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STUDIO BASED COMPOSERS IN COLLABORATION: A SOCIOCULTURALLY FRAMED STUDY

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ABSTRACT

This paper presents research from an ongoing study analyzing the co-creative practice of two undergraduate studio based music composers working with two peers from dance and video production. Whilst empirical research has explored joint creativity and group working processes within and across performing arts disciplines (including music), situations that bring undergraduate studio based composers into interdisciplinary collaborative creating have not previously been studied. Framed by a sociocultural theory of human activity, this research is looking at how creative achievement and the local social context for creative work is constituted through interaction. This paper explains the sociocultural methods used to build a sequential analysis of joint activity, presenting an extracted analysis before concluding with a summary of some early observations of the issues music technology students can face when creating new work collaboratively.

1. INTRODUCTION: SOCIOCULTURAL THEORY

Socioculturally framed research explores the inter-relationships between human activity, tools, knowledge, and contexts of activity; every action is formed in relationship with the historical, cultural and social contexts in which it is situated. The research presented here is grounded in Vygotsky's theory of human development; framed by these sociocultural principles to researching naturally occurring joint activity.

Vygotsky saw human individuals and their societies as being linked by language into a historical, continuing, dynamic interactive, spiral of change.[8]

There is therefore an emphasis on temporal genesis in joint achievement, and also observation of how activity is mediated through culturally developed symbolic, physical and also conceptual tools, including the psychological tool of language[15][16]. Furthermore, individual as well as socially developed knowledge is considered to be an important mediator in human and societal development. Inspired by Vygotsky's work on the mediated development of thinking, Louis Moll (et al's) concept of *funds of knowledge*[10] illustrates that understanding is developed through observations of how communities function, providing children with knowledge that can be drawn out in the classroom.

Whilst the concept was developed to be used in school, it signals a potential resource for joint creative activity. Sociocultural theory presents multiple contexts for activity that may be resourced in collaborative effort. Per Linell explains that context actually signals many *contextual resources*[6] that can be utilized through interaction in joint activity. Two kinds of contextual resources are presented: 'local' and 'non-local'. The local context includes the *surrounding concrete situation*, meaning a physical space and time. There is also a sequence of verbal and non-verbal actions, described by Linell as *co-text*. Examples of non-local contexts include; knowledge about a subject and anticipated future activities or events, knowledge about other collaborators, understanding about the conventions of an activity or situation, knowledge of an organizational or institutional context, and understanding of a set of interactional mechanisms and terminology[6]. These contextual resources can help collaborators to make sense, together, about what they are doing, and how they are doing it.

Socioculturally framed empirical research has documented and analysed the complex mediating interrelationships that occur in joint creativity in different music making situations, and in classroom based interaction. Situations of interdisciplinary creative work involving studio based music composers however have not been analysed in these terms.

1.1 Joint achievement within interaction

Sociocultural research of children engaged in group work has examined 'co-text' in the classroom, revealing various modes of interaction and their relationships to joint achievement. For example Mercer and Littleton present situations of *interthinking*[9]; describing how thinking happens collectively through language. Research in interaction illustrates how collaborative achievement is shaped by talk. Kovalainen and Kumpulainen's[5] analysis of classroom interaction observed a range of communicative functions, revealing the

...thematic nature of interaction and its moment-by-moment construction in the ongoing interactions.[5]

Their analysis displayed the incremental steps and patterns of interaction in relation to achievement. This approach enables an observation of the functions displayed in each interactional turn within dialogue. Maarit Arvaja's[1] discursive approach to group work

analysis illustrates how children develop a shared understanding of what they are doing by drawing their shared experiences and understandings, local physical objects and environments and wider values and cultural knowledge into their interaction. This utilizes Linell's characterization of contextual resources to document how joint practice is resourced by context. Using discourse analysis it is possible to characterize sequences of interaction, observe the functions of talk across different settings, and also document how members of a collaborating group develop common knowledge about what they are doing.

1.2 Common knowledge in co-creating

Empirical research in creative collaboration has shown that familiarity and common knowledge influence what is achieved in various co-creating situations. For example, MacDonald and Miell's study of friendship pairings in children's joint music composition[11] shows how friendship affords creative achievement. Keith Sawyer illustrates the affordance of shared knowledge to joint creative achievement in research of jazz and also theatre improvisation[13]. This work explains how common knowledge of repertoire and interactional rules affords creative synergy in performance. Further research of *distributed creativity*[14], this time in improvised live theatre performance, includes Sawyer and DeZutter's[14] work on *collaborative emergence*: group creating situations where the output of activity is completely open (unlike the performance of a pre-composed work), where each contribution depends on the one just before it, where the effect of an action can be changed by subsequent actions and where there is equality of contribution within a group. In this setting, the nature of co-creative achievement is distributed, retroactive and contingent[14]; as with co-text, in improvised creativity each event is understood in a local context influenced by prior events and reframed by subsequent events. There is a building of common knowledge and local context through co-creative practice.

