Reforming Secondary Music Teaching in the New Century'.

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Abstract

This article argues/or a redefinition of how secondary music teachers might think about teaching content. Rather than considering only performance-based education that reaches only a small portion of the secondary school population, music teachers should consider composition, improvisation, and active listening as important additional concerns/or a wider population of students. Such an approach is important/or serving gifted and talented students as part of mainstream instruction and is in tune with latest developments in curriculum design and research. Construction as an educational philosophy is suggested as a conceptual base and advances in music technology and the encouragement of creative thinking are cited as important contributions to this reform.

Tony Rossi stared out of his second-floor window at the rainy winter sky. The northern Louisiana town of Blakely was suffering through the fourth straight day of rain, and many of Tony's fellow teachers at the high school were feeling irritable. His gaze shifted from the rain outside to the computer-generated music scores on his office desk. The sound system in his office was playing the last few measures of a jazz/rock tune called "Strong Coffee" performed by a group of talented students from his ninth-period music composition class. The composer was Sharon Miller, a member of the same class and a promising senior at Blakely High.

After making a few comments on Sharon's score regarding the harmonies used in the last bridge section, Tony felt ready for his Friday afternoon class. Unlike a few of his colleagues who were sick of school and the rainy weather and were hoping for a brighter weekend, Tony was actually sorry the week was coming to an end. He had not been able to do all he wanted to this week with most of his classes, and he worried about how far behind he was in providing feedback for all his students' projects.

Tony was also concerned about the progress of his band students on the group Internet projects, which dealt with the historical context of the band music being performed. Then there was the special after-school improvisation club he had organized for the many students interested in guitar playing. He also could not forget about the integrated arts units he was creating with the English and art teachers.

Tony was beginning his sixth year of teaching music at both the middle and senior high schools. He had been hired as an "instrumental" teacher with the responsibility of developing the middle school band program and assisting at the high school with the marching band--a typical assignment. Much had changed since those early days as a first-year teacher. He still conducted the middle school band and worked at the high school, but he had completely redefined what he first imagined a "band director" to be. This redefinition had come to pass because of several forces in his professional development:

* Summer graduate work for a master's degree had introduced him to several new ways of thinking about what a music educator should be. He had learned that his philosophy of music teaching was based almost exclusively on a performance/product model. Yet, other, more far-reaching views that involved process were equally important (Reimer, 1989).

* The voluntary National Standards in Arts Education (1994) had caused the local school system to revise its music curriculum, and he had played an important role in the construction of more comprehensive goals for the students.

* Readings in psychology and education (Gardner, 1987; 1991) had reinforced this perspective and had

focused his attention on how he was encouraging long-term music learning. He had begun to sense that his focus on technical mastery of music performance skills was not really developing students' creative and critical thinking and aesthetic decision making (Webster, 1990).

* Finally, his growing understanding of music technology and the rise of teaching possibilities offered by the Internet had assisted him in changing traditional teaching techniques (Walters, 1999). He no longer felt that he needed to be the center of all musical knowledge for his students and that his responsibilities as a music teacher went far beyond the confines of his classroom and rehearsal hall.

Reforming Music Teaching to Include a Wider Audience

Secondary music teachers like Tony in schools like Blakely are coming to realize the need to redefine what they are striving to accomplish (Vincent & Merrion, 1996). Traditionally, only a small percentage of students in secondary schools is offered music instruction, especially in high schools where only ensemble classes are offered regularly. Even this kind of music experience is limited to the ability to sing and play a music instrument, and the instruction offers no comprehensive experience in music listening, composing, or improvising.

Too often, music education--as an "arts" program--is seen as a "special" set of offerings for the gifted students in a public school. Communities view the music program as a wonderful addition that brings elegance and pageantry to a school in good financial times. When times are bad and "belt-tightening" is necessary, music and other arts programs are the "specials" that need to go (Mark, 1996, pp. 73-122).

One reason this circumstance has become a classic problem in American music education is that it is embedded so completely in the history of our field. Since the beginning of the 20th century, music educators have seen themselves as music performance educators, especially in the secondary schools. Most school systems offer general music instruction in the elementary and middle school grades for the entire school population. This instruction often consists of listening, movement, singing, and some performing. Music study becomes optional for older students in higher grades (Mark, 1996, p. 11).

