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## **Electronic Article**

### **Reflections on Music Teacher Education**

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## Reflections on Music Teacher Education

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Never before has there been such intense focus on teacher quality in American education and also on the outcomes of undergraduate education in American colleges and universities. Is this one of those crises that should not go to waste, one that allows arts teacher educators an opportunity to construct and try several distinct music teacher education curricula?

For much of the last half of the 19<sup>th</sup> century, school superintendents objected to the establishment of normal schools, fearing a cookie-cutter orientation that would leave teachers unprepared for teaching situations and students that varied from the norm (Kaestle 1983, 130). One has to wonder if 21<sup>st</sup> cookie-cutter plans are not embedded in the ideas about reforming teacher education. Standardization would be understandable and compatible with the interest in insuring that all school curricula are based on widely accepted teaching and learning standards and state consortia. In music education, the teacher education curriculum that has been the model for most music teacher education programs is the curriculum established by Karl Gehrkins at Oberlin in 1922. The same subjects (with minor variations) and the same proportional emphasis on music, music methods, applied music, general education, education coursework and student teaching have served us well in meeting the need for music teachers.

My assumption is that Professor Gehrkins was free to develop with the school of music at Oberlin a program he felt was functional at a time when music education was securing a tentative foothold in the school curriculum. Performance groups, especially bands and orchestras, were growing exponentially, with every school coveting a trophy at local, regional, and national music contests. A second assumption, bolstered by an informal survey conducted with music educators at 35 institutions, found that curricular changes in teacher education in the past decade or two have most often been state certification mandates or were in response to suggestions from the college or school of education, not because music education has changed and has more breadth and depth than in 1922.

Nancy Zimpher (2011) co-chaired an NCATE panel on clinical preparation and partnerships designed to standardize the preparation of teachers. The program is being piloted

by 8 states and will soon be adopted by all 700 NCATE schools of education. Dr. Zimpher and panel members argue that the key to economic revitalization lies in teacher preparation, an impressive claim. The recommendation is that clinical practices become the centerpiece of the curriculum and that states and accrediting bodies strengthen their scrutiny. In the early normal schools, a clinical emphasis was at the core of the teacher preparation programs. Will this affect music education? Probably. There will certainly be less time for academic coursework. The proposal may be fine and lead to improvements in general teacher education; fortunately there is a pilot phase to the program. Most of the reform ideas of the past few decades, including the standards movement, have been adopted without trial in the classroom.

### **Innovative Music Teacher Education Curricula**

In this paper I wish to propose that now is a propitious time to consider developing one or more distinctive teacher education programs in music. Undergraduate education should prepare some educators for more than excellence in the classroom, the concern of Karl Gehrken in the 1920s. Individuals considering doctoral work, those with an interest in policy, in leadership positions such as journal authors and editors, those with an interest in a career in arts organizations and government service, and cross-discipline situations could profit from options at the undergraduate level. (Fewer undergraduates in education expect eventually to undertake doctoral work than do students in the sciences and the humanities [Arum and Roksa 2011, 107].) I believe there is a role for the musician-scholar as well as the musician-practitioner. Not all institutions should offer such a program and certainly not all students should be admitted to such. The addition of a second or third track to the undergraduate program might require the institution to rethink its graduate programs, including the doctorate, because scholarship at the proposed level would also characterize at least some faculty members involved with new programs.

Support for such a proposal at this time should be aided by the general concern for the quality of undergraduate education, not confined to teacher education alone. Space prohibits any extended discussion of present undergraduate education; a few examples will have to suffice.

Heather Wilson (2011), writing in the *Washington Post* on January 23, reflected on her 20 years on the selection committee of Rhodes scholars. She finds that today's graduates

are bright and extremely well educated but less able to grapple with issues that require them to think across disciplines or reflect on questions about what matters and why (21).

Universities are producing top students who have given very little thought to matters beyond their impressive grasp of an intense area of study. The Lumina Foundation (2011) was asked to create a degree profile at the associate, bachelor's and master's levels. Intellectual skills at the bachelor's level suggest that the student should differentiate and evaluate theories and approaches to complex standard and nonstandard problems within his or her major field and at least one other academic field. We have in our field many examples of individuals who realize the importance of breadth and depth. Frank Battisti continues to take courses to complete a degree in American history. Matt Ruggiero, retired bassoonist of the Boston Symphony, completed a doctorate in English literature and is now a scholar and fellow in interdisciplinary studies at Clark and Harvard Universities. In Finland, Heidi Westerlund and Lauri Vakeva (2011) meet the criteria for scholarship in multiple disciplines. At the master's level, the student disaggregates, adapts, reformulates and employs principal ideas, techniques or methods at the forefront of his or her field of study in the context of an essay or project (Lumina 2011, 12). Arum and Roksa's volume, *Academically Adrift* (2011), focuses on the failure of colleges to develop the capacity for critical thinking and complex reasoning (1–2) despite the agreement of 99 percent of higher education faculty that these competences are very important or essential, and 87 percent think that student ability to write effectively is very important or essential (35). A 2008 study of the American Association of Colleges and Universities found that employers rated 26 percent of college graduates as well prepared in writing and 22 percent as able to think critically (3).

### **Organization of the Topic**

The organization of this paper is in three parts. First, a brief critique of the research in teacher education, which shows that following trends in certification will not answer my arguments. Second, I argue that scholar-musicians must study a cognitive discipline in depth; in this regard, the humanities are used as a possible example. Lastly, a look at some of the research on two of the four components of pedagogical content knowledge that could be the responsibility of music teacher education faculty in a scholar-musician degree program: motivation, assessment, critical thinking, and transfer.

Let me reiterate at the outset that I understand that a practice-based undergraduate curriculum has been and continues to be excellent preparation for many, if not most, music teachers. I have had many students who are superb teachers, are masters on Orff instruments, or who know all of the alternate fingerings on the oboe, but who struggled academically in the most basic survey courses.

