guess where the mismatching chord is and discuss the solution.
3. The teacher stops the accompaniment on a point where harmony changes and proposes two or more solutions for the changing chord. Children are asked to guess the right chord in order to continue the song.
   Children are now ready to start experience 1 on the web interface.

Preparation to experience n. 2: Perception of the harmonic changes

The perception of the points where harmonic changes occur is very important for melody harmonization.

Games

1. Children sing a song and the teacher never changes the tonic chord at the keyboard. Find where the song needs a change in the accompaniment.
2. Children can mark the newfound points of harmonic changes with a gesture (clapping hands or stomping feet) or outlining the song syllables where the harmonic changes occur (syllables of change).
3. A two-groups game: group 1 knows the syllables of change of the song, while group 2 does not. Group 1 sings the song excerpt till the point of the harmonic change. Group 2 claps hands or stomps feet to make group1 proceed to the next harmonic change.
   Notice: the harmonic changes are not the same as the rhythmic pulse of the song. Sometimes they may overlap, some other times not (see the first two bars of the song in Figure 2: they have the same harmony, thus there is no harmonic change between bar 1 and 2).

Now children can transfer the embodied knowledge acquired through game n. 3 to the web interface.

Preparation to experience n. 3: Melody harmonization

Melody harmonization is realized by playing the right chord at the right point of the melody. In the previous activity, children found the points of the melody where harmony needs to change. Now they have to discover what chord sequence better fits the melody, linking up their chord perception with the timed harmonic changes. Exploration of the harmonic space is very important to reinforce their feelings about the various chord progressions. Children who have already made the perceptual exercise about the main harmonic progressions in preparation to experience n. 1 can now search in the virtual harmonic space for the chords of the progressions previously defined and discussed.

Games

1. The web interface with the circle representing the harmonic space is made visible to the whole class (with a wall projection or a large screen). The teacher (or a child) performs basic harmonic progressions, such as those depicted in Figures 4a and 4b. The class, imagining the same harmonic space reported on the floor, moves accordingly.

Figure 4a. Movements that realize the progression tonic-dominant-tonic.

Figure 4b. Movements that realize the progression tonic-subdominant-dominant-tonic.

In the case of the harmonic progression in Figure 4a, children, assuming their initial standing point as the tonic position, move a step to their front-right direction and a step back to the tonic. In the case of Figure 4b, children move a step to their front-left, then front-right, then back again to their starting position.

2. The teacher (or a child) improvises melodies on the progressions practiced in the first game. Another child (or the teacher) performs the progressions on the web interface while the rest of the class moves accordingly. The role of the melody improviser may be assigned in turn to all the other children.
3. The teacher proposes to sing a song to the class. A child finds the chord sequence that better fits the melody on the web interface. All the class sings the song and moves accordingly.
   Once the motion patterns for accompanying the melodies have been practiced with a number of songs, involving additional chords and longer sequences, children are ready to access experience n. 3 of the web interface and to harmonize the proposed melodies.

Conclusion and further work

In this workshop we presented a new approach to the study and practice of tonal harmony combining perceptual and full-body activities with the use of a web interface. The activities focus on abstract concepts of tonal music, such as implicit harmony, harmonic rhythm and melody harmonization, subjects usually considered too difficult for children.

Thanks to an intuitive representation of the harmonic space and to the practice of perceptual and full-body activities, we propose a set of games which lead children to the use of the web interface, intended here as a benchmark of the new acquired harmonic abilities.

An assessment of the validity of this approach needs to be conducted in different educational contexts and across various musical cultures. The implementation of the musical database and the possibility of providing teachers with tools to customize their teaching activities at the best are among the next objectives for the development of our platform.

Finally, the development of a system for the automatic assessment of children performances would be both a valid didactic tool and a further element to implement gamification.