The small number of students exposed to comprehensive music education is what concerns Tony and hundreds of other contemporary music educators. By employing a more holistic approach to music teaching that involves composition, improvisation, and more focused listening activities, and by making it possible for many students to be involved in different ways, we influence a larger school population and teach music more effectively. Sharon Miller may never have studied piano or trumpet as an elementary student; but, because of Tony's program, she has discovered music later in life and may be more gifted than she realizes.

A Maturing Profession

Luckily, the profession is maturing. In his book on contemporary music education, Mark (1996) described pivotal events that began in the 1950s (p. 28). He cited the famous Contemporary Music Project, the Yale Seminar, the Juilliard Repertory Project, and the Tanglewood Symposium as important developments. These major events shaped our thinking about music teaching and learning in the last several years and were largely about broadening the content of our efforts to include more varied music experiences for a wider school audience.

This laudable desire to improve the nature of what we teach continues today. The Goals and Objectives Project, or "GO" Project, in the early 1970s helped to establish the current National Standards in Arts Education (1994), which stands as a monument to our continued desire to identify the best content for our field. The National Standards in music include nine content areas, including instrumental and vocal performance, music reading, composition, improvisation, music listening, music criticism, related arts, and music in cultural context. The standards are grouped into grade levels: K-4, 5-8, and 9-12. Content standards for each area and for each grade level also include achievement standards that help music educators plan instruction.

Underscoring these advances have been the influences from outside the profession, such as those in cognitive science (Gardner, 1987). Psychological, physiological, and philosophical perspectives about

learning have added much to our teaching. The Ann Arbor Symposium, which brought music education researchers and psychologists together in 1978 and 1979, was a major achievement for our field (Documentary Report, 1981). Research findings in the field of music education reached a new level of sophistication in the late 20th century, as can be seen by (1) the publication of the Handbook of Research on Music Teaching and Learning (Colwell, 1992), (2) the rising number of research journals in our field, and (3) the interest in research at state and national conventions. For the first time in many years, we also note the increased interest in research by 2 practitioners [2].

The interest in the broadening of teaching content, supported by advances in related disciplines and by our own improving research base, demonstrates a maturing profession. But, what may be equally exciting and perhaps even more powerful agents of change in our field are the advances in how we teach this content. I refer here to the extraordinary shifts in the way we structure the formal learning experience and how we deliver instruction. Three factors are worth considering: (1) changes in the underlying philosophy of instruction, (2) advances in music technology and the Internet, and (3) the value of creative thinking skills in music. Each factor has contributed to a new era in music education to which the Tony Rossis of our profession are responding.

Philosophy of Instruction

Good teaching should have a sound basis in philosophy, both in music and in education. One particularly powerful view of learning that holds promise is constructivism (Resnick & Kafai, 1996). With roots that can be traced to Dewey and others, constructivist thinking is not a new educational theory. This line of thought has been given a fresh perspective in recent writings on school reform (Gardner, 1991; Papert, 1993). The basic goals of constructivism are to place emphasis on creativity and to motivate learning through activity. Learning is seen as more effective when situated in activity, rather than received passively. In other words, children and adolescents learn best when actively involved in creating things. Of course, memorization is important and must not be eliminated; rather, such learning should be partnered with creative activities that allow students to demonstrate mastery through action. Each child should be allowed to construct his or her own understanding with the expert help of the teacher.

Table 1 provides a summary of shifts in educational thinking that can be traced, at least in part, to a more constructivist view. At the heart of these ideas is a shift away from thinking about education as being centered in the mind of the teacher to a partnership between teacher and student, with the teacher as the major architect of learning. Project-centered learning is celebrated with students solving problems. It is argued that, if children learn this way, they understood facts in a situated context that helps to make clear why the facts are important in the first place. Many of these notions have been cited as important for the education of gifted and talented students. I believe that they are at the bedrock of good teaching for all students.