I comment on education because of the influence of teacher certification offices and colleges of education in the US (and often school superintendents who are graduates of colleges of education) and because music teacher education programs in other countries are often housed in education departments. Argostegui's (2011) *Educating Music Teachers for the 21<sup>st</sup> Century* describes programs in Spain, Portugal, Brazil, Mexico, and Argentina where music teacher programs are education programs; conservatories of music are usually separate. Music instruction below the lower secondary schools is the responsibility of the classroom teacher in England. Canada is still another country where the heavy hand of the college of education influences teacher preparation in music. Secondary school music teachers in Germany teach music and mathematics with an extensive internship program in the schools. Based on the reporting of country by country PISA scores, improving education and the education of teachers is world-wide. The data are test scores in core subjects, and here one has to extrapolate concerns where music joins core subjects in the curriculum of all students. Music educators, however, are claiming 21<sup>st</sup> century skills, two of which are the focus of this paper.

Another issue concerns the location of innovative programs: would Schools of Music provide a warm bed for innovations? The proposal in this paper falls within the framework of certification by NASM with its roughly 50 percent music component; the reduction in education and miscellaneous courses would be troublesome for some members of the education community. Julia Koza (2010) has described academic issues that are often present in evaluating those faculty members who have some responsibility to a college of education and some to a school of music (84–85). A stand-alone organization to house music education is possible, comparable to a Center. I am reminded of a conversation I had with James Fraser, dean of education at Northeastern University; the content of our conversation was reported in *Education Week* (Fraser 2001). In that article Fraser suggested that it may be time to break the connection between teacher preparation and teacher certification. He sees the college-based, state-regulated system as a closed system, a system that the public has lost confidence

that it will produce the best teachers. The music education profession should be free to design the best programs for students and not conform to state mandates. Fraser believes that schools will hire the best teachers according to best judgments and that these free programs will actually be similar to many of the recommendations of the National Commission on Teaching and America's Future. Such thinking may be the basis for two extant programs, Teach for America and Artists in the Schools.

In addition to Koza's concerns, Colleges of Education presently have low status on most campuses (Labaree 2010, 73). Schools of Music may have to be convinced—and teacher education programs in conservatories probably would not provide—the expected choices in scholarship. Donald Grout expressed some of these concerns in a 1966 MENC publication where he distinguished a humanistic education from professional training—his analysis was a program based on wisdom rather than power! Grout argues that musicianship is not enough for teachers—the demands of scholarship are equally exacting and equally exciting. The music teacher needs to be well-acquainted with modern literature, also history, and possess a comprehensive idea of the important works of published research in one's own field. (Grout even suggests that the preparation of music deans should stress management, as elevation to a deanship from within the field is unpromising.) Grout states that university professors (professors in other fields such as the liberal arts) are uneasy unless “the musicians are safely penned in an academic stockade known as the School of Music and any foray into broader academic pastures would be viewed with incredulity and some polite dismay by custodians of the good old Liberal Arts Tradition” (133). As Grout is a renowned musicologist with an interest in education, his argument extends the concern of Koza to at least include the field of musicology. He makes clear the distinction between professional training in music and education in music—an education in music would tend to close the gap between music and life.

## **Education**

Criticisms of teacher education and student competence in the US are not new—Lowell Mason's program met with disapproval from musicians of the time because of its focus on only the basic rudiments (Elson 1904, 348). The outspoken barbs directed at progressive education by Henry Bestor, Hyman Rickover, and Jacques Barzun after WWII continue to resonate with today's critics, though the criticism today comes more from political

philosophy than from intellectual depth. The response to these post-WW II critics was to increase federal government funding for education, increase research support, and to do a bit of soul-searching by educators—the Sputnik effect? Unfortunately, no change in content or rise in standards occurred; the status quo prevailed. It was a good period for secondary school music, and many new programs were introduced into the required music curriculum. The soul-searching by educators continued with additional competency questions raised by the 1983 publication of *A Nation at Risk*. No doubt the civil rights movement, the adoption of ESEA, and considerable centralization of authority over education at the federal and state level, occupied educators. The standards movement characterized the 1990s, culminating in No Child Left Behind. The structure of the delivery system of education was intensely scrutinized but minimal attention or resources were devoted to curriculum issues.

Excellent research in the field of education found only limited evidence that education courses will materially improve teaching, or that extended practica will be a reform factor. One possible reason is that their research has not focused on the curriculum of teacher preparation. The 1,354 pages of *Handbook of Research on Teacher Education* (Cochran-Smith et al. 2008), an 804 page research text on *Studying Teacher Education* (Cochran-Smith and Zeichner 2005), and two quality meta-analyses—Wilson, Floden, and Ferrini-Mundy (2002) and Wang, Haertel, and Walberg (1993)—confirm the lack of positive data on the effect of methods courses, most education courses, and student teaching (12, 18–19, 287, 321, 330). Subject matter study beyond 4 to 6 courses has little effect on student achievement; further, this research found little or no impact on the use of technology, portfolios, and case studies. The teacher’s level of literacy (understandably confounded by other variables) and the selectivity of the college attended made the greatest difference in teacher effectiveness (and in mathematics, subject matter knowledge). When the president of the National Center for Education Information was asked how critical is a teacher preparation program in determining the future effectiveness of a teacher, she replied “not very” (Feistritzer 2011). Thus, today there is more emphasis on attracting the best and the brightest into teaching and less attention to reforming colleges of education.

Perhaps more damning than this careful research is an ethnographic report, *Educating School Teachers* (2006), by Arthur Levine, at the time dean at Teachers College. The book reports the results of Levine’s polling of fellow deans. The deans agreed on the following. Research in their colleges was subjective, obscure, faddish, impractical, inbred, and

politically correct; it failed to address the burning problems in the nation's schools. These deans were tired of reading research on "voices" (52). Levine also polled school principals, forty percent of whom thought that education schools were doing very or moderately well. These principals did report, however, that "anything goes" in teacher education, beginning with the departments/schools using low admission standards and provisional admittance to increase enrollment of males and minorities (31, 33). Teachers are not unaware of the issues; Jeremy Meyer (2010) reports that 55 percent of Denver Colorado teachers believe teaching quality in the district is substandard. The superintendent's response: "Virtually every element of our structure on how we retain, recruit, reward, develop, and replace teachers is fundamentally misaligned with our goals of having a highly effective teacher in every classroom" (10).

What is troubling about the research and the opinions is the validity of the measures of teacher effectiveness as it is reflected in present negotiations on recognizing teacher excellence beyond student test scores. Music educators and others need to identify the educational factors in attaining excellence in teachers and in students.

