Reaching the "other 80%:" Using technology to engage "non-traditional music students" in creative activities

David Brian Williams, PhD
Emeritus Professor, Illinois State University
Prepared for the proceedings of the Tanglewood II "Technology and Music Education"
Symposium, University of Minnesota, April 2007

[Note: this piece along with the handout below was prepared for participating as part of the Technology symposium, hosted by Dr. Scott Lipscomb, at the University of Minnesota. The text below became part of an larger article that represented all of the presentations at this event. DBW]

Setting the tone for his presentation, Dr. Williams began with a quotation from a statement by the well-known behaviorist, B.F. Skinner. In reference to teacher preparation around the time of the Tanglewood Symposium, Skinner (1965, 80) states that "college teaching, indeed, has not been taught at all … the beginning [college] teacher receives no teaching preparation. He usually begins to teach simply as he [sic] himself has been taught and if he improves, it is only in the light of his own unaided experience." Such a "teach as one was taught" pedagogical approach is of questionable value in an era when so much has changed within our educational system, including the dramatic advances in music technology.

Williams reviewed his selected list of recommendations and predictions proposed at Tanglewood in 1967. An impressive number of these have matured with, and have been successful integrated into music education, e.g., constructivist teaching strategies, individualized computer aided instruction and software for music creativity, high quality digital audio and video, ethnomusicology now treated as a discipline within music, and many others. Of critical importance, however, are specific recommendations that did *not* develop as anticipated. The most critical, he feels, are the recommendations that emerged from Tanglewood papers and panels that made a strong appeal for providing music education for *all* students, including non-performers. The Tanglewood report noted, for example, that some 20% of high school students in 1967 were engaged in school music programs (Critical Issues, 1965, 132) and that students who arrive at college with non-traditional forms of musical experience (rock musicians, performers on non-Western instruments, etc.) find themselves turned away from most conservatories and university music programs (Pop Music Panel, 1967, 105) Dr. Williams offered that this situation is little changed today. He referred to an "inverted pyramid of music experiences," that begins with the availability of participatory musical experiences during elementary general music at the top ("music for all") and diminishes with the specialization inherent in the high school ensemble experience at the bottom of the model ("music for a few") (See Williams, 1987).

Confirming the current state of participation in school music programs, Williams shared some of the research work of his graduate students. Edwards (2006) collected data from four geographically disparate states: Florida, New York, California, and Ohio.

The percentage of "non-performers" in grades 6-12 ranged from 70% in Ohio to 88% in California, with an average of 82% across the four states. Little national data exist to shed further light on the percentage of secondary students not served through music education. The data that are available suggests that current music programs in secondary schools serve less than 20% of the total number of students, severely limiting the impact of such musical training on the general population of American youth. Williams refers to this unmet population in secondary music education as the "non-traditional music student" (NTM).

Based on his students' work in the schools and anecdotal data from other music teachers nationally, Williams characterized the "non-traditional music student" as a student in grades 7-12 who does not participate in a school's traditional performing ensembles, may have a music life completely independent of school music, may or may not play an instrument (if so, it will most likely be drums, guitar, or singing), reads very little if any music notation, and may be unmotivated academically or a source of discipline problems. A timely book by Lucy Green (2002) provides case studies from her research into "how popular musician learn" and offers unique insights that are useful in understanding the nature of the NTM student and appropriate teaching strategies for reaching this group.

McAllester's predictions in the Tanglewood report were incredibly prescient, Williams emphasized, and relate directly to "the other 80%" or NTMs

> "We have a splendid beginning in the early grades, when children are sometimes lucky enough to get acquainted with rhythm and melody on all sorts of simple and unconventional instruments. They have the thrill of exploring the delights of free creativity without a long apprenticeship in technique first…. We might entertain the idea that someone who never does develop skills on conventional instruments could become a gifted performer on unconventional ones…. Someone who never learned to read conventional notation might nonetheless become an outstanding composer in some medium where notation has yet to be invented, or may even be impossible to invent" (p. 97).

Technology, Williams suggests, offers new tools for reaching the non-traditional music student. Software creativity tools empower individual expression for music, graphics, animation, home design, script writing, and many other artistic pursuits by removing many of the technical skills required for entry activities. Specifically in relation to music learning, technology is opening new doors to musical creativity and expression, accessible to the non-performer and non-reader of traditional music notation, what may be termed the "GarageBand phenomenon" (See Williams & Webster, 2006). He proposed that, looking forward, we can project the potential of an "every-person's Renaissance" as we move from the Information Age to the "Creative Age" brought about by this new generation of sophisticated, and artistically "intelligent" software creativity tools.