John-Steiner's theoretical work reflects on long term collaborative partnerships[4], mapping various social contexts of joint activity: sometimes involving two people with very similar knowledge (say two sonic artists), or sometimes two people with very different funds of knowledge (a dancer and a sonic artist). Sociocultural research focuses on collaborative emergence to understand how people build common understandings of what is being done, and how they create work jointly. This study is exploring how students who work within and across different disciplines build common knowledge through joint practice over time.

1.3 Studio based composition in sociocultural terms

The domain of computer music is characterized by a significant range of technical and creative processes with their own relationships to physical, symbolic, conceptual and cultural tools. Nuhn et. al's study of creative process

in electroacoustic music[12] illustrates how tools used shape creative process. It also accounts for how the results of computer-based composition can be relatively unpredictable and connected with the composer's experience. Electroacoustic composers choose to use the tools and contextual knowledge in different ways: composing with existing software, modifying tools available in composition, and often to designing interfaces, techniques and technology for specific purpose[12]. The creative achievements therefore of a studio based composer are shaped by these local and non-local contexts; new work is developed within a mediated relationship with the technology used, and a knowledge of the conceptual and physical tools of the domain. When involved in *joint* creative practice further non-local contexts are introduced, potentially disrupting the creative process very significantly:

'...joint activity has multiple agendas, goals, contexts, tasks, and actors with different intentions. It involves dynamics of agreement, disagreement, and coordination of participants' contributions.' [7]

This study is observing how students who create work in a particular set of contexts negotiated the process of collaborative creativity within and across different academic domains. It is recording the contextual resources utilized through interaction over the life of their collaborative project. Focusing on talk as a functional and constituting tool, it asks how co-creative activity is shaped by talk, in specific moments and across time. It is also observing the emergent development of local understanding, over time and in different social contexts. To do this the following central questions are being addressed:

- How does interaction resource and constitute the local context of joint creating over time?
- How is co-creative achievement shaped by talk in moments of collaborative emergence across the life of a collaborative project?
- How do undergraduates from the same and different creative practice disciplines develop a collective understanding of what they are doing jointly?

2. THE STUDY

2.1 Study setting

In October 2008 a cohort of final year creative and performing arts undergraduates were given the opportunity to undertake an assessed, 12 week cross-disciplinary collaborative project. The group selected for this study consisted of two studio based composers, a dance specialist theatre student and a video specialist theatre student. They worked together on the completion of a single, open-ended creative project that received a public performance in January 2009. The students devised individual learning contracts, attended regular production meetings with a designated tutor and delivered an assessed group presentation about their work.

2.2 Data collection

Background information was collected about the students' individual creative knowledge and skills, collaborative experience, and knowledge of the other disciplines and students in their group. Over the life of their collaboration group tutorials were video recorded and more than 20 hours of joint activity was audio and video recorded. The recordings were made in computer production studios, theatre spaces, home studios and public spaces such as the campus café. Often, when there was no researcher present, the music technology students made their own audio recordings of project related discussion. The final performance, assessed group presentations and a final focus group reflecting on the students' views and experience were also documented.

2.3 Analytic method

A set of creative facets were identified for analysis. They are the recurrent creating points discussed most often by the group members over the collaborative period. These facets are: structure, concept and aesthetics, space in performance, and audiovisual relationship. Two analytic approaches were applied: interaction analysis, and a form of discourse analysis, which is explained below.

The types of interactional functions [IF] were documented and transcribed, then interactions were coded and examined, revealing patterns of interaction. This work reveals the moments where understanding is being developed, how creative ideas are introduced and negotiated, as well as areas of the collaboration that resulted in the development of common knowledge. Figure 1 presents a selection of some of the interactional function codes used in this study.