### **Pilot Programs in Innovating Teacher Training**

Cochran-Smith (2001), one of the leaders in reforming teacher education, and author of much of the present research along with Mary Kim Fries, argues that there is little indication that traditional teacher education is able to produce the quality or quantity of teachers needed to decrease or close present achievement gaps (4). Cochran-Smith also heads Boston College's Teachers for a New Year, one of 11 programs supported by the Carnegie Foundation to determine relationships among candidates' entry characteristics, learning in the program, classroom practices, pupils' learning, and social justice. Cochran-Smith and others like her in education are seriously attempting to improve the education component of teacher education.

Her work goes well beyond the extended internships being proposed by Nancy Zimpher and her panel in behalf of NCATE (Zimpher 2011). The Zimpher recommendation seems to build on early 20<sup>th</sup> century success of the normal school for teacher education. The rationale for the normal school was that teacher certification could be attained through knowledge of methods and knowledge of students in apprenticeship experiences. The emphasis was on "practices"—observation, internships, and coursework helpful in conducting well organized and well managed classes. There was little or no selectivity to

normal schools as teaching skills; and minimum knowledge could be attained by nearly everyone. A major criticism was the lack of academic depth of the teachers prepared with this model—a graduate knew a little bit about each subject and the experience (apprenticeship) in the schools was sufficient to allow the alert individual to see how teaching strategies could be adjusted for the age level of the student. Professional education is not now and has never been expected to promote intellectual depth, and this failure to promote intellectual depth is perhaps the primary reason for the separation of teacher training institutions from colleges and universities and the slow acceptance by colleges and universities of credit for skills-observation courses as equivalent to credit in university courses. There is some mockery of the grade averages of education majors compared to majors in other subjects, especially in relationship to entering SAT/ACT scores. A few elite universities such as Harvard and Boston College do not accept applied music as an academic subject.

It is difficult to extrapolate ideas from elementary education to music teacher certification, especially when the competencies required for successful music teaching in the elementary school differ markedly from those requisite for successful, elective, secondary school music teaching despite common certification. Some might suggest that single certification is an over-reach on the part of the system that certifies teacher educators in music. Temporary fixes are in place in some locations for any inadequacy in elementary teacher education—teachers may be required to have an academic degree prior to admittance to teacher education or teams are formed in the schools based on teacher interests and strengths.

Two promising ventures in education are those of Cochran-Smith and of Deborah Ball, the latter dean of education at the University of Michigan. Ball's program has more implications for music teacher education. Cochran-Smith (2009) desires to completely “re-culture” education, substituting as she says a culture of evidence in place of traditions that have dictated teacher education curricula. She argues that a local approach to evidence construction stands in marked contrast to the predetermined approach often involved in “standardized” teacher education programs and in accreditation reviews that attempt to match what is observed with external standards. Such a process provides little room for identifying actual problems with the program, nor does it offer a means to gather information that might inform changes in program structures (463).

The “local” approach is being modeled in Chicago, the Academy for Urban School Leadership; in Denver, the Boettcher Teachers Program; and in Boston (Solomon 2009). For example, the Boston School District identifies expected vacancies three years in advance. Presently the program is designed for vacancies in math and science with the expectation that teacher candidates will earn a secondary certification in either special education or English Language Learners. A degreed student is hired for a specific vacancy and begins a three year “education” for that position—gradually assuming duties of that position, getting to know the students and the community, working with the present teacher and a mentor while taking coursework to merge educational theory and practice. The candidate receives a stipend for board and room but pays \$10,000 for the year’s course-work and mentoring for three years, a total of \$30,000. Following completion of the program, \$10,000 is refunded for each of three years’ teaching in the Boston schools, making the teacher education program cost free. Boston presently accepts 75 candidates per year and hopes to expand the number to 125. With the entrants having undergraduate degrees in math, science, and possibly other priority subjects in the future, the focus is on three years of mentored practice, an arrangement that corrects the present disconnect between university practica and initial employment (Solomon 2009, 482). The three years of experience “on the job” also provide three years to change one’s mind, resulting, so far, in a higher retention rate which has been a primary criticism of alternative certification programs. These pilot programs seemingly put the necessary resources into the practical, normal school, approach to teacher certification. Much depends upon the quality of the candidates who elect this approach. The realist cannot imagine similar resources will be found for music teacher training, but anything less may not improve the preparation of music teachers.

The other research-based teacher preparation program in education that might be adapted by music educators is Deborah Ball’s (Ball, Thames, and Phelps 2008; Ball and Forzani 2009) pedagogical content knowledge, which she identifies as the scholarship component in teaching. Lee Shulman (1987) has promoted a search for scholarship within colleges of education, and to the best of my knowledge, there is still no “proven” list of competencies in any field, although John Goodlad’s (1990, 12) nineteen postulates are of interest. The International Society for the Scholarship of Teaching and Learning (SoTL), which may have recently ceased to exist, attempted to identify the unique competencies that great teachers have—that “something” which is more than being a competent musician, or in

Ball's case, a competent mathematician. Ball's work in mathematics, an academic subject, allows her to retain the teaching of pedagogical content knowledge in a college of education with her content area of mathematics taught in depth in the college of liberal arts. The fact that Schools of Music excel in teaching practice rather than scholarship weakens any analogy between music and mathematics. Deborah Ball's research has found support for the distinction between great mathematicians and great mathematics teachers—great mathematicians cannot easily identify incorrect concepts held by students and do not know how these concepts can be corrected. Great mathematics teachers can. Ball and her assistants (2008) also found that teachers trained in biology teach physics courses differently than do teachers trained in physics and chemistry (393). We know surprisingly little about the teacher effectiveness competencies that distinguish great performing musicians from great music teachers, even though we have long acknowledged that Nadia Boulanger was a better composition teacher than she was a composer or organist, and that Dorothy DeLay may not have performed as well as her students but in lessons and coaching she, like Boulanger, had great "pedagogical content knowledge."

Only one example can be found where musicians have taken the ideas of SoTL and applied it to their own teaching. Deborah Rifkin and Philip Stoecker (2009) have formulated a strategy of "pedagogical content knowledge" for the teaching of music theory. There are, of course, many present music teachers who have in-depth knowledge in fields other than music education that enables them to bring a dimension of scholarship to their teaching. All competent music educators should have pedagogical content knowledge and competence to remedy individual and group performance errors; the scholarship of teaching extends beyond skill and relates to teaching understanding and meaning.