Williams concluded his remarks by challenging Tanglewood II to revisit the 1967 Tanglewood recommendation for MENC in respect to students grades 7-12: "promote a greater recognition of music education's importance for the "non-performing" student and to further an understanding of appropriate materials and strategies of instruction by music educators at the senior high school levels." (Critical Issues, 1967, 132).

References:

Critical Issues (1967). From *Documentary Report of the Tanglewood Symposium, MENC*, 1967, p. 132-133.

Edwards, N. (2006). Non-traditional music students: A new population of music student for the 21st Century. Unpublished research paper, Illinois State University.

Green, L. (2002). *How Popular Musicians Learn*. Burlington VT: Ashgate Publishing.

McAllester, David. (1967). The substance of things hoped for. From *Documentary Report of the Tanglewood Symposium*, MENC, 1967, p. 96-99.

Pop Music Panel (1967). From *Documentary Report of the Tanglewood Symposium, MENC*, 1967, p. 104-108.

Skinner, B. F. (1965). Why teachers fail. Saturday Review, October 16, pp. 80-81, 98-102.

Tanglewood Symposium Report (1967).

Williams, D.B. (1987). Do our models for music research and teaching reflect our human social nature? *Council for Research in Music Education Bulletin*, Winter 1987, 65-73.

Williams, D. B. and P.R. Webster (2006). *Experiencing music technology* (3rd ed.). Belmont, CA: Thomson Higher Education - Wadsworth.

Tanglewood Revisited and Reaching the Non-traditional Music Student through Technology

David Brian Williams, PhD
Professor Emeritus of Music & Arts Technology
Illinois State University
www.tech4music.net (dave.williams@ilstu.edu)

TANGLEWOOD NOTES
(quotes and references from *Documentary Report of the Tanglewood Symposium*, MENC, 1967)

Tanglewood 1967
- Post-industrial age
- Behaviorism: Skinner, Crowder & teaching machines
- Educational TV new technology
- Pre-Moog and Buchla synthesizer popularity (Carlos' "Switched on Bach," 1968)
- "Big Iron" computers for music databases, encoding, and analysis
- Programmed instruction & early computer assisted instruction (See Carlsen & Williams, A *computer annotated bibliography : Music research in programed instruction*, MENC,1976)
- Anthropologist studying music
- Tanglewood goal: music education for ALL students
- Less than 20% of high school students engaged in music as art
- Rock musicians turned away from music school doors
- Proposed "Advanced Educational Technologies" Committee for MENC

Quotes from 1967
- It would be great if I could go to a college dean and say, "I'm a rock 'n' roll musician; I would like to learn some more about it." I would probably get thrown right out. I think it would be fabulous if people would say: "Fine, come on in; let's see what you have to offer," or "Let's see what I have to offer you." Mike Stahl, Pop Music Panel (pg. 105)
- Because of existing academic pressures, college entrance requirements and rigid scheduling, less than twenty percent of high school students in the United States are engaged in the systematic study of music as an art. Critical Issues (pg. 132)

- Promote a greater recognition of music education's importance for the "non-performing" student and to further an understanding of appropriate materials and strategies of instruction by music educators... Critical Issues (pg. 132)

Tanglewood 2007: Through the Funnel of Change
- Information age
- Cognition & constructivist teaching strategies
- Personal computers, laptops, PDAs, cell phones, & iPods
- Computer global networks & the Internet
- Digital video ubiquitous in many forms
- 96 kHz/24-bit digital sound sampling
- Electronic music devices & MIDI
- Flexible practice computer music instruction
- Music creativity software
- Ethnomusicologists

What missed the "funnel of change"?
- Some technology still around: amplification, radio, TV (now in color and HD), overhead projectors, blackboards (now whiteboards), electronic pianos, strobotuners/tuners, challenges of copyright
- Tanglewood goal: music education for ALL students
- Less than 20% of high school students engaged in music as art
- Rock musicians turned away from music school doors
- Proposed "Advanced Educational Technologies" Committee for MENC

We have a splendid beginning in the early grades, when children are sometimes lucky enough to get acquainted with rhythm and melody on all sorts of simple and unconventional instruments.   They have the thrill of exploring the delights of free creativity without a long apprenticeship in technique first.... We might also entertain the idea that someone who never does develop skills on conventional instruments could become a gifted performer on unconventional ones.... Someone who never learned to read conventional notation might nonetheless become an outstanding composer in some medium where notation has yet to be invented, or may even be impossible to invent. David McAllester, The Substance of Things Hoped For (pg. 97)

CHALLENGES THAT REMAIN?