Each of the "newer views" listed in Table 1 has associated consequences for how learning is structured in music education. When these views are merged with the nine content standards in music that comprise the National Standards for the Arts, music teachers are challenged to think in a completely different way about education. For example, imagine a middle school general music specialist who has taught music reading, listening, and movement using a teacher-centered approach with content that is fact- and skill-oriented. This teacher might find the idea of improvisation and composition in small, interactive groups that use self-assessment to be quite foreign. Technology-based collaboration over the Internet with experts from outside the school might be even more unusual, perhaps even threatening. Imagine a high school band, chorus, or orchestra director who might employ continual cycles of rehearsals and performance with little consideration for teaching of music context, interrelationships with other arts, a nd critical analysis of the music. This person is likely to find unusual the idea of (1) sharing the podium with student conductors, (2) discussing music content extensively, or (3) asking students to write reports about the music.

We have much to learn about structuring music teaching environments that encourage musical thinking--the kind of core musical thinking that really matters, the kind that goes beyond mere perception of surface sound. Constructivism as a philosophy of education has much to teach us in music as we consider the design of more effective teaching strategies to reach a greater percentage of today's youth (Boardman, 1989).

Music Technology and the Internet

In company with many contemporary music educators, Tony has realized the enormous power of music technology and the Internet as a way to deliver music instruction more effectively to a wider number of students. Music sequencing, notation, and digital audio software allow Tony's students to compose music in ways never before possible (Rudolph, 1996). Computers and synthesizers allow students to experiment with sound in creative ways, especially with the guidance of a teacher who understands how to structure project-centered learning in the classroom. Computer software that uses games, guided instruction, and simulation-- all to encourage creative exploration of sound--can now be found in middle and high schools. [3]

One example from the middle school curriculum might be Subotnick's Making More Music. [4] This software allows a class to experiment as a group or in small teams with the "drawing" of musical gestures in layers using a painting metaphor. The computer can translate the drawings into traditional music notation and allow experimentation with timbre choice, tempo, and dynamics. If the teacher wishes to explore form, the software allows manipulation of motives and phrases as the class learns about revision and extension of musical ideas.

Additional examples of how teachers are using technology can be found in several published sources. Fenton (1997) documents the use of multimedia in choral rehearsals, and Rogers (1997) offers a guide to resources across the curriculum. A recent article by Kassner (2000) summarizes how one computer can be used successfully in a whole-class environment. Especially useful are the real-world examples chronicled by Reese at the University of Illinois. His web site [5] documents teacher implementation of music technology.

Of course, the Internet has played a major role in stimulating the growth of hardware and software developments, aiding Tony's students in constructing their own understanding of music. The National Center for Educational Statistics indicates that, in 1998, 89% of public schools were connected to the Internet. [6] As the year 2000 unfolds, this percentage will certainly increase to meet the often-stated goal that every school in America should be connected.

David Williams and I have made a case for how networking and collaborative computing change the entire environment for learning (Williams & Webster, 1999, pp. 61-62). Table 2 represents a matrix of time and place with resulting implications for collaborative computing over the Internet. Each cell of the table provides possibilities for music teaching.

Cell A represents the more traditional same time/place scenario. There is minimal Internet involvement, yet technology is used to enhance music instruction. Everything happens in real time, including collaboration, rehearsal, and classroom instruction. Portable computers can be used in the same room for cooperative work, and an electronic "whiteboard" can be used to display the work done from all computers in the room. Tony can use computers with audio CD drives as teaching aids to accompany presentation software. Music can be taught interactively within computer labs in a scenario similar to class piano instruction.

