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REALISING THE POSSIBILITIES OF TECHNOLOGY IN MUSIC EDUCATION RESEARCH AND PHILOSOPHY

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Introduction

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Computer systems as a medium have the ability to be programmed. Software can be written to simulate existing practices, including audio recorders, manuscript typesetters, or analogue drum machines. It can also be used to create new concepts and structures previously only imagined; which can include new musical instruments and musical tools. Software designs can incorporate principles of interaction or epistemology and as such the usage of such software can be a concrete proxy for the ideas they embody. In this way software design can be an important part of an iterative research process where interaction with the software can be used to better understand the efficacy of the ideas. Research methodologies that utilise software development in this way are commonly used in software engineering and particularly in the field of human-computer interaction. These processes utilise observations of iterations development much like Action research also incorporate the further modeling of an idea within the design of the software. However, these researchers are mostly interested in the effective operation of the software. We propose that software development can be used to reveal understandings about music education that are exposed for examination through the design and use of the software. What is important about these for music education is firstly that these serve as examples of new approaches to research and philosophy that can give us insights into how humans engage with creative production and secondly that they offer an opportunity to make ephemeral and abstract experience present and observable. In the same way that a physicist might model the behaviour of atoms it is possible to model a musical environment and observe how users interact within that defined context.

In this summary and presentation we will discuss these kinds of implications through two research studies in music education which have shown the capacity to embody and model theory in a technological form and further provided repeated iterations of interaction with the theoretical model by users. We believe that the musical relationship with digital technologies can both reveal and conceal possibilities and deficits in a student's musical skills and abilities. If this idea is not interrogated by research, the educational implication of this relationship poses real risks and missed opportunities for the future. We hope to stimulate discussion about the potential for digital technologies to enable new relationships with music that unlock new potential for research and philosophy of music education. The focus is on how the projects reveal something about how we might conduct research using technology so that it takes advantage of the concretising aspects of digital representation.

Key Findings

- Working with networked jamming and ePortfolio systems engages and motivates both students and teachers.
- These projects demonstrate the expressive possibilities and the potential for innovations to address problems we experience in music making and music education.
- When the technology provides real benefits then we can focus on its expressive qualities,
- When it becomes ubiquitous then these benefits become normalised and the standard of our music education research and practice rises across the board.

Comparison of Cases

jam2jam represents an opportunity for music-makers to have interactive experiences with musical knowledge in a way not otherwise previously available. It enables children, adults and the disabled to enter into a collaborative community where technology mediates a live ensemble performance. The experience could be an ostinato pumping out hip-hop grooves or as a Xenakis chaos algorithm. What is important here is the access that the users have to meaningful engagement with others in the production of music. This is facilitated by the fact they can get started easily, tightly combine reflection and action, and have an authentic and social musical activity with computer (normally associated with solitary and virtual experiences).

DMAP-ePortfolios demonstrate that, when we assess, evaluate or critique musical production or performance, our discussion need not be limited to abstract explanation, but that we can recall, review, talk about, talk over, annotate and analyse musical products, processes and experiences with music present in the conversation. A DMAP-ePortfolio represents the possibility of being more rigorous and accountable than assessment approaches that are limited and filtered by their alphanumeric based analysis and evidence. While operating computers is alien to some music educators, we need to be able to see through the technology to the playfulness of the process and expressive qualities of the music and the opportunities for knowledge in the environment like children can. As Heidegger suggests technology both reveals and conceals both aspects of our own prejudices and epistemological positions.

Conclusions/ Implications for Practice

These cases show how digital technologies can be used to improve music education. These approaches for music educational research should become normalised within the music education community. Instead of arguing for the use of these methods in the future, our research discussions could focus exclusively on amplifying creativity and issues of meaningful engagement with music making. To change this focus the educational community needs to accept computing technologies as commonplace and uncontroversial, and define a clear agenda for rigorously documenting the possibilities of this technologically-mediated relationship with music that will lead to philosophically informed principals for musical interactions.

Computing technologies can be used to increase access to authentic musical experiences. Music experiences with generative and networked environments are scaffolded by the technology. In DMAP-ePortfolios we harness the interoperability of digital media to enable sound, vision, text and number to be combined in reflection. In both cases, digital technologies have enabled us to keep music present in reflections and conversations about music that will lead to better understanding and practice.

[Return to Contents](#)