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Facilitating young children's embodied musicality through a responsive pedagogy of awareness

Heather D. Waters
Department of Music, Adelphi University
Garden City, New York, USA
hwaters@adelphi.edu

Abstract

Movement and music are inseparably linked, and young children benefit from interactive, engaging experiences that promote responsive embodied musicality. Developing practical strategies for facilitating embodied musicality through responsive pedagogies of awareness potentially expands upon young children's innate capabilities as musickers. The natural integration of music and movement offers rich opportunities for adults to engage as co-musickers alongside young children. Mindfully and intentionally facilitating music and movement interactions that prioritize awareness and responsiveness may effectively support young children's creative musical and movement expression.

Keywords
Embodied musicality, early childhood, music and movement

Background

Adults who interact with young children likely notice the fluid and flexible ways children integrate movement and music. Children combine music and movement expression naturally, and adults can mindfully facilitate this creative expression via intentional and reflective observations and responses. This paper will connect to select literature related to the natural integration of music and movement, describe possible strategies for developing a pedagogy of mindful awareness that supports this integration, and suggest practical ways to craft spaces and learning provocations that promote embodied musicality.

Music and movement evolved together (Cross, 2003; Wallin, Merker, & Brown, 2000), and are intimately linked (Phillips-Silver, 2009; Phillips-Silver & Trainor, 2005, 2007). Physical movement is central to the cognitive process of musicians, and collaborative musicians must navigate shared, social actions, including the relationship of their bodies to others during music making. Movement and music express the same impulse—"to make audible and visible the innate rhythms of the body, the natural world and our experience of time" (Goodkin, 2004, p. 17). Movement and music engage shared neural pathways, such as those related to time-keeping and sequential learning (Sievers et al, 2013).
Music is strongly connected to the auditory system, and body movements frequently synchronize with metrical patterns in musical structure (Toiviainen, Luck, & Thompson, 2010). Humans coordinate and entrain their movements to the beat of music (Ilari, 2015; Merker, Madison, & Eckerdal, 2009; Phillips-Silver, Aktipis, & Bryant, 2010), and infants naturally respond with spontaneous rhythmic movement to music (Ilari, 2015). Human body movements and musical expressions synchronize to metrical structures via beat induction (Patel, 2008). Babies are capable of perceiving metric structures (e.g., Bergeson & Trehub, 2006; Hannon & Trehub, 2005; Ilari, 2015; Thorpe & Trehub, 1989; Trehub & Thorpe, 1989; Winkler et al., 2009; Zentner & Eerola, 2010), but the ability to physically entrain to the beat emerges later during the preschool years (Kirschner & Tomasello, 2009; Merker, Madison, & Eckerdal, 2009; Provasi & Bobin-Bègue, 2003). Infants concurrently engage in building musical memory and musical gestures via interactive sound-making with their environment, others, and themselves (Barrett & Tafuri, 2012).

Real (and even imagined) bodily states influence cognitive states (Koch & Fischmann, 2011; Sedlmeier, Weigelt, & Walther, 2011). Embodiment reflects ways a living organism's movement and expression interact with the environment to influence cognition, affect, perception, and behavior (Koch, 2006; Koch & Fischman, 2011; Niedenthal et al., 2005). The body and its movement are integral to knowledge and memory (Koch & Fischmann, 2011). When children are moving, they are developing "neurological foundations" that facilitate language development, problem solving skills, and creativity (Stevens-Smith, 2016, p. 724). As Maria Montessori stated: "When we think of intellectu-

al activity, we always imagine people sitting still, motionless. But mental development must be connected with movement and be dependent on it" (1967, p. 141-142).

Given the integrated nature of music and movement, facilitating embodied musicality offers rich opportunities for adults to engage as co-musickers alongside young children. Mindfully and intentionally facilitating music and movement interactions that prioritize awareness and responsiveness may effectively support young children's creative musical and movement expression (e.g., Reynolds, Long, & Valerio, 2007). Children embed their "musical lore" throughout their daily activities, naturally integrating their ideas into a composite of choreography, singing, and dramatization that Campbell (2010) compares to a Wagnerian Gesamtkunstwerke. Children intuitively make music through movement, playing with their most natural instrument—their own body (Burrell, 2013). Through play, young children integrate movement and musicking, and integrated music and movement experiences complement and reinforce musical creativity (Barrett & Tafuri, 2012). Integrating movement and music develops bodily and spatial awareness, the coordination of breathing with musicking, and personal expression (Reynolds, 2008), and may improve perceptual-motor performance (Brown, Sherrill, & Gench, 1981).