- CS/CR – creative suggestion/creative rejection
- Co – concern expressed
- E – explaining
- A - agreeing
- QI – question for information
- Su – Support (also shows understanding)
- U – Understanding

Figure 1: Some examples of interaction functions

This study also adapted a form of sociocultural discourse analysis from Arvaja's analysis of how students negotiate a shared meaning of the work they are making. Arvaja identified three broad contexts in her data. Firstly, the immediate (perceptual) context: meaning the physical concrete resources. Secondly, the local context: the evolving unit of a collaborative team, who are building a local knowledge through collaboration. Thirdly the sociocultural context: the wider resource of social and cultural events beyond the immediate collaboration. The study presented here embraces these contexts to examine the development of common knowledge and identify the tools, values and other contextual resources utilized in the students' co-creative practice.

2.4 Analytic excerpt: common knowledge explored

Figure 2 presents a brief sequence that illustrates how sociocultural discourse analysis can reveal the different contexts and interaction function patterns. It shows collaborative emergence, distributed contributions and reveals how knowledge is developed.

Turn	Dialogue	IF
1 C1	I was thinking of doing the piece in this, so we'd get one microphone, stick it in the centre of the performance space, that records everything, sort of how Jazz bands used to be recorded, and then, we take that recording, we will have already got all of the movement for the surround sound and then we could, set the speakers in that showing space that we were talking about so we get the full 3D sounds then, but, I don't know, it just seems like it would be a good way to go about it that...just put the microphone in the middle.	CS
2 C2	Instead of having four speakers, you're basically gonna have 16	E
3 C1	We could work [with 4, if we can] only get 4 ()	E
4 C2	[set in the space]	E
5 C2	But that's even there could maybe get some upwards direction and downwards direction	Su
6 C1	Yeh	
7 TD	It would make it more of a challenge for you as well if you	U
8 C1	Yeh	A
9 C2	Yeh its	A
10 TD	I'm cool, I am cool with anything [that] you guys do	A
11 C1	[yeh]	

C1= Composition student 1, C2= Composition student 2, TD= Theatre based dance student . [] = overlapping speech, () = unclear speech,

Figure 2: Transcription extract from first group meeting. Creative facet: space in performance

The extract is taken from a moment in the students' first meeting. The composers have suggested that they could work with ambisonics; explaining, jointly, what that means to the other students. Here they develop a common understanding of the system in their co-text as information on how they each visualize the final piece is revealed and negotiated. Building a common knowledge of what they will be doing a 16 speaker rig is suggested, then 4, and then a suggestion on speaker placement. Dialogue often shows this kind of interthinking, challenging and correcting as the group imagine how they will make work together. This starts with a creative idea, moves through mediated explanations towards agreement, support and subsequent concerns. This sequence also reveals how specialist identities are formed through interaction: in describing the speaker arrangement the composers present their joint identity as the sound specialists. In turn 10 the dancer reinforces their joint identity: 'you guys'. This illustrates her trust in them as sound experts, apparently handing over to them responsibility for this concern.

Several contextual resources are utilized. There are multiple references to possible future activity: how they might record sound, what kind of system they might use and the possibility of only being able to use 4 speakers. When explaining their idea their knowledge of the domain is resourced: there is reference to ambisonic recording and its use in recording Jazz. Also, their knowledge of anticipated physical resources available is shared.

Finally, the local historical context shapes a common understanding of their values for what must be achieved: in turn 7 the dancer suggests that these proposals will generate more challenge for the composers. The composers had previously expressed concern that there should be enough to challenge them in the project.

This excerpt illustrates an unfolding sequence of retroactive and contingent turns where identity, domain knowledge and shared knowledge of local past and future activity become contextual resources utilized in the process of building creative work and the local context of making.

2.5 Discussion of early findings

The analysis is ongoing, however this work reveals some early observations around the issues that can face undergraduate studio based composers involved in collaborative creating: Firstly, imagined future joint activity is utilized as a contextual resource for developing a common knowledge of how collaborative process involving multiple technologies can be navigated. The students explain how they imagine their dialogue and co-creating experiences might unfold. Additionally, the findings show how the students' technical knowledge informs their imaginings of how they anticipate devising a soundtrack jointly. The practical problems of working collaboratively across disciplines also are revealed. For example dialogue about the aesthetics of the piece informed a common knowledge of what types of sonic timbres and gestures were to be used. Finally, this work is showing that different understandings about technology and terminology afford more sustained exchanges between the composers than between the composers and the other students.

3. FUTURE WORK

This sociocultural approach to analyzing co-creative activity provides a map of collaborative emergence, revealing how creative work and the context of joint activity are constituted through interaction. It could become a useful tool for creative practitioners interested in understanding their own collaborative activities. Future research will look more closely at the findings of this study that relate to the challenges faced by studio based composers engaged in co-creative practice.

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