

PANEL REPORT ON RESEARCH IN MUSIC EDUCATION TECHNOLOGY: WHERE DO WE GO FROM HERE?

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Below is a transcript of the research panel session held at the National Conference of the Technology Institute for Music Educators (TI:ME) on Saturday, February 3, 2001 at 12:30 pm. The transcript was written primarily from memory, but with assistance from the panelists. The chair and moderator for the discussion was Dr. Bill Bauer of Ball State University. Panelists included Ms. Debra Barbre (Roland U.S.A), Dr. Steven Estrella (Temple University), Dr. Peter McAllister (Ball State University), Dr. Floyd Richmond (West Chester University), and Dr. Thomas Rudolph (Music Coordinator, Haverford School District).

Bill Bauer (Moderator): All research originates with a question or problem. What are the important questions related to the educational uses of music technology that we need to answer?

Steven Estrella: At the elementary level, music study is required of all students. At the secondary level, music is largely an elective. Does the presence of music technology motivate students in secondary school to remain involved in music? If so, do these students demonstrate musical skills not present in their peers who are not involved in music programs? For elementary education, the question of efficacy continues to be central. If music technology does not increase music fundamentals in elementary school children, does it have any other demonstrable effects?

Tom Rudolph: It is suggested that across this nation only about 1% of students participate in performing ensembles. How can we reach the remaining 99% who are not in the band, choir, or orchestra. Music technology can be an excellent tool for this purpose. Research should document this.

Bill Bauer (Moderator): One area we should explore is the way technology allows us to adapt instruction to individuals. Studying the way individuals with different learning/cognitive styles approach uses of music technology would help us to better understand uses for technology that are pedagogically appropriate. Also, technology can adapt to the student, allowing for different paths to be taken through instructional materials.

Floyd Richmond: Many research studies have identified areas in which the use of technology produces better results than traditional methods. There are, however, numerous teaching techniques and technological applications that have not been examined. There is a need to continue to work to identify areas in which the use of technology produces better results. In summary, we need to continue to identify “best practices.”

Peter McAllister: Many studies comparing music technology to traditional methods have produced similar results.

Bill Bauer: Good teaching is good teaching, whether done on the computer or through traditional means. It is not surprising that technology frequently produces about the same results as good traditional teaching.

Peter McAllister: Of course, it is worth noting that the use of music technology frequently produces better results and attitudes than traditional methods.

Audience Participant (Michael Crist from Youngstown State University): Many of us at the conference appreciate and understand the value of technology in education. How can we communicate to our administrators the importance of funding technology at such a great expense?

Floyd Richmond: The Mellon Foundation is funding a number of studies that examine the cost effectiveness of technology in education. These studies are part of their Cost-Effective Uses of Technology in Teaching program (CEUTT). A number of their reports are found on the web (<http://www.mellon.org/ceutt.html>) and they are funding additional studies that may provide some guidance. In truth, some of their cost models, which take into account the number of students served and the life of the equipment among other factors, are somewhat complicated.

Peter McAllister: This issue is a bit of a contradiction. When was the last time that you heard an administrator ask: “How can we justify the cost of blackboards or chalk?” These are accepted tools of teaching. When televisions and tape recorders first appeared, there were calls for research to justify their use in the classroom also. Now they are accepted tools for teaching.

Audience: We have administrators who are increasingly dollar conscious. Many of them are concerned about the ever increasing cost of funding educational technology. We need practical suggestions on how to justify these expenditures.

Floyd Richmond: Commonly in research we compare one teaching approach to another. In the area of justifying expenditures, the case may be helped by identifying those unique things that can be achieved with music technology, things that cannot be achieved in any other way.

Tom Rudolph: Would it help if TI:ME were to post research and other materials to its web site which will help justify expenses?

Audience: Yes.

Bill Bauer (Moderator): Good research has a basis in theory (learning theory, etc.) and tests that theory. This can enable the results of an individual research study to be generalized to a wider context. Are there theories that we can use as a basis for research in the educational uses of music technology? Or, do we need to develop theories (which may imply the use of certain types of research designs)?

Audience Participant (Jack Taylor from Florida State University): We absolutely need to base our research on theories of learning. We need to build on the ideas of others.

Bill Bauer (Moderator): Are there other ideas for research?

Audience Participant (Howard Fredrics from Texas A&M University): The use of technology to make interdisciplinary connections is important.

Floyd Richmond: The MENC National Standard #8 emphasizes interdisciplinary connections. The remainder of the MENC standards also provide a framework for additional research and study.

Audience Participant (Dennis Mauricio, Hilltop High School): We should study the MENC standards and other areas as well (including performance areas).