Many approaches to active music making, such as Orff-Schulwerk, Kodály, Music Learning Theory, and Dalcroze, integrate music and movement. Although each approach has distinctive elements, commonalities emerge that inform practical pedagogies of embodied music and movement that potentially support young children's creative and expressive musical and movement capabilities. Carl Orff emphasized the interrelation of music, movement, and speech (Keetman,1974). Dalcroze eurhythmics facilitates the expansion of a natural movement repertoire in response to music (Bachmann, 1991; Dalcroze,1980), and Music Learning Theory (Gordon, 2013) emphasizes the progression from continuous, fluid movement to beat and breath coordination at later stages of development. Dalcroze- and Orff-Schulwerk-based training, with their focus on movement, enhance the development of young children's rhythmic ability (Zachopoulou et al, 2003). Adults can draw on these varied approaches in crafting pedagogies of embodied musicking that best fit children's needs and the particular learning context. No matter the specific approach or activity, developing personal pedagogies of mindful awareness and responsiveness will enhance these integrated music and movement experiences.

Developing a pedagogy of mindful awareness

Adults can adapt to children's musical play and integrate unstructured informal music activities by responding to children's musicking in the moment. These types of responsive interactions have been labeled as play-based (Berger & Cooper, 2003; Hsee, 2007; Koops, 2011; Matthews, 2000; Reese, 2011; Young, 2002, 2004) and socially-based (Reynolds, Long, & Valerio, 2007). During these play-based, social music interactions, children and adults have opportunities to interact musically as conversational partners moving fluidly in and out of the roles of teacher/leader and novice (Rogoff, 1990; Wells, 1999). Ideally, adults respond to young children's musical and movement expressions in ways that extend, rather than impede, their creativity. During musical play, "children participate in intrinsically motivated pleasurable actions where the process, not the product, is the goal" (Berger & Cooper, 2003, p. 152). Therefore, I suggest a pedagogy of mindful awareness, in which adults mindfully notice children's creative musicking, and develop a heightened responsiveness to the context and needs of the learners in the moment.

An important aspect of cultivating a pedagogy of awareness is to cultivate a present and mindful habit of mind. This may seem obvious, but genuine responsiveness to young children's creative expression necessitates a true awareness of what is happening in the moment. Adults that are truly mindful notice and respond to children's musicking in ways that support and extend musicking rather than moving ahead with adult-centered objectives. Mindfulness can be conceptualized as conscious awareness with sensitivity to the present context, including an openness to novelty, sensitivity to different perspectives, and an orientation to lived experience in the present moment (Anderson, 2012, 2016; Brown & Ryan, 2003; Demick, 2000; Kabat-Zinn, 2003; Lutz, Dunne, & Davidson, 2007; Zelazo & Lyons, 2012). Children will readily engage in developmentally-appropriate mindfulness activities that develop the ability to observe one's thoughts and feelings in a nonjudgmental way (Biegal et al., 2009; Burke, 2010; Huppert & Johnson, 2010; Zelazo & Lyons, 2012). Age-appropriate mindfulness training for young children during the preschool years, including a focus on "in-the-moment" lived experiences, supports the development of self-regulation and executive function (Zelazo & Lyons, 2012). Although most young children are already adept at in-the-moment awareness, developing increased attentiveness via mindful mental processes potentially facilitates children's increased awareness of themselves and their environments (e.g., Falter, 2016; Shapiro & Walsh, 2003). Mindful instruction also potentially increases children's enjoyment and creativity (Anderson, 2016; Falter, 2016; Langer, Russel, & Eisenkraft, 2009). Importantly, mindfulness practices adapted for young children (from adult activities) frequently involve additional physical movement, since attempting to sit still for long periods of time (understandably) interferes with young children's ability to mindfully self-reflect (Kaiser-Greenland, 2010; Zelazo & Lyons, 2012). Adults can further support children's development of mindfulness by prompting child-