Cell C suggests the use of the Internet as schools expand their instruction to more flexible time frameworks. Although information remains in a relatively local setting, access to that information can be more centralized and accessed at any time. Electronic portfolios in music can be maintained, along with other databases to support instruction. Network "drop" folders can be used to submit work, and progress can be monitored electronically and assessed on-line. Music teachers can help their students improve their improvisation, composition, or critical thinking skills in music remotely at any time of day. Tony can establish a local database of performances, compositions, and improvisations done by students like Sharon. Her "Strong Coffee" composition can be shared with others in the Internet community, and she can solicit suggestions for changes that might supplement and perhaps even contradict what Tony is reaching. [7]

Moving to cell B, we encounter virtual classrooms and meeting spaces that use the Internet as a way to connect different places at the same time. Music instruction is delivered to different places around the street corner or around the world simultaneously. Distance learning challenges the traditional notion of schooling funded by local agencies for local constituents. Imagine learning to play the trumpet, figuring out the structure of a Bach fugue as a basis for your own composition, or listening with understanding to a Mahler

symphony--all by engaging in instruction remotely. Tony can expand his teaching to include other schools in Louisiana, not just his own. This is being done now, of course, with specialized and expensive systems largely on the collegiate level, [8] but as the Internet develops in speed and capacity, this kind of instruction will be a viable option that uses less expensive resources for wider audiences.

Cell D suggests concepts that are the most radical and challenging for traditional education. Learning is not restricted to a common time or place. Musical knowledge is not delivered in any one setting at any particular time. If Susan wishes to learn about the symphonies of Beethoven, she can sample the teaching materials offered by different Internet sites at three o'clock in the morning. If she wants to learn some of the basics of flute playing, she can dial up a lesson by a teacher in Holland who might choose (or be hired) to help her. If she wishes to ask the aid of a composer in China to comment on her compositions, she might seek that teacher's opinion using the Internet as a basis for communication.

As radical and perhaps fanciful as these scenarios may seem, each one is real. Examples of each kind of teaching and learning in music can be seen today [9]. Growth of the Internet is offering news ways to think about music teaching and learning, supporting the constructivist position that has been outlined.

Creative Thinking as a Synergetic Force

Music teachers must work to balance convergent, right-answer strategies with more divergent experiences that engage students' imaginations (Webster, 1990, 1996). There is no better way to teach music as art than to routinely encourage our students to create music thoughtfully through performance, improvisation, composition, and active listening. When we ask children to exercise their own aesthetic judgments in this way, we are helping them to construct their understanding of music as art.

When Tony enters his composition class on Friday afternoon, he may well intend to inform his students about what harmonic content might be considered in bridge sections of jazz tunes. He might use Sharon's work as an example to analyze -- pointing out weaknesses and strengths from his perspective. Continuing in this convergent (linear, one correct answer) style, he might choose to revisit the circle of fifths and the modulations that might be created by moving to a closely related key. He might choose to play a recording from a famous rock or jazz group that demonstrates his point.

What he would not do, however, is drop this strategy and move on to another concept to teach. In a more divergent (nonlinear, many correct answer) style, the students could be asked to create a bridge section of their own. This could occur in small groups or as a solo exercise for next Monday's class. Work is contextualized using a combination of conceptual teaching and project-centered learning. In such a simple example, students of all ability levels should return with a better understanding of the problems because they were involved in the experience directly. This kind of balance between divergent and convergent teaching can also be achieved in traditional performance venues by asking students probing questions about the works they are performing, encouraging student opinion about interpretations, and requiring students to practice music by creating different solutions to complex performance problems. This kind of music teaching challenges students at all levels of achievement and is particularly meaning ful for more gifted and talented students.

Another example of this kind of teaching might come from Tony's project-based activities with the high school band. Figure 1 displays screen shots from a project featuring Gustav Holst's First Suite in Eb, a classic composition for wind ensemble. This portion of the project features the first movement, "Chaccone." The multimedia software used to display the project is Roger Wagner's HyperStudio. [10] Perhaps Tony asks a group of students in the band to return a project that demonstrates their understanding of this music both historically and musically. Using music technology software, the Internet, and their own analysis of the music, the students could return a project that shows their constructed understanding of the music they are scheduled to perform for the next concert. Along with the text, links on each card lead to graphics and sounds that highlight this understanding. Connections to Internet resources can extend the project still further.

Such projects allow students to make judgments about content, exercise their creative and critical thinking, and work with others to construct their collective understanding of the work that is being studied. Tony can balance group membership in ways that make sense educationally. The projects can enhance his own

teaching and showcase the work for parents and administrators.

