CREATIVE INTERACTIONS

Dynamic Processes in Group Music Activities

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5.
THE COMPLEMENTARITY OF INTERACTION AND CREATIVITY IN COLLECTIVE MUSICKING

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Abstract

Creativity and interaction are two key aspects of a stimulating learning environment. Students and teachers can benefit from reciprocal collaboration and creative musical practices, helping them build mutual trust, facilitate an exchange of insights, and foster opportunities for personal growth and development. Creativity and interaction have been often studied as separate psychological categories. The former has been traditionally conceived of as a property of the individual, whereas the latter is usually explained through mechanisms based on the single agent's cognitive system. In contrast to these conceptions, more recent scholarship developed a more unitary view that brings the two terms closer to each other. In this chapter we explore in more detail how this can be so. We build on recent work in music education and cognitive sciences to suggest that creativity is inherently collaborative, and that (successful) musical interaction is deeply creative; we summarize and discuss the main outcomes emerging from three recently published qualitative studies to offer concrete examples; and we provide suggestions for future research, practice, and theory in music education.

Creativity research has been often associated with the study of the cognitive abilities and talent of single, "gifted" individuals (Albert & Runco, 1999). In recent years however, this approach has been partially traded for a wider perspective that considers creative thought and action as interactive and collaborative phenomena (e.g., Sawyer, 2003; 2006). Among others, Coyne (2009, pp. 32-33) offers three arguments in favour of this shift in perspective. First, creative outcomes are manifest in situations that are highly social and participatory, such as dance or music. Second, they are strongly contextual and culturally constructed. Third, the very idea of isolated brains (or individuals) is being questioned by recent research in the cognitive sciences. This is particularly evident when considering the paradigm of *Embodied Cognitive Science*, an interdisciplinary approach that conceives of mental life as a unique brain-body-world system (Thompson, 2007).

Research on human interaction has also been usually framed within a somewhat solipsistic view, with much research addressing interactivity in terms of how individuals would respond to, understand, and participate in different social situations. The main features of two well-known psychological approaches – Theory-Theory (TT) and Simulation Theory (ST) – offer a good example of the main assumption behind this area of research. The former (TT) refers to the idea that social cognition relies on the construction of internal beliefs about the mind of the interactor, such that one can develop a "theory" about the others, allowing him or her to interact

with, understand, or predict, what the other is (about to be) doing (Carruthers, 1996; Gopnik & Wellman, 1994). The latter approach (ST) posits that one can really understand another agent when he or she can simulate with his or her cognitive system the other's mental, bodily, or emotional states (Goldman, 2002; 2006). In both cases, however, the unit of analysis remains inherently individual. As such, novel approaches have been put forward to explore social cognition as an emergent property of interaction itself, rather than as an ability of a lone agent (De Jaegher & Di Paolo, 2007). This move can disclose novel possibilities to capture the creative nuances involved in social cognition and examine their role in shaping how meaningful interactions unfold.

Music performance and music education research are two ideal domains for exploring the profound connection between interactive cognition and creativity (Bishop, 2018; Burnard, 2012; van der Schyff et al., 2018). Indeed, not only do musical practices often involve active participation and collective effort (Small, 2006), they also provide a valuable tool to explore novel relationships between self and world (Høffding & Schiavio, 2019). As Bishop (2018) notes,

> collaborative creativity refers to the distribution of creativity across members of a group as they collaborate to solve a shared problem. It is in contrast to a division of labor, where each group member is assigned a part of the task and the collective outcome is equal to the sum of individual contributions.

Inspiration for such an account can be found in pioneering work by Sawyer (2006), who emphasizes how groups develop creative inspiration from interaction and communication. With this in mind, one can also consider how human infants develop perceptual and motor skills while engaging in music-like, or protomusical behaviors (Trevarthen, 1999): while they develop an autonomous sensitivity for musical goals, which can be further developed creatively as they flourish as musical beings (Schiavio et al., 2017), infants can also be "invited" by their caregivers to make sounds and interact with them musically. In fact, mother-infant interaction is one of the main domains where early musical development is explored. Here, interactions must develop "creatively" to remain interesting for the infant. Novel utterances and rhythmical patterns are then explored together in a mutually adaptive way, leading to varied turn-taking and imitative behaviors (see Gratier et al., 2015). Can a similar account of interaction and creativity be informative for music performance and education research too?

In what follows, we provide examples of recent qualitative work on collective music pedagogy and community music that build on and expand such preliminary considerations. These studies, focusing on adult participants, offer concrete insights on how creativity and interaction structurally depend on each other and play a key role in enhancing individual and collective musical outcomes.