ren to purposefully notice what's happening in the present moment in a nonreactive way (Zelazo & Lyons, 2012). Even mundane daily occurrences present abundant opportunities for facilitating mindful awareness. Even very young children are capable of increasing their creative expression when adults are supportive by responding mindfully in the moment.

Activities that involve intensive investigation of objects outside the body (social-psychological mindfulness) can be tied to learning tasks and goals (Anderson, 2016; Falter, 2016). Adults can guide children in noticing subtle musical differences. Reggio Emilia teachers adopt a pedagogy of listening, and "respond to what they see by asking questions, initiating face-to-face exchanges, redirecting activities, and modifying the way or the intensity of their interaction with particular children" (Malaguzzi, 1998, p. 69). Reynolds & Filsinger (2013) identified strategies that support children's and adults' co-construction of musical interactions, including reflecting on musicianship, playing, acknowledging children and adults as musicians, noticing musical behavior, honoring the contexts of musical behavior, imagining and playing with musical possibilities, interacting musically, and documenting and revisiting co-constructed musical ideas. These approaches inherently facilitate mindfulness and responsiveness, as they require intense focus and awareness of children's capabilities and needs within the learning context.

Encouraging responsiveness and reflection about the processes of co-constructing learning also potentially facilitates mindfulness. Alongside children, I encourage adults to negotiate the implications, meaning, and significance of shared experiences (Edwards, Gandini, & Forman, 1998). Consider ways you might view children as partners in inquiry and co-researchers (Edwards, Gandini, & Forman, 1998; Waters, 2015), and as protagonists, communicators, and collaborators (Cadwell, 1997; Waters, 2015). The teacher's role then becomes that of partner, nurturer, researcher, and guide (Cadwell, 1997).

Crafting spaces and places

Young children's musicking is interwoven into their lived everyday experiences (Young & Ilari, 2012). Music education is a "growing interaction between the child and her environment," and "everything is a learning experience" (Barret & Tafuri, 2012, p. 310). It is developmentally inappropriate to adhere to uniform pathways and modes of musical interaction for all children in every context (Young & Ilari, 2012). Ideally, teachers set up learning environments in response to student interests and needs, supporting and facilitating children's creative expression (Edwards, Gandini, & Forman, 1998; Mallaguzzi, 1998). Carefully designed constraints that consider the skills of the individual child, the environment (both social and physical), and the specifics of a particular goal or task do not limit children's creativity, but rather facilitate movement development (Gagen

& Getchell, 2006). Such constraints necessarily evolve and emerge over time as part of a co-constructed and fluid learning community. Conditions in both free and structured learning environments may silence, alter, or enhance children's musical play (Berger & Cooper, 2003). When adults value all of children's musical utterances and provide flexibility, play is enhanced (Berger & Cooper, 2003). In general, intrusive or directive adult responses tend to decrease or halt children's play, whereas supportive responses tend to extend it (Marsh & Young, 2006). Adults support children's musicking by valuing creativity above technical skill, and avoiding strict musical rules or product-orientated (versus process-oriented) activities (Waters, 2015). Given the important roles adults can play in sparking or silencing music and movement interactions and creative expression, I encourage adults to mindfully notice when and how to best respond to children's musicking.

