Talking Like a Composer: Negotiating Shared Musical Compositions Using Impromptu

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Abstract: Research in CSCL has largely focused on mathematics and science while little research to date has focused on the arts and particularly music. However, very little is known about how tools to support shared musical performance and composition might foster heightened musical understanding. The current study focuses youth engaged in a collaborative remixing of Beethoven's *Ode To Joy*. Early findings suggest that, through collaboration, meaningful discourse around structures and logic in music composition takes place.

Introduction

Research in CSCL has largely focused largely on mathematics, science and to some extent language arts, while little research to date has focused on the arts and particularly music. As way of illustration, a search for the term 'music' in the *International Journal of Computer-Supported Collaborative Learning* (IJCSCL) database yielded only eight results (IJCSCL, 2010); most of which described the sharing of music as an activity that users engaged in while none dealt specifically with the discipline of music as a collaborative activity. However, what was once a seemingly complex, predominantly passive, and individualized digital activity (i.e., the listening to music) is now developing into a highly collaborative, and creative endeavor facilitated by the advent of new computer programs that facilitate composing and sharing of music in new ways, which has largely been ignored by researchers and educators (c.f., Salavuo, 2006). People, especially youth, are no longer 'passively' listening to music, but actively engaging in it through several pathways: Video games like Guitar Hero and Rock Band, for example, are changing the listening experience to an active, engaging, and musical one (Miller, 2009; Authors, Lindsay, and Hay, under review) in which players report they listen more deeply to the structure of the song than they had in previous hearings. Computer programs, like Impromptu (Bamberger, 2000) and Garageband, have also changed the listening experience and the lines between composer and listener have since become blurred. This is now an apt time to investigate how the computer aides in fostering and developing discourse about music both in- and out-of-the-classroom. Using a constructionist approach to learning and development, the current study sought to better understand how to support disciplinary learning in music through computer-supported collaborative discourse. More specifically, our study sought to answer the following questions: Do youths' conversations reflect a deep understanding of the complexities of music composition? Are the content of these conversations reflected in their own music compositions?

Research Approach

The project took place from January to May of 2010 in a mid-sized Midwestern elementary fifth-grade classroom within a college community. The classroom consisted of 22 (12 girls and 10 boys) middle to upper middle-class youth with mixed ethnic and religious backgrounds. To facilitate the activities, researchers utilized the computer program *Impromptu* that allows users to engage with the structural functions of music—music from its meaningful chunks—rather than at the singular note level (Bamberger, 2000). A specific feature, not found in any commercial type music making software, is the importance of documenting the users decisions and why they were made; essentially getting at the notion of 'what happens if…' From the beginning, youth were asked to document their decisions while reconstructing and remixing tunes. However, early investigation into the youth documents revealed their writings were process-based, which was not useful in understanding how youth engage with music and composition. To help youth understand the importance of writing the reasons of *why* they did what they did, researchers set up a class discussion around remixing the popular tune *Ode to Joy* by Ludwig van Beethoven. The researcher acted as both the investigator and discussion facilitator. The resulting videotaped classroom discussions were transcribed and further analyzed utilizing an exploratory and thematic analysis for this proposal.

Theoretical Framework

Music, at its core, is a constructive and creative activity and the theoretical framing of Constructionism ties in closely with music. Constructionism is a framework that builds off the Piagetian notion of constructivism and adds that learning happens best when learners are actively engaged in making a shared, external artifact, which in this case is both the collaborative conversation as well as the music composition (Papert, 1980; Kafai, 2006). Moreover, there are many interesting tools, like Impromptu, that have been developed with a Constructionist frame of learning to foster deep learning from the purposeful design of new artifacts.

Findings

The initial plan was to have a simple 10 to 15 minute discussion, however, the discussion lasted almost an hour with deep, collaborative, and well-mannered conversations in which complex musical functions and concepts were emerging through their discourse. This finding suggested to us that collaborative methods for composition aided by the computer are productive learning spaces, which stands in stark contrast to the methods in which composition is usually taught in academia as a solitary, isolated activity.

Second, findings suggest that youth while collaboratively constructing a new tune from familiar musical 'chunks', think and speak deeply about musical concepts that were thought to only reside in the trained professional. The first highlights the collaborative discourse about specific structural changes to the song. Specifically, the students are discussing how the song would sound with the tempo sped up considerably from 130 beats per minute (bpm) to 230 bpm.

> Researcher: Because if we change the tempo it is gonna change…
> Sammy: Yeah, it is gonna change all the tune blocks
> Researcher: Yeah its gonna change the entire…
> Keith: I know, but that would be cool.
> Researcher: Well let's try it and see what it sounds like.
> Gary: Not until were done.
> Sean: I want to do it now.
> Foster: Wait, wait before we think about what are we at right now so if we don't like it we can come back to it.

This exchange demonstrates that it is possible for the whole class to negotiate and think through structural changes of the song in a productive manner. Furthermore, it gets the students to think more deeply on how the tempo changes the song, which is a difficult concept to get at just by listening, which is demonstrated in the following reflection made by Pia:

> Pia: Well, I don't really like it going this fast because you can't really enjoy the song, I mean I like it fast, but I don't like it this fast…it's sort of just a monotone of just notes

This passage highlights how Pia is thinking about how the tempo of the song affects the overall outcome of certain passages in the song. Her mentioning that "…a monotone of notes" implies that the listener would not be able to hear and appreciate all the notes that are being played because of the tempo being as fast as it is. It is dilemmas such as these that professional composers think about when engaging with a piece of music. However, what the professional composer does not have is collaborative feedback on his or her decisions.

Implications

Music as a discipline is an under researched area in the field of computer-supported collaborative learning. What this research shows is that youth think about music much in the same way that professional musicians do just using different language to get at their meanings and through their discussions they acquire new domain specific language to use (e.g., tempo). The computer and other hardware devices are tools that can mediate this type of discourse. This research also highlights that certain musical functions serve a purpose (e.g., slower tempo allows for deeper listening) much like the "+" sign in math serves a purpose. Youth, in their collaborative discussions, recognize these functions and discuss their purpose on a much deeper level than just 'finding an answer'. Further research will be conducted to investigate how youth engage with both synchronous and asynchronous music learning spaces and how these spaces support learning.

References

Authors, Lindsay E. C., and Hay, K. (under review). The Nirvana Effect: Tapping video games to mediate music learning and interest. *The International Journal of Learning and Media*

Bamberger, J. (2000). *Developing musical intuitions: A project based introduction to making and understanding music.* New York, NY: Oxford University Press.

International Journal of Computer-Supported Collaborative Learning. (2010). Accessed October 17, 2010 from http://www.springerlink.com/content/1556-1607/?k=Music

Kafai, Y. (2006). Constructionism. In R. K. Sawyer (Ed.) *The Cambridge Handbook of the Learning Sciences* (pp. 35-46). Cambridge, MA: Cambridge University Press.

Miller, K. (2009) Schizophrenic performance: *Guitar Hero, Rock Band,* and virtual virtuosity. *Journal of the Society for American Music, 4,* 395-429.

Salavuo, M. (2006). Open and informal online communities as forums of collaborative musical activities and learning. *British Journal of Music Education,* 253-271.