EMPIRICAL EXAMPLES

Distributed teaching

The first study we mention (Schiavio et al., 2018) was conducted to explore teaching strategies and experiences in the contexts of individual and collective music classes. Here, a total of 11 expert music teachers were either asked to complete an open-ended questionnaire, which posed general questions about their teaching; or participate in semi-structured interviews, which were devoted to clarify particular themes that emerged in the written questionnaire. Data were analysed through an inductive method based on grounded theory (see Oktay, 2012), where categories of interest were not hypothesis-driven, but generated from the data. First, a careful reading of the raw data was conducted to segment and organize the material into a list of codes, that is, specific codes were applied to different quotes. Then, the codes were assigned to two macro-categories, which captured the main content of the themes described by the respondents. These themes were (i) *teaching issues*, and (ii) *professional development*.

The main results of the study gravitate toward the notion of "presence", which emerged in a number of written and spoken passages. In particular, when referring to collective pedagogical settings, some teachers reported they felt "less present" than in individual forms of tuition. *Prima facie*, a similar consideration may entail a negative connotation, implying that teachers did not really participate in the unfolding dynamics of the collective lesson. Were they really more detached from, and less concerned with their students? Does collective teaching then involve less collaboration between teachers and students? In fact, it was found that teachers felt less present because they interacted with their pupils in a different way when compared to individual tuition: that is, they often "stepped back" and shared the leading role with students. Importantly, such roles did not appear to be prescribed, or fixed; they were rather fluid and flexible, and could be negotiated by the whole group. This process can be seen as fundamentally creative, as new roles can be determined on the basis of various contextual and social needs, stimulating novel and efficient musical outcomes. Past musical experiences, sociality, teaching competence, goals, and musicality all played an important role in driving the exchange and maintaining a reciprocal interaction that was interesting and useful. Here, peers became concerned with mutual exploration of particular issues and the collaborative discovery of innovative solutions. As such, this approach was equally oriented toward problem-finding and problem-solving dynamics, helping students develop their own personal identity and sharing concerns and doubts with others.

We think this is a good example of how collaboration and creativity can be linked together in a music education context. To provide further clarification, imagine how, in an orchestra class, two violin students can mutually examine a given passage and discover how a new fingering solution allows them to be better balanced with the cello section, or how a flute student can exaggerate a rallentando during a solo part to adjust his or her musicking to the collective needs of the group. Such modes of interaction are fundamentally creative not only from a purely

performative view but also pedagogically. Explorations in mutual interactions can transform established relationships within the class, shape new musical ideas and pedagogical settings, and adapt themselves to the shifting musical demands that emerge within the group. At the same time, if there is openness for exploration in the group, such creative outcomes become multiply constituted. In other words, outcomes are negotiated and developed collaboratively. As specific musical issues arise, they are often addressed through mutual discussion, examined from different angles, and then considered in light of shared musical goals. In distributing the teacher's role to the group, educators may thus feel like having less control over the learning direction of the class, but can also benefit from it by enhancing the creative potential of their students, and promoting a safe educational environment where decisions are made together and students can meaningfully interact with each other in a creative fashion.

Shared learning experiences

In the second study (Schiavio et al., 2019a), a similar approach was adopted to describe the differences between individual and collective tuition from the point of view of music students. The same questionnaire used in the previous study was adapted and sent to 16 music students, all with at least five years of musical learning experience. Three additional students were interviewed by the researchers so that more elaborated responses could emerge. Quotes from interviews and questionnaire were first categorized through three pre-defined categories (*instrumental technique*, *expressivity*, and *communication*), and then organized per learning environment (individual tuition; collective tuition).

In analyzing differences and continuities across the diverse experiences associated to each learning environment, the results emphasized the relational features involved in each examined category. The respondents, in other words, agreed that one cannot fully separate instrumental technique, expressivity, and communication. While it might be useful to explore each category individually, and while there might be important structural differences concerning how these are treated with respect to the learning environment in which they are situated, there are fascinating similarities between them. Notably, these similarities are based on the key role body and social cognition play in shaping one's learning trajectory. Consider how instrumental technique – usually associated with rigid, prescribed, norms governing practice – is understood here as a collective effort, where teachers and peers participate in determining how such skill can be optimized. In collective settings for example, pupils can develop novel skills by reciprocally collaborating. Given this idea, we pose the following scenario: imagine how two or more students in a guitar orchestra can face close challenges when playing a tremolo, and compare their respective solutions with regard to the right-hand technique. Each similar exchange between students can be considered as affordative of a possible shift in (musical) perspective, a possibility for action and development that is co-constituted interactively. And because others might have different tastes, styles, and ideas about the music being performed, technical skills can hardly be detached from expressivity. Technical differences in playing a tremolo (e.g., the distance from the sound hole, the length of the nails, the speed of the articulation, etc.), indeed,