Considerable research needs to be conducted to investigate the extent to which Ball's work in pedagogical content knowledge should be part of the music education component in teacher education. She argues that "the work of teaching goes on both inside and beyond the classroom, competence in leading a discussion of solutions to a mathematics problem, probing students' answers, reviewing material for a science test, listening to and assessing student's oral reading, discussing an interpretation of a poem, talking with parents, evaluating students' papers, planning and creating, and maintaining an orderly and supportive environment for learning" (Ball and Forzani 2009, 497). Much of this can be included in the four components listed below as solidly within the responsibility of music education. One

recognizes how Dean Ball's thinking about teaching has advanced since her 2008 article where she focused only on distinguishing content knowledge from pedagogical content knowledge. Through her research findings, she is able to argue that teaching is unnatural and intricate, and she speaks against the widely held view of teaching as improvisation, uncertain, and impervious to specification. Good teaching is unnatural work (Ball and Forzani 2009, 498). If it is unnatural, if one has to listen and view in new ways, then practice is required, practice by those with a deep fund of multiple knowledges.

### **Essential Elements in Music Teacher Education**

Music teacher educators are responsible in all programs for (1) motivation (inspiration/persistence/doing good work), (2) critical thinking leading to wisdom, (3) transfer of subject-matter content and learning strategies—direct and constructed, and (4) assessment in its broadest definition of feedback and reporting to multiple audiences including students. In the proposed program designed for students interested in pursuing policy, leadership in arts organizations, writing, research and related fields, there is evidence from research that these scholar-teachers should have in-depth knowledge in a second discipline, probably in a cognitive field. With an already crowded curriculum of practice, the addition of alternatives will not be easy, tradition is deeply embedded.

Jose Arostegui's *The Social Context of Music Education* (2004) found that even in a select university, music education students valued performance experiences and practica—primarily student teaching (196). They saw little relevance for teachers in general education, music theory, and music history. The social context at this institution is informative of more than student dispositions; it reveals the culture of the institution and the priorities of the faculty. I accept that as a valid and important program, but one that does not prepare music education scholars, and one that would have difficulty with critical thinking and most likely the other three components of music teacher-scholars.

Music-teacher scholars would need a positive disposition toward the liberal arts. At present, students may take survey courses which have little depth, and the content resembles that which should have been taught in good high school programs, certainly AP courses in the sciences and humanities. Selection into any alternative program is important—as rigorous as is admittance to an applied degree on many instruments.

## Defining Liberal Arts

What constitutes liberal arts-humanities in the modern era is not a simple question to answer. It is disappearing in many curricula that focus on job preparation. Liberal arts could be a form of cosmopolitanism where the idea of a curriculum is a form of cosmopolitan inheritance. Carl Bereiter (2002) defines liberal arts as a focus on what it means to be an educated person in the 21<sup>st</sup> century. I'm arguing that at least some music educators have a responsibility, in the big picture, for the primary purpose of all education: a responsible and educated citizen. For Bereiter, the educated person is involved with knowledge *production* and competence in extant objective knowledge (11). In-depth study in the area of "knowledge" should lead to an understanding of the world and of the relative value of things—a worthy citizenship objective. Martha Nussbaum (2010) argues that education is failing to incorporate thinking and debate and that we are neglecting the skills essential to keep democracy vital, respectful, and accountable (77). Thus, a university degree related to music and a specialized teacher/scholar curriculum should not just convey information, but also convey how meaning of the learned content is integrated into the wider culture. In their writing, Robert Hutchins, Mortimer Adler, and Martha Nussbaum interchange liberal education and general education. A liberal education seems to be the acquisition of organized knowledge; the development of intellectual skills; and enlargement of understanding, insight, and aesthetic appreciation. William Schubert (2010), in reviewing the history of curriculum development and the search for worth, states his impression that the array of courses known as liberal arts can coalesce in a philosophy and an exploration of life's deepest mysteries and events. The serious study of any philosophy is missing from most teacher education curricula, which is understandable with the present curricular orientation. Schubert became depressed with education courses that focused more on techniques and recipes than on meanings in and commitments to life (36); he has written intelligently on curriculum matters. Education courses that discuss teaching often are rich in group, rather than individual, thinking, a concern of Arum and Roksa (2011). My focus is on the humanities in a college of liberal arts because I have a better understanding of them, but in-depth study in some of the sciences can accomplish the primary purpose of this paper.

The humanities tend to emphasize values, rigor, and meaning, and have a natural relationship with the performing arts through the study of literature and historical paths within the arts in performance and in understanding. The humanities offer intellectual

engagement with fundamental issues important to meaning in the arts. They apply the human experience to the various ways of knowing, addressing both global and local issues. For Paul Lehman (2008), the purpose of education is the pursuit of truth and beauty, the development of human capacities, and the improvement of the quality of life (26–27). Education in whatever subject should always be concerned with what is excellent, worthy, and necessary; a curriculum in teacher education should reflect these values.

Voices of different persuasions seem to agree on the need for intellectual rigor—Nel Noddings argues against survey courses, as does Debbie Meier, suggesting that introductory survey courses provide no real confident knowledge, an argument that is also made by E.D. Hirsh, Roger Scruton, and others who approach education from philosophical orientations that differ from those of Meier and Noddings. Although it is important to liberate students from the contingencies of their backgrounds, this liberating objective has often resulted in political correctness content and a decline in the perceived value of general education and the liberal arts. Intelligent criticism requires depth of knowledge. Think of critics like Alastair McCauley in dance, Alex Ross in music, and Simon Shama in visual arts. George Keller (2008) believes that two sets of liberal arts courses are needed; one for those in an honors college and another for pre-professional students in business, music, or agriculture (117). With this structure, the proposed curriculum is part of an honors college. Keller acknowledges the importance of “practical” programs to obtain better teachers and sees little need for an undergraduate to major in music, education, computer science, or art (121). This would not be true in a liberal arts context. Sam Hope has often used the pages of *Arts Education Policy Review* to argue in general terms for knowledge in depth, most recently (2010) in *Creativity, Content and Policy* where he suggests that content is essential by pointing out the critical connection between knowledge, skill, and creativity (42, 44). Depending upon his definition of creativity, I can concur. A 21<sup>st</sup> century skill, such as critical thinking, requires in-depth study beyond practica, usually those classes and courses drawn from rigorous programs in the liberal arts.