By nature, music is a temporal art. Adults should also carefully consider the temporal content and context in crafting mindful responses to young children's expressions. Developmentally, children may first respond to rhythm with free-flowing and flexible continuous movement, and only later develop the ability to coordinate singing with breathing and body movements (Gordon, 2013). Adults can encourage continuous flowing spatial movements before attempting to model a specific rhythm or metrical movement (Gordon, 2013). Rather than encouraging movements based on entrainment to a musical beat, adults may first wish to honor children's flexible and free movement, and not attempt to lock children into clapping, marching or other metrical movements until the child develops readiness (Gordon, 2013): "Weight and flow are child centered in terms of sustained movement whereas time and space are adult centered in terms of separated movements" (Gordon, 2013, p. 123). Perhaps children should be first encouraged to explore weight and flow, before they explore time and space in relation to metrical/rhythmic movement (Gordon, 2013). When (and only when) children are developmentally ready, coordinating movement and patterns to a rhythmic component may enhance biological functions and facilitate learning across varied contexts (Matthews, Ubbest, & Freysinger, 2016).

Over time, revisiting shared musicking experiences also frequently sparks additional musical creativity (Reynolds & Waters, 2014). I encourage adults to document children's musical expressions via audio and video recordings. Frequently revisit their ideas, and use this documentation to promote additional exploration and validate learning (Edwards, Gandini, & Forman, 1998). Children's musicking and movement will change over time, so make time to pause, providing temporal space to listen to, watch for, and mindfully notice children's responses. Revisit co-constructed ideas, developing a repertoire of music and movement ideas within the learning community.

Provocations for embodied musicality

Children's songs often include predetermined movements that portray the lyrics or actions to a song. Although singing and imitating the movements to songs in this way likely facilitates some bodily awareness, solely mimicking the teacher with assigned movements leaves little room for creativity and responsiveness. Imitation alone is not an accurate representation of a child's creative embodied musicality. However common these types of activities are, adults ideally engage in emergent and co-created musical experiences that move beyond leader/follower activities.

The following activities are merely suggestions. To honor a co-constructed, responsive, and emergent learning environment, ideas should ideally emerge naturally through social interactions, and change depending on children's needs and the particular learning context. These provocations are not meant as prescriptive activities, but ideas to promote heightened, responsive awareness of young children's integrated music and movement expression. Therefore I suggest that within each activity, consider ways to promote mindful awareness, and to reflectively craft spaces and places that support young children's embodied musicality. Pause and provide space and time to notice children's responses. Within these proposed provocations, I encourage adults to engage in music and movement conversations, interacting and co-constructing shared experiences in the moment.

Provocation: Body part awareness

With plenty of open space to move, ask children to suggest a body part. Name the body part, then encourage children to explore what they notice about the specific part, as well as how they can move the particular body part. Add music (recorded examples or live music). For example, if children choose their elbow, explore ways to make the elbow "dance." Encourage active exploration of movement concepts such as space, flow, weight, and time (Conway, Marshall, & Hartz, 2014). Carefully observe children's movement responses. Highlight possibilities by noting them verbally, or by mirroring the child's movement. Consider asking questions or including reflective comments that encourage and facilitate creative, embodied, and mindful movement. For example: "Notice how your elbow moves. What else can you do with it? How does your elbow feel when you move it that way?"

Provocation: Imaginary animal imagery
Based on careful observation of children's interests (musical and nonmusical), choose an animal. Guide the children in imagining that they are touching or holding the animal, and suggest ways the animal might move in relation to the children's bodies. For example: "Imagine you are holding a beautiful ladybug. The ladybug is resting in the palm of your hand. Now the ladybug is walking up your arm. How else does the ladybug move?" Encourage children to imagine scenarios that include the animal's movement in connection with their own bodies, and encourage them to notice how their own bodies move in response. Include accompanying music as desired, and encourage responsiveness and mindful connection to the music.

Provocation: Body scan
Engaging in sequential body scans may heighten bodily awareness, and focusing children's attention on bodily sensations may develop a foundation of mindful awareness of experience, including thoughts and emotions (Zelazo & Lyons, 2012). This type of exercise is common in yogic traditions, but can be adapted for young children by decreasing the duration of the exercise and by focusing on a specific area of the body, rather than all body parts in turn.