will result in a musical outcome can be convincing for some but not for others. The ability to negotiate between optimal skills and expressivity is thus strongly related to the communicative aspects involved in musicking. In a sense, therefore, musical development is here understood as based in a healthy relational dimension – one in which students can flourish as musical beings who adapt to, and innovate, the community of practice in which they are situated. Pupils reported that communicative aspects are indeed fundamental in both individual and collective settings. Expressive and technical elements can thus be examined behaviourally and verbally with the teacher or with peers.

While various differences remain regarding how interactions with students and educators play out, this qualitative research on musical learning from the perspective of the students emphasizes the structural unity between interactive and individual development. Pupils appear to trade the traditional focus on the score and its interpretation for a more collaborative and nuanced approach to skill acquisition and music-making. This involves creative forms of interaction that place more emphasis on the musical needs and demands of the group, rather than on the single agent (see Burnard & Dragovic, 2014). When decisions are negotiated together and tailored to a shared musical idea, the rich interplay between creativity and collaboration emerges as a fundamental element of the process. Here, the continuities found across the categories of instrumental technique, expressivity, and communication suggest that successful interaction relies on creative musical solutions, and viceversa: for example, when a musical pattern is internalized and performed in a group, it has to be adapted to the expressive demands of the ensemble, leading to a meaningful debate that possibly involves many participants (e.g., those in the same instrumental section). Because such communicative effort often entails a creative solution to a specific problem, it arguably promotes a positive sense of being together and taking part to the class, which has important musical and social benefits for all participants.

Facilitating artistic and social flourishing

The final example we wish to provide is based on research on the Meet4Music project (Gande & Kruse-Weber, 2017; Schiavio et al., 2019b). Meet4Music (or M4M) is an ongoing community music program offered at the University of Music and Performing Arts Graz, Austria. Since 2016, it has served a double function within its urban community: as an *artistic* initiative, weekly workshops are dedicated to different basic forms of music-related activities (Kruse-Weber & Gorzela, 2019). These meetings are oriented toward a large community of citizens (including refugees, migrants, special needs individuals, older people, and students), who may or may not be musically trained. As a *social* initiative, M4M provides a culturally rich platform that stimulates inclusion and promotes dialogue across cultures, faiths, and demographics. This double dimension makes M4M an open-access meeting point for individuals and groups to engage in collaborative activities based on choir, gamelan, theatre, and drum circle. Each workshop is dedicated to one of these activities and is supervised by a facilitator. The facilitator is a musically-trained individual (usually a faculty member of the University), who in most cases

helps the attendees develop forms of "guided" improvisation individually and in groups. Moreover, because no registration is required for participating, many variables can change from week to week, including the type and number of participants, and consequently their musical experiences, habits, expectations, and cultures. On the one hand, this gives the facilitators a good degree of freedom: they can effectively select 'on the spot' the appropriate material on which to improvise (e.g., a rhythm, a timbre, a brief melodic pattern). On the other hand, this poses several challenges in terms of flexibility, spontaneity, and musical collaboration. Facilitators need to rapidly adapt to the different demands of the group in ways that are meaningful and that elicit a satisfactory musical outcome.