Anthony Kronman, dean at Yale, in a 2007 book, *Education's End: Why our colleges and universities have given up on the meaning of life*, asks: What is life for? He advocates the humanities as courses that provide knowledge integration. Derek Bok (2006), president emeritus of Harvard, criticizes present general education requirements as producing graduates who are deficient in understanding America's role in the world and the importance of culture.

Donald Levine, dean at Chicago, in his *Power of the Mind, the Reinvention of Liberal Learning in America* (2006), states that the basic values of modernity are reaped through a study of the humanities and that today's graduates are poorly equipped to make personal, public, and environmental decisions. The president emeritus of MIT, Charles Vest (2006), who is a member of the President's Higher Education Commission, believes that in liberal arts courses one learns how to become a citizen of the world. At present, the rationale for rethinking general education is steadily strengthening; at the same time the enrollment declines. The emphasis on business and STEM is to lead to a more productive America, but Labaree (2010) finds no evidence of this connection (73). Those who view general education cynically, perhaps with some justification, claim that easy survey courses have replaced the more difficult courses –the goal now being well-adjusted and happy learners. It is Howard Gardner (2006) in *Five Minds for the Future* who sums up our current situation by suggesting that present education practices fail to offer students the insights needed for fruitful living; the role of education is inherently and inevitably an issue of human goals and human values (42). He suggests that we have gone too far in asking students to demonstrate understanding through performance, as performance alone fails to encompass too many important ideas (42). An emphasis on in-depth study should lead to better thinking, without which the college degree sadly misses the point. Long ago, Francis Bacon told us that if left to our own devices, we develop bad habits of thought, one of which is blindly following rules and customs.

### **A Proposal**

To begin the new approach towards adequately equipping some music educators for specialization, some colleges and universities with sufficient resources should offer an option for musician-scholar-teachers, and other similar institutions might pilot other aspects of the proposal. In any music education program, one has to be a sensitive musician *however that is measured*. Teacher characteristics and coursework are apparently important but insufficient. The research base in education (Cochran-Smith and Zeichner 2005) indicates a low relationship of the two measures of teacher characteristics and course-work to successful teaching. We have all graduated individuals who were mediocre musicians but became very successful public school teachers. Musicianship is a high priority in this proposal with half of the curriculum devoted to its serious study. Curricular time is saved through less practica, this latter being a type of professional development offered by the employing public schools,

comparable to the three year program internship program described for Boston. The teaching context is critical in secondary school music with minimal transfer from student teaching—even classroom room/rehearsal management skills remain with the cooperating teacher. There is more transfer in required (general) music situations especially if the student teaching situation has a strong focus on Kodaly strategies and the new teacher is hired by a school system that believes in a strong program in Kodaly. The research of Steven Kelly (2010) is a caution about excessive reliance on public school teachers' formulating the curriculum. The rank order of teacher skills and behaviors by public school supervising teachers failed to mention scholarship, and the least important competency for all curriculum was "Can play the piano; provide accompaniment" (25–29). The remainder of the curriculum can be devoted to the in-depth study in liberal arts and the pedagogical content knowledge that consists of at least the four domains of (1) motivation (inspiration/persistence/doing good work, (2) transfer of knowledge and learning strategies including both direct and constructed instruction, (3) transfer, and (4) feedback, use and reporting of learning which I term assessment—a domain that is always about quality and values. If integration of knowledge and skills escapes coverage in these four areas, a fifth—thinking independently to integrate the best that is known and thought (in music and other disciplines)—would need to be added. One might guess that present music education students do not value subjects other than performance and practica implying that integration of music history/theory and the exposure to liberal arts do not occur. Space in this paper allows me to discuss only critical thinking and transfer as these are dependent upon attaining a level of scholarship in at least one cognitive domain. Motivation and assessment would have to be developed in a second paper.

### **Critical Thinking**

One can be a careful thinker without being a critical thinker. Critical thinkers focus on concerns, not problems. Critical thinkers raise new questions such as the validity of many present concepts, policies, information, evidence, and data. The critical thinker is curious about the world and challenges his or her own thinking and the thinking of others. Over the past three decades there has been much less research in this area than is commonly believed. Creativity, critical thinking, problem solving, and more are often lumped together by writers about education whereas each is a distinct discipline. One moves carefully in this area. John McPeck (1981) suggests that the statement "I teach critical thinking" is vacuous, there being

no generalized skill properly called critical thinking. There are metacognitive strategies that, once learned, make critical thinking more likely; these always include domain knowledge and much practice. David Perkins, Stephen Norris (1992), Harvey Siegel (1993, 1988), Robert Ennis (1996, 1992, 1991, 1981), Richard Paul (Paul and Elder 2001, Paul et al. 1997, Paul 1995), Robert Sternberg, and John McPeck, study critical thinking but do not claim to be critical thinkers such as Socrates, Adam Smith, Martin Luther King, or Lionel Trilling. Critical thinking is often described as including these actions: gathering, conceptualizing, organizing, applying, analyzing, synthesizing, evaluating, discerning, reflecting, selecting, and valuing. It is effective, novel, and self-directed; the disposition of the mind is important – a probing inquisitiveness, a keenness of mind, a dedication to reason and a hunger or eagerness for reliable information. Students should be prepared to question ends and objectives in all course work and experiences in the profession.

Daniel Willingham (2007) has recently written in an AFT journal, an article that has been reprinted in arts journals: “Critical thinking: Why is it so hard to teach?” After decades of cognitive research, he concludes that critical thinking cannot really be taught (8).