Bill Bauer: A doctoral student of mine completed her dissertation last year, looking at the way music was actually being used in the classrooms of elementary classroom teachers (not music teachers, but general education teachers). She found that it wasn't being used much at all, and when it was, it was in a fairly superficial way. For the first time this year, we are using the program Music Ace (I and II) in our music for the elementary classroom teacher course at Ball State. The pre-service teachers in this class love this program, and are extremely engaged when using it. Technology such as this might be a way that the elementary classroom teacher, who often is not very confident in their own musical knowledge and skill, can teach about music in a way that has meaning and is pedagogically appropriate. This area is ripe for further study.

Steven Estrella: Another area is the study of what makes an effective interface. Electronic keyboards in particular suffer from poorly implemented interfaces.

Audience Participant (Dennis Mauricio, Hilltop High School): That's right. How hard would it be to put a local on and off button on the front of the synthesizer! This essential tool is usually buried beneath several subwindows of menus.

Debra Barbre (Roland): I know that instrument manufacturers would welcome this (ideas from researchers). As a long time employee in this industry, I can confidently say that the instrument manufacturers don't really have time to do this research themselves.

Panel: Surely there must be a focus group that examines different possibilities and tests them for ease of use.

Debra Barbre: Not necessarily. Typically, an engineer designs the interface. The assumption would be that this person would be able to design an effective interface.

Audience/Panel: Engineers create much of the software and hardware that we use in music. This frequently results in an overly technical interface. Engineers should seek to move closer to the musician's way of thinking.

Audience Participant (Howard Fredrics from Texas A&M University): Actually, my viewpoint is that musicians need to learn more about engineering.

Steven Estrella: It is worth noting that we use Italian terms in music because of the dominance of Italy in music from a specific period of time. Perhaps there is a parallel.

Floyd Richmond: There has been some significant research on the interface between people and machines. The organization, the Association for the Development of Computer Instructional Systems (ADCIS), which was at one time a partner with the Association for Technology in Music Instruction (ATMI), published a journal with a wealth of information on what constituted a good interface, especially for computers.

Audience: There are numerous instances where this type of research would benefit educators. Anything that could be done to make software and hardware more user friendly would help.

Floyd Richmond: We have a similar problem in the field of research. That is, there is a disconnect between researchers and the people who would most benefit from the research. Those who teach and those who produce course materials don't always apply the lessons learned. One question we must ask ourselves is, "How can we make these connections?"

Audience Participant (Jack Taylor from Florida State University): Research must be produced in two versions. One must follow the traditional pattern understood by researchers who can examine the data, validate the study, and, if desired, replicate the results. The second must explain in everyday language the application of the technology to those who could use it.

Tom Rudolph: An excellent example of this is the way in which recent research illustrating the benefits of music study has been restated by the industry as “Music makes you smarter.” Although in this case, this is probably an oversimplification, it illustrates the point that even the most difficult research can be presented in a way that can be understood by the average teacher.

Bill Bauer (Moderator): There is a danger in over-generalizing or exaggerating the results of research. The media love to do this. The Mozart Effect was a very short term (10 minute) increase in one type of intelligence—spatial reasoning. I don’t think we want to make the claim “music technology makes you smarter.”

Peter McAllister: Many studies have been done on this issue but (1) improvements are not dramatic, (2) not all studies can be replicated, and (3) placing all of our eggs in one basket, especially such a potentially fragile one is dangerous.

Audience Participant (Frank Clark from University of South Alabama): A better justification is that music makes you human! This argument has never failed. Music is worthy of study precisely because it is a unique human activity.

(Applause)

Steven Estrella: That’s right, not even the most intelligent animals make music.

The panel session ended with the following request for music technology resources:

Bill Bauer (Moderator): What are literature resources, both inside and outside of music, that music technology researchers should be examining and using for the dissemination of their work? Also, what are the funding sources?

Educational Journals

Society for Information Technology and Teacher Education

<http://www.aace.org/conf/site/>

Music Journals

The Journal of Technology in Music Learning (JTML)

<http://www.auburn.edu/musiceducation/JTML/>

Technological Directions in Music Learning e-journal

<http://jmr.utsa.edu>

Journal of Research in Music Education

<http://www.menc.org>

Conferences

Technology Institute for Music Educators (TI:ME)

<http://www.ti-me.org>

Technological Directions in Music Learning (TDML)

<http://imr.utsa.edu>

The Association for Technology in Music Instruction (ATMI)

<http://www.music.org/atmi/>

The National Symposium on Music Instruction Technology (NSMIT)

<http://www.auburn.edu/musiceducation/NSMIT>

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Music Research Institute (Carlsbad, California)

Department of Education - PT3 grants

National Endowment for the Humanities

National Endowment for the Arts

National Association of Music Merchants

The research panel was one of several research oriented sessions at the TI:ME conference. Exceptionally notable were research sessions by Dr. Peter Webster of Northwestern University, and Dr. John Deal and Dr. Jack Taylor of Florida State University.