Either seated or lying down, note each body part individually, beginning at the toes (or an area of your choice). Verbally guide the children: "Notice how your toes feel. Notice how the top of your foot feels. Notice the bottom of your foot..." These bodily focal points can later become focal points for movement, as heightened awareness opens up additional movement possibilities. For example, children may not have considered all the ways their elbow can move, and this exploration can open up additional ideas.

In adapting mindfulness exercises for young children, teachers might consider ways to simplify verbal directions, and use props or concrete (rather than abstract) metaphors (Zelazo & Lyons, 2012). For example, children can practice this body scanning exercise by moving props such as beanbags or scarves over their bodies, before moving on to using imaginary "scanners." Props can also help increase awareness of breathing. Teachers can place beanbags, scarves, stuffed animals or other props on children's bellies, and ask children to gently rock it to sleep (Kaiser-Greenland, 2010). Children can hold objects behind their backs, and teachers can direct them to describe how it feels (rather than WHAT it is).

Provocation: Teacher-in-Role or Child-in-Role
In advance, investigate and document what children's current interests are (musical as well as nonmusical). Choose (or create) a story that matches their current interests. Explore movement and musical sounds that accompany the story. Explore a "teacher-in-role" strategy, assuming a character within the scenario or story, and engaging with children as that character (Cooper, 2016). Children can also adopt the lead "child-in-role," directing the dramatic play. This exercise potentially facilitates children's creativity via arts integration and active learning through the senses, connecting their bodies and minds (Cooper, 2016). While enacting with the role, encourage children to make suggestions, reflect on their suggestions, and make revisions. Ask children to notice how their bodies move in response to cues from the story and/or accompanying music.

Provocation: Painting on air
Based on the children's current interests, choose an idea, object, or other concept. "Paint" in the air to represent the chosen idea, using different "paintbrushes" (varying the body parts). Younger children will likely choose more concrete (rather than abstract) objects or ideas. To facilitate collaborative creativity, pause to ask for volunteers to demonstrate their ideas. Choose (or ask the children to choose or create) music to accompany the movement. Continue to prompt additional exploration by asking questions such as: "What could we add? How might we move? What does it feel like?"

Conclusion

As you explore ways to engage with young children via integrated, creative embodied music and movement, I offer the following questions for your consideration:

> How might I best facilitate embodied musicality in my own teaching contexts?
>
> Do my own conceptions of children's musical and movement capabilities hinder or enhance playful possibilities?
>
> How can I best adopt a pedagogy of responsive awareness?

Mindfully and intentionally facilitating music and movement interactions that prioritize awareness and responsiveness may effectively facilitate young children's creative musical and movement expression. I encourage you to pause, and mindfully reflect, as you co-construct creative expressions of embodied musicality alongside children. Notice their natural integration of music and movement, and play with the creative possibilities.

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MERYC19

How wonderful to observe young children's spontaneous interactions with music! Immersed in a world of sounds,they engage with all their senses and experience music through their sensorimotor, affective and cognitive resources. After all, musical interaction is not a mere auditory experience: it addresses the whole body. It is precisely this bodily experience of music that opens the door to the interplay of the senses, invoking the richness and meaningfulness of an empowering musical experience.

What does this mean for music education in early childhood? What are the fundamental questions and how can they be addressed in a methodologically sound way?

How can learning activities foster this interplay of the senses? How can children's development into competent and creative music makers be rooted in and tailored to the bodily basis of musical experience? How is the whole body experience of music related to children's social, cultural and material environments? Can a bodily approach to music learning contribute to well-being and social cohesion?

The EuNet Meryc Conference 2019 aims to stimulate interdisciplinary dialogue on the role of bodily experiences in relation to the rich array of topics in early childhood music education. The conference welcomes theoretical or conceptual research as well as reports on and innovative approaches to practice within the field of music and early childhood (0-8 years), in education (school and extracurricular contexts) and everyday life.

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