Feeling Good as a Teacher

The shift in the way music teachers think about their work has an additional advantage: personal satisfaction. As Tony drives home on Friday, he feels like a professional. He is excited about projects that will continue for the following weeks and months.

This article suggests reforms that make sense for music teaching today. What is proposed goes beyond a set of new possibilities for learning provided by new technology or a new teaching approach. It is a much deeper and more significant conceptualization of what education should be and how arts teaching for all children can fit squarely in the center of this reform. If followed to its logical conclusion, such teaching opens and challenges minds to experience music as art. It encourages new and powerful ways for students and teachers to think and feel about themselves and the world around them. This is what exemplary teaching and learning should be.

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End Notes

(1.) Portions of this article are drawn from remarks presented at the 1997 Bowling Green State University Symposium on Music Teaching and Research (Tallarico, 1997).

(2.) Examples of this can be found in recent issues of the Illinois Music Educator (Vol. 58, Nos. 1, 2, and 3; 1997-98) in which the "Research into Practice" columns are noteworthy. The continued success of the Update journal published by the Music Educators National Conference is another example.

(3.) Examples of this type of software can be found at http://www.orat.ilstu.edu/emtbook/ (see Music Software FAQ link) and documented in Williams and Webster (1999).

(4.) http://voyager.learntech.com/

(5.) http://www-camil.music.uiuc.edu/tbmi/default.htm/

(6.) http://nces.ed.gov/pubs99/1999017.html/

(7.) For an example of this, see Maud Hickey's MICNET project at http://collaboratory. acns.nwu.edu/micnet/ as an example of a collaborative effort to link student composers with experts.

(8.) States such as Maine, Iowa, and Illinois have invested public funds for the construction of distance learning networks.

(9.) For examples of websites that represent these approaches, see http://www.orat.ilstu.edu/ emtbook/denver/handout.htm/.

(10.) HyperStudio is a useful construction kit for multimedia production for teachers and students. For more information, see http://www.hyperstudio.com/. Other programs, such as Microsoft's PowerPoint, might also be used.

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                        Shifts in Thinking About
                      Education Influenced In Part
                      by Constructivist Philosophy
Pedagogical Concept  Older View              Newer View
Relationship         Hierarchical            Networked
Between Ideas
Environment          Highly Structured       More Informal
Thinking             Lower order, linear     High-order, nonlinear
                     skills valued;          thinking valued, convergent
                     convergent thinking,    and divergent thinking,
                     memorization            application of knowledge,
                                             critical and creative thinking
Instructional Goal   Memorization            Inquiry and invention
Relationship         Instructors are experts Instructors are seen as
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Between Student and Teacher	with learners as passive receptors	mentors with students as active participants
Teacher Role	Fact teller	Architect of school experience by creating opportunities for discovered learning
Student Role	Listener	Discover of learning with guidance from teacher and other resources
Classroom Activity	Didactic	Interactive
Approach to Knowledge	Accumulation of facts, centered in the classroom/school	Transformation and application of facts, knowledge sources both in and outside of the classroom/school
Role of Technology	Drill and practice reinforcement, information defined by the machine/system	Active agent for new knowledge via simulation, nonlinear links, multimedia, interactivity
Assessment	Norm-referenced measures, standardized testing, objective measurement, scales, teacher-centered assessment	Criterion-referenced, portfolios of achievement, self-assessment, ruberic-based
Success	Based on quantity of knowledge	Based on quality of understanding and application

Time/Place Matrix and
Activities Possible

	Same Place	Different Place
Same Time	A. Class and Meeting Space Local collaboration (synchronous) Local computer labs Computer-assisted instruction Desktop presentation	B. Virtual Class and Meeting Space Remote collaboration (synchronous) Remote classes/rehearsals/lessons Distance tutors and experts Video conferencing
Different Time	C. Virtual Labs, Libraries, and Media Space Local collaboration (asynchronous) Computer-aided assessment Shared databases and on-line catalogs Electronic portfolios Network drop folders Music kiosks	D. Remote Coordination and Collaboration Remote collaboration (asynchronous) Electronic mail Online calendars Electronic newsletters Electronic forums Web serves with multimedia resources

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