From Critical Issues (pg. 132): We recommend that MENC:

1. promote a greater recognition of music education's importance for the "non-performing" student and to further an understanding of appropriate materials and strategies of instruction by music educators at the senior high school levels;

2. establish a commission to develop a content of instruction and processes of teaching that will in fact, make the study of music in the secondary school comparable in quality to that of other subjects;

3. develop a dialogue with personnel at the university level to promote a reform in teacher-education curriculum that will adequately prepare students to teach music as a part of general education;

4. initiate conferences with appropriate representations...to promote programs of instruction that will bring the values of education in music to vastly greater numbers of young people;

5. gather and disseminate data regarding successful plans for flexible scheduling that may be useful in providing additional time in the school day for the study of music."

LOOKING FORWARD

- Technology opening new doors to music creativity and expression: accessible to the non-performer, non-reader of music notation (the GarageBand phenomenon)
- Creativity Age: Creativity tools to empower individual expression (music, graphics, home design, script writing...); an every-person's Renaissance.
- Social computing and the Internet: Taking the "Global Village" to a new level for creative expression

McAllester's Predictions (6 out of 9?)

Be able to dial an art show, the life of Napolean, the Tokyo Philharmonic, the Sadler-Wells Ballet, a reading of T.S. Elliot or Allen Ginsberg, or any book from the world's greatest libraries magnified and in translation if necessary. *Prescient of the Internet.*

The nature of audiences will be greatly changed. Solitary viewing or watching in small groups before the Great Screen will be common." "...the group asserts its identity by an orgiastic sense of mass, will be bigger and better. *Internet sharing of music and performance, social computing, creating virtual audiences. The Great Screen is the "Internet"?*

Electronic amplification of every instrument....will make possible undreamed-of tone combinations and balances and totally new ideas in composition as a result.

Multimedia, performance pieces using film, dance, music, etc.

Airports will become cultural centers with round-the-clock string quartets and anything else you'd care to imagine.

? Education will be unrecognizable. There will be educational automats or shopping centers. Gone will be the grade school lockstep. If a child needs an intensive week on the viola or the stereo-electronophone, it will upset nobody if he takes that week and does nothing else. *Prescient in a sense to online, for-profit schools, and constructivist teaching. Lock-step still with us.*

? The music educator will have leisure.... he will be expected to do much in terms of imagination and organization for the artistic life of the whole community. Music education will, of course, be revolutionized to train such specialists.

A rock artist of the year 2000 will have equal status to that on any other fine musician since guild barriers will have become irrelevant."

The music of the whole world will be available."   (pg. 98)

NON-TRADITIONAL MUSIC (NTM) STUDENT

- Inverted Performance Pyramid
- Estimate of % of Non-Performers (Grades 6-12). Data compiled by Nathan Edwards, graduate project at Illinois State University (2006)

State	Performers	Total Students	Non-Performers
Florida	.22m	1.43m	85%
New York	.46m	1.78m	74%
California	.41m	3.44m	88%
Ohio	.30m	1.01m	70%
Average	1.39m	7.66m	82%

Note: m = millions of students

Characteristics of Non-Traditional Music Student (NTM)
- 6th-12th grades
- do not participate in traditional performing ensembles
- many have a music life completely independent of school music
- may or may not play and instrument (if so, likely drums, guitar, or sing)
- may or may not read music notation
- some unmotivated academically or discipline problems

RETHINKING TEACHING STRATEGIES TO REACH THE NMT STUDENT

Quotes from Lucy Green's "How Popular Musicians Learn" (2002).