The state of California attempted to mandate a course in critical thinking but failed completely. The California Center for Critical Thinking has considerable research findings; in one research project they asked 81 teachers to score a good and a poorly reasoned essay—they found that the teachers not only could not tell the difference, they scored the poorer one higher. Only 4 percent of the 81 teachers could differentiate between an inference and an implication, and 8 percent between an assumption and an inference. College faculty members who claimed to be incorporating critical thinking in their courses could not define it. To incorporate critical thinking into course work at the level of thinking/wisdom/questioning envisioned, the subject matter must be substantive and related to the overall purpose of education. Establishing one’s competence in critical thinking would not look like today’s education portfolios with their collection of events or even like the uninterpreted related research in many doctoral dissertations. What we do know about thinking is that critical thinking is subject-matter specific. Scholars think in a discipline: thus, one thinks like a historian, an artist, a musician. With competence in more than one discipline, one can begin to integrate knowledge. Becoming technically proficient in playing the bassoon or in producing a stunning *trompe l’oeil* is insufficient in providing both depth and breadth in a single domain.

The process of thinking is intertwined with the content of thought—which is domain knowledge. This domain knowledge can be organized taxonomically as one identifies, summarizes, applies to new situations, compares and contrasts, invents, and finally assesses and values. In this process, one can look for chunks of thought like metacognition. Thinking requires not only concentration but a focused effort to bring every bit of knowledge to bear on the topic, rich and deep knowledge similar to Deborah Meier's concepts and habits of mind—how do you know that, who said it and why, what led to it and what else happened, what if, and who cares? If one doesn't know much about a domain one cannot think about it from multiple perspectives. The process of thinking is supportive of and part of pedagogical content knowledge because there is not a set of separate critical thinking skills that can be acquired and deployed. Infusion of critical thinking into subject matter instruction is deep, thoughtful, well understood, and both the general principles and the dispositions and abilities of critical thinking are made explicit.

Multicultural and postmodern scholars insist that thinking is culture specific whereas it is likely to be more than that—thinking is also multicultural. The thinking skills recommended are intelligence, creativity, and wisdom, although wisdom is seldom mentioned. Major problems are not solved solely by creative thinking. Sternberg (2009) believes that one thinks reflectively, dialogically, and dialectically (106). Reflective thinking includes one's own beliefs, thoughts, and values. Dialogical thinking occurs when one sees a problem from different perspectives, and with dialectical thinking integrates all aspects of the process.

Based on these research findings, most music education methods courses (and practica) that are the primary responsibility of many music teacher educators do not lend themselves well to developing dispositions that encourage critical thinking. Mike Schmoker touches on critical thinking in an ASCD book, *Focus: Elevating the essentials to radically improve student learning* (2011). He believes, as do most of us, that there is too much suggested content for a coherent curriculum; we need simplicity, clarity, and priority (5). He believes that the ambitious new standards are not feasible and amount to little more than pretentious gibberish (41). The Accent on Developing Abstract Processes of Thought project conducted in Nebraska (Fuller 1998, 2) found that the amount of content in most teaching/learning situations had to be reduced by as much as 40 percent. Critical thinking is highly dependent on content knowledge (31) and we have ignored what is valuable in the

suggestions of E. D. Hirsh, Madeline Hunter, Robert Marzano, Douglas Fisher and Nancy Frey, Louis and Kimberly Gomez, and others. Gardner (2009) suggests that education should enable a student to survey a wide range of sources, decide which is most important and worth paying attention to, and then put this information together in ways that make sense to oneself and ultimately to others (18). Multiple intelligences theory doesn't endorse performing skits, making posters, and power-point presentations. There is too much lab work in science courses and little else; science is not learned optimally through activities—this is a myth (168). Music teacher education need not consist primarily of activities. Schmoker believes in textbooks that introduce complex ideas and that students should discuss; they should write about the ideas, construct argumentative papers, and develop broad information literacy skills. Likewise the Gomez' (2007) suggest that the new century requires students to critically analyze and synthesize information gleaned from the kind of dense, complex, prose found in superior textbooks. These ideas reflect the suggestion of Marc Tucker in the 1986 Carnegie Foundation's *A Nation Prepared: Teachers for the 21<sup>st</sup> Century*, where Tucker points out the need for a broad liberal arts curriculum that includes a high level of preparation in reading, writing, and speaking (Friedman 2005, 319).

### **Connecting the Dots**

Music education must be more than acquiring performance skills for the town band, or a “subject” that terminates at some period during secondary school when one's schedule no longer allows participation. Music teacher educators can become familiar with strategies that allow for the assessment of how music can contribute to the quality of life; and the individual can learn dispositions from motivation, transfer, assessment, and critical thinking which can integrate life's experiences and knowledges. Teaching the suggested pedagogical content knowledges will not be easy because transfer of thinking skills seldom work well outside the classroom and teaching critical thinking in a separate class has not been too successful (Swartz et al. 2008, 25). Success has been marked by direct instruction on procedures, reinforcement and habits of mind along with infusion into regular instruction (35). Swartz and colleagues focus on skillful thinking which consists of thinking skills, habits of mind, and metacognition. These habits of mind are: persisting, managing impulsivity, thinking flexibly, being open minded, striving for accuracy and precision, and searching for all relevant information with many of the senses (15). All such lists require organized thinking such as in

a taxonomy. Further, critical thinking is learned only by thinking about material that requires several skills to even begin to open up the problem. To practice critical thinking requires challenging material by which the student learns. Thinking skills of comparing and contrasting, classifying, predicting, generating, using original ideas, cause and effect, decision making, uncovering assumptions and determining the reliability of sources (7), are skills not easily employed in a practice-based curriculum. Reading and writing seem essential.

Much of the research on critical thinking has been done by Glaser, Ennis, Paul, Elder and Paul, and Sternberg. Paul added aspects of problem solving to research on critical thinking, but these still appear to be an add-on. Problem solving is only part of critical thinking and it coincides with what Dewey discusses in his approach to problem solving. Dewey's sequence for problem solving is familiar: identifying the existence of a problem, defining it, organizing information, creating or selecting a strategy, allocating resources, monitoring the process and evaluating the solution. For scholars working in this area, critical thinking can be seen as evolving with the first stage, the analysis stage (Bonney and Sternberg 2011, 167). At this stage, one clarifies goals, data, concepts, assumptions and implications of the thought process. To even advance to this stage, one must be able to think purposefully, identify assumptions, use concepts, theories and data and be able to interpret information in order to understand the implications of one's thoughts (Elder and Paul 2008). The second stage is assessment of thinking based on universal intellectual standards of clarity, precision, accuracy, consistency, relevance, depth, breadth, logic, and fairness. In a study reported in *Foundation for Critical Thinking* (2009) students were asked to provide an example and discuss how the example can be checked and whether it makes sense. Two stages involve metacognition, analysis, comparison, justification, and critique, and finally, how the same type of thinking can be used in future situations. Basic to the process is knowledge, for critical thinking skills cannot be considered in the absence of knowledge (Bonney and Sternberg 2011, 168). One has to be able to use knowledge, not just have it. Student and teacher discussions are not equal, the kind of talk matters in critical thinking. In college courses, one would analyze the problem, generate solutions, develop the reasoning for the solutions, decide which is the best solution, and use criteria to evaluate one's thinking (Valanides and Angeli 2005, 322).