To better understand how facilitators navigated these difficulties, semi-structured interviews were conducted with three of them by AG, PhD student and project's coordinator. An inductive analysis of interview content generated, among others, three categories (*collaboration*, *non-verbal communication* and *sense of togetherness*). Quotes that refer to collaboration, for example, provided interesting insights concerning the different ways in which it takes place: facilitators described collaborative effort at both organizational and performative level, as it involves staff members, attendees, as well as the broader community of citizens. By this view, M4M facilitates artistic interaction and helps develop new collaboration behaviours that may or may not take place during the workshop (but may involve, for example, its organization). When investigating the workshop in more detail, however, non-verbal communication was regarded as a very promising type of collaboration. That's because some participants with a refugee-status, who may have just found a new home in Graz, might find it complicated to speak and understand German or English. Musicking together provided them with a possibility to communicate and interact through their bodies, sharing experiences and narrating stories and identities. In both cases, collaboration and non-verbal communication require a strong creative core to be effective. Indeed, as M4M does not have a fixed organizational hierarchy, decisions (e.g., musical techniques, exercises, etc.) are often negotiated within the moment-to-moment contextual demands of each meeting. Creative thought is thus strongly linked with the collaborative format offered by M4M. This is best understood when looking at the positive feeling of being together, or indeed, the 'sense of togetherness' that was reported in most interviews. When facilitators invite attendees to creatively engage with certain musical configurations, the outcome is never solipsistic; rather it is always situated in the unfolding dynamics of the workshop, where each participant develops, explores, shapes, and adapts to the many interactive layers involved in musicking. Participation in M4M is thus a social and creative activity that fosters a sense of community in both facilitators and attendees, leading to fascinating artistic experiences. Musical meanings are constantly shared and transformed by the community, pinpointing once again the continuity of creativity and interaction.

DISCUSSION

The three studies reported here offer insights concerning the interplay of creativity and interaction in a musical context. While the first two studies are particularly valuable when considering music education research, the last (M4M), provides a concrete example of a community-based project focused on collective musicking.

When considering collective music classes, where an educator deals with a number of students, it was found that the latter often take more responsibilities than previously assumed. Specifically, students can be given the opportunity to take up a "teaching role", that is, they are asked to share their musical skills with others and thus transform the dynamics of the lesson in a more horizontal sense. As roles are not pre-determined or fixed, these will be different from student to student and from lesson to lesson. In a sense, creativity and interaction become two fundamental components for ensuring the success of this new roles, and for navigating the difficulties of novel settings where 'teaching' is distributed across students. Creativity and interaction also play a fundamental role when focusing on more concrete learning aspects, such as instrumental technique or expressivity. Students often regulate themselves through mutual exchanges; open, creative discussions; and reciprocal musical explorations. This shows how collaborations based on peer-learning are not only present in informal musical settings (Green, 2008), but can also inform more traditional musical environments where teachers facilitate the process. The M4M example, finally, provides a detailed account of how facilitators creatively adapt to the shifting musical demands that develop across the group as the workshop unfolds.

Generally speaking, all three examples align with recent accounts in the cognitive sciences that view mental life as multiply constituted and profoundly linked to how we act and what we do (De Jaegher & Di Paolo, 2007; Gallagher, 2017). This view, known as *Embodied Cognitive Science* (Varela et al., 1991), affirms that mind – or cognition – is not reducible to the workings of our brain; instead it is best understood as an emerging property of the relationship between brain, body, and world (see Thompson, 2007). Living systems and their socio-material environment are thus mutually involved in processes of self-determination, discovery, and experience (Thelen & Smith, 1994). By this view, cognitive systems are regarded as units of interaction that are co-constituted by bodily, social, and environmental facts. Examples can be found in studies that show how perception and action share neural resources (Rizzolatti & Sinigaglia, 2008), and in research pointing to the rich interplay between ecological niches and organisms occurring in both ontogeny and phylogeny (Oyama, 2000). In music and music education, accounts based on similar premises have increasingly been offered (Bowman, 2004; Leman, 2007, Reybrouck, 2006). This work shows how our understanding of musical experience and cognition should include an analysis of the patterns of sensorimotor activity that shape each musical experience (Maes, 2014; Schiavio & Altenmüller, 2015), as well as meaningful interactions with others (Schiavio & De Jaegher, 2017), and with the environment (Clarke, 2005; Reybrouck, 2015). The studies reported here might help us re-consider the role of creativity for implementing such patterns of situated activity, including the acquisition and development of

musical skills. This can open up novel opportunities for research and practice in domains where these are seen as separate, or only partially coupled. In fact, the recognition of both categories as inseparable may inspire richer understandings of what collective music-making entails, and help educators develop novel strategies to optimize the collaborations between peers. Among others, a possibility might involve asking pupils to modify the character of a piece starting from those gestures, articulations, and phrasings, that can be generated collectively. This can favor the emergence of creative outcomes, and help students take more responsibilities for their own learning and for their peers'.

CONCLUSION

Musical creativity can be advantageously considered as collaborative, and musical interactions can be understood as inherently creative. In this paper we have addressed this reciprocity in the context of music education and community music by discussing three recent qualitative studies and examining their results through the lenses of embodied cognitive science. Such an interdisciplinary liaison can provide advantages for educators and music teachers interested in developing pedagogies that promote inclusion and equality in groups, as well as personal growth and individual flourishing.

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