...Music educators should examine...the informal learning practices, attitudes, and values...of popular musicians...in relation to the changing position of popular music in education over the last forty years or so.. Otherwise, we could be deprived of the means of acquiring the skills and knowledge of some of the very music that is purported to be represented in formal music education; we could continue to bypass those children and young people who are nonetheless highly musically motivated and committed in their lives outside the classroom; and we could ignore a potentially worthwhile, accessible and inspiring repertoire of approaches to music learning. (pg. 17)

...Popular musicians rarely use music notation, and whether they use it or not, they must be able to play without it, on the basis of what has been learnt through listening." (pg. 29)

Although...notation in one form or another plays a role in learning for many popular musicians in the early stages , it is always heavily mixed in with aural practices, and used as a supplement rather than a major learning resource. (p. 38)

TECHNOLOGY = CATALYST FOR CREATIVITY
- Portable & Personal
- Its all going soft….
- Social Computing
  - ✓ Wiki's
  - ✓ MySpace and YouTube
  - ✓ Facebook
  - ✓ Blogs and podcasts
  - ✓ Bookmark sharing (del.icio.us)
  - ✓ netjamming (eJamming)

- Who are the people in your Internet neighborhood?
  - ✓ Nicholas Negroponte (MIT Media Lab)
  - ✓ One Laptop Per Child (OLPC)
  - ✓ $100 hand-crank laptop for 3rd world countries
  - ✓ Neighborhoods/journals, not files/folders
  - ✓ www.laptop.org

NEW TOOLS
- New Instruments: USB microphones, USB and MIDI Guitars, Drums pads & surface controllers, MIDI triggers from just about anything
- Looping software (not notation dependent)
  - ✓ Groovy Music
  - ✓ Super Duper Music Looper
  - ✓ GarageBand: Let your ear be your guide...

- Intelligent Assistants

PROFILES
- Rock Rap'N Roll
  - ✓ 7-8 Grade non-traditional music (NTM) students
  - ✓ Melissa Miller, ISU Graduate Student
  - ✓ Create a Holiday Rap Tune with RRR

- Band-in-a-Box
  - ✓ High school NTM students
  - ✓ Corey Beirne, ISU Graduate Student
  - ✓ Create a blues tune with BIAB and lyrics

- Build-your-own MIDI trigger
  - ✓ 7-8th Grade NTM Students
  - ✓ Justin Routh, Music Business Major
  - ✓ Experiment with home-made $2 MIDI controllers to create a music performance

- ACID and Windows MovieMaker
  - ✓ Tremont, Illinois, Junior H.S. NTM students
  - ✓ Nathan Edwards, Graduate Student at Illinois State U
  - ✓ Create story line, intertitles, music sound track to accompany silent film clip

- Intuem
  - ✓ Ladue MO high school NTM students
  - ✓ Rick Dammers, music teacher (now at Rowan University, NJ)
  - ✓ Students compose in various music styles using technology
  - ✓ Students could not read music but most had an "active music life" outside of school

- Reaching 90% of Students
  - ✓ Ken Simpson
  - ✓ Brookwood High School music students
  - ✓ Labs, classes, recording studios
  - ✓ Full-time music tech instructor
  - ✓ Full budget support from school board
  - ✓ Atlanta, Georgia

- Arts Technology Emphasis
  - ✓ San Fernando Education Technology Team
  - ✓ www.sfett.com
  - ✓ High school NT music, art, and theatre students
  - ✓ Apple Logic Software
  - ✓ Marco Torres, Faculty Advisor

- Selected other teachers working with NTM-populations in some form:

  - ✓ Carol Broos, Sunset Ridge School, Northfield IL
  - ✓ Charlotte Brown, Thayer Academy, Braintree MA
  - ✓ Dan Carroll, Winnipeg ON
  - ✓ Marj Haber, Orchard Lake Middle School, West Bloomfield MN
  - ✓ Laurie Ratay, Buck Lodge Middle School, Adelphi MD
  - ✓ DeWayne Roberson, Watertown WI
  - ✓ Margaret Skidmore, Eastern Michigan University
  - ✓ Wayne Splettsoeszer, Torrington H.S., Torrington CT

- ✓ Betty Anne Younkers, University of Michigan

OTHER NOTES

Dave's Poor-teacher's Software List
- Finale NotePad for notation (free)
- Cubase SE for digital audio/MIDI sequencing (~$80)
- SourceForge Audacity for wave editing (free)
- Band-in-a-Box ($50)
- AcidXpress(Win, free)/ACID Music Studio ($50) or GarageBand (Mac, included w/Mac) for loop sequencing
- Making Music, Groovy Music Series, Super Duper Looper for young children composing ($15-$60)
- Selected CAI/M-media titles ($30-50 each)

Also see: www.emtbook.net for extensive "Working List of Software for Music Education Application" compiled by Peter Webster and David Williams.