For critical thinking to occur, students need time to thoroughly engage in the material. If students are not interested or intrinsically motivated to engage, critical thinking and inquiry are unlikely to occur. Students must also be willing to use principles of intellectual values of fairness, consistency, impartiality, desire for truth, standards for evaluating criteria, and rejection of arbitrariness. *Disposition* guides what one would tend to do, *ability* controls what one is capable of doing. Teachers need to know how to manipulate the information to lead students to think about something and represent it in various ways. The criteria are important, along with self correction and sensitivity to context. These criteria would most likely require new or re-thought courses by music teacher educators. Doctoral advisers might have to retool their own approach to music education and, then, have to apply the principles of critical thinking to pedagogical content knowledge. Would this reorientation result in better public school music teachers? I do not know, but it would provide the basic foundation for music educators who aspire to work in policy, or in curriculum, to edit, analyze, do research, and to write. I think this scholar-musician approach would be requisite for doctoral work in music education. Too often students are disadvantaged in doctoral programs because they have not learned to think systematically and have written and researched little. Perhaps, most important, if one wishes to claim that critical thinking is an outcome of music experiences, we should have a firm understanding of what it is.

Recently Arum and Roksa (2011) published *Academically Adrift: Limited Learning on College Campuses* which relates to the argument on critical thinking. These authors use data from the Collegiate Learning Assessment which consists of three open-ended components: a performance task and two analytical writing tasks. Hersch and the American Association of Colleges and Universities *Peer Review* (2007) suggest that this test assesses critical thinking, analytic reasoning, problem solving, and writing. The Council for Aid to Education (2008) established the rubrics for the tasks. Based on a survey of the Higher Education Research Institute (2009), 99 percent of college faculty agree that thinking critically is very important or essential, and 87 percent attest that writing effectively is very important or essential. The data reported in Arum and Roksa are from 24 colleges and 2322 students with no statistically significant gains during the first two years of college in critical thinking, complex reasoning, and writing skill in 45 percent of the students (36). In seeking a cause for this failure, the authors, seemingly arbitrarily established writing a paper of more than 20 pages, or reading more than 40 pages, as necessary to develop the thinking and

writing skills. They found that students did not write extensively, a finding supported by the *Chronicle of Higher Education's* analysis of 10 public four-year institutions in Texas where writing assignments were “scarce” for students majoring in business and education. Of 41 required education courses in these Texas colleges, 5.9 required only one paper, 10–19 pages of writing in length (Glenn 2011).

Because in-depth knowledge in a subject is essential for instating creativity, the music educator probably needs to revise the content of one or more music education requirements to insert specific content that could instigate critical thought. Survey courses or the traditional methods course would not qualify nor would practica. The research would indicate that two or more courses on a single topic would be required.

## **Transfer**

Transfer of knowledge and skills attained is essential to teacher education so that new opportunities are created for transfer of competencies to other tasks, classes, and to life outside of school. Again, in-depth study is required in most instances and is enhanced by critical thinking on the topic. Students will want to know what knowledge transfers. And how easily? Many of the claims of the value of studying music are based on its transfer value—claims that extend to the cognitive and affective domains and to some extent the psychomotor, (especially when marching band is a substitute for health and physical education). Transfer is a huge topic. We have little data to support any role for general intelligence (IQ) in transfer (Ceci and Ruiz 1993, 176). Transfer is taught and learned when teaching substantive materials. Most of the 62 studies reported in *Critical Links* (Deasy 2002) as well as those in *Champions of Change* (1999) are based on the concept of transfer. The 2000 study *The Arts and Academic Achievement: What the Evidence Shows* by Winner and Hetland (2000) reported little transfer from music, visual arts, theatre, and dance to academic subjects, and is a counterargument to the claims being made by James Catterall (2002) and publications of the Arts Education Partnership.<sup>1</sup>

Transfer is critical in preparing astronauts for space travel and also to the pharmaceutical industry, as hands-on experience in advance is infeasible. Simulators are built identical to space craft; the military builds complete Afghan villages and stocks them with Pashto-speaking guerrillas; drug companies use animals with similar or identical characteristics to those of humans. These areas of endeavor must take into account the fact

that identical elements transfer, and lacking this, the situations must be as close to identical as possible. Transfer may be of most importance in learning ways of thinking, of process, and of interpretation. For any transfer to occur requires careful planning and competencies worthy of transfer. Research results appear to apply equally to both direct and constructivist instruction.

Arts advocates are not easily dissuaded and continue to seek evidence of transfer. Thus, when Discipline Based Arts Education was discontinued, Ellen Winner convinced the Getty Foundation to support a focused research project on a fuller description of what is learned from studio art, because learning may be similar to that occurring in private lessons. The 2007 answer (Hetland et al.) is that studio art teaches the craft of production, how to engage and persist, to envision, express, observe, reflect, and stretch and explore (6). Two criticisms of this research have surfaced; the first being that these outcomes are not unique to the arts but found in all subjects properly taught. Secondly, Hetland et al. (2007) suggest that they have found no evidence that even these outcomes transfer to other subjects (110).

### **Use of Transfer in Music Learning**

Music teachers have experienced the problems of transfer—the same concepts in a new piece of music often have to be re-taught. We should not be surprised at this, as over 40 percent of the time students in math classes do not recognize that they are being given the same problem. A simple bowing pattern must be performed in several different pieces for that skill to transfer. Instructional feedback aids in learning, not transfer. There is a reason why dress rehearsals are performed in the same surroundings as the concert.

Transferability and generalizability are not the same. The ability to trill on the oboe does help one trill on the clarinet but not to perform a vocal trill. The idea and sound of the trill transfers but the physical production does not. Conductors often believe that warm-ups transfer to the rehearsal. The physical aspects probably do but warm-up exercises like long tones do not, as the rehearsal music usually does not consist primarily of long tones. Following instructions is induction, not transfer. Remembering is a skill and it can be taught. Instrumental teachers often ask students to sing their part in the hope of transfer. It doesn't. It helps by providing additional practice of the material. What we do know is that rich and deep knowledge of the subject facilitates future learning and contributes to one's ability to apply learning to new situations. Survey courses and exploratory experiences in music do not contribute to critical thinking or transfer. Joel Panciera (1998) completed a doctoral

dissertation focused on facilitating transfer in choral settings. The pointing out of similar meters and similar elements of music provided no evidence of any transfer.

John Bransford and colleague Schwartz (1999) are cited by the arts advocates as supporters of transfer. However, their conclusions are not so simplistic. They actually suggest that the new situation needs to be as similar as possible to the situation in which the knowledge was attained for transfer to occur. They cite a 1977 article by Harry Broudy who, in defending a liberal education, identified four kinds of knowledge: replicative, applicative, associative, and interpretive. Broudy (1988) argues that forgetting is normal and is most common with *replicative* knowledge. We would probably all agree. He discounts *applicative* learning attained in general education because use of that knowledge is rare in ordinary life. The issues with applicative learning are similar to those posed by transfer of learning—the gap between classroom and a teaching situation. *Associative* learning is triggered by cues, cues like last year’s orchestra tour or an event associated with a favorite tune. *Interpretive* or tacit knowing occurs when an educated person thinks, perceives, and judges a situation based on all that the individual has studied in school and out of school, even though that individual cannot recall those learnings on demand. Thus, Bransford and Schwartz state that direct application of previously learned material is too weak for any effects to be detected. They go on to argue that thinking (with all of that tacit knowledge) is more important than “knowing that” and “knowing how”. Bransford and Schwartz reject sequestered problem solving (the idea that one learns how to solve problems) and have adopted the position that the value of past learning is its use as preparation for future learning.

We can, therefore, enable individuals to better understand the nature of the human condition and one’s place within it by a robust foundation in the arts and humanities. One can quickly apply skeptical knowledge to a strategy employed by arts writers of the 1997 NAEP where the test writers assumed that interpreting the meaning of two performances is two tasks of equal difficulty. Despite having tried thousands of folk tunes in test construction, I am unable to equate “Shenandoah” with “Black is the Color of My True Love’s Hair” even though they appear on successive pages in a text of song material. We have many “folktales” about teaching and learning (common in normal schools and in the public schools) such as the mistake made by policy makers of minimizing the importance of rote learning despite its wide usage in jazz education. If we want students to know something, we cannot depend upon transfer; we must teach it to them. Knowledge can be transferred from one context to

another only with deep understanding, accompanied by a purposeful effort to make the transfer. Swartz et al. devote a section in *Thinking-based learning* to teaching for transfer and conclude that transfer usually does not happen beyond the immediate context. Students have to value what has just been learned and they need to verbalize the present state of that knowledge and skill relative to what has just been learned (2008, 64). Direct instruction helps and affects positive and negative transfer and low and high road transfer. Sternberg and Williams confirm that learning is surprisingly hard to transfer and if the learning is situated as it is most often in music, it is even more difficult (2010, 335). Transfer has to be systematically taught and students given lots of examples of how and when any transfer might occur.

### **Conclusion**

The field of music education has grown exponentially since initial teacher education programs were established. The efforts of the MayDay Group, evidenced in the MDG's book, *Music Education for Changing Times* (Regelski and Gates 2009), and the MDG's electronic journal, *Action, Criticism, and Theory for Music Education*, provide important measures of the current breadth of the profession. The philosophy of music education has matured with the thoughtful ideas of David Elliott, Estelle Jorgensen, Wayne Bowman, and others. In this regard, the first research compendium devoted to music education philosophy, the *Handbook of Research in Music Education Philosophy* (Bowman and Frega), is now in press.

Teacher education, however, remains as it has been, with slight modifications, based upon a common undergraduate curriculum. The expectation may be that specialization is a graduate function. With the disappearance of a unique masters degree, and the folding into that degree of a five-year undergraduate certification program, students often arrive at the doctoral level unequipped for selected types of scholarly work in such areas as philosophy, research, policy, and curriculum.

For music education to be multi-dimensional there should be unique programs in teacher education. For students who desire to be scholars in the profession, preparation should begin at the undergraduate level. We need excellent practitioners in both required music and elective public school music. Because of this continuing and important need, I've devoted considerable space to innovation and research applicable to practice-based teacher education, which is a viable program compatible with contemporary thinking in colleges of

education and many music departments. Cochran-Smith and Ball are attempting to redefine the role of colleges of education in the preparation of teachers. More research is needed on the complex social skills required in this intensely interpersonal profession. Fischer and Pruyne (2003) suggest that the ability to self-reflect emerges between the ages of 22–26; prior to this age, support is needed (169–198).

One strategy for attracting better teacher candidates is to make the curriculum more challenging, more interesting, and more flexible. Research findings in motivation indicate that students like challenges, the better students enrolling in challenging courses and in course overloads. The reputation of elite colleges or membership in the youth orchestras encourages the candidates/participants to exert extra effort. A music teacher curriculum with a two-fold emphasis continuing study in music paired with appropriate academic content comparable to rigorous study in the liberal arts should attract a core of students equal to scholars throughout the school of music and the university. The medical profession has found that the medical scholars' program is a positive move in the study and practice of medicine. This program accepts into medical schools students who have demonstrated competence in several fields, from philosophy to music, as undergraduates—a generalist is as welcome to his or her choice of schools of medicine as a traditionally prepared pre-med student. The same potential exists for music educators. The public knows that all too often students in teacher education are not drawn from the top percent of high school graduation classes; the public would welcome teachers who are not only proficient at managing classrooms (gained primarily through professional development and beginning teacher programs) but teachers who are as knowledgeable in the liberal arts as are many of the parents.

State teacher certification offices are exhibiting a flexibility unknown in the history of teacher certification, and a willingness to encourage experimental programs that have promise of improving many of the qualities desired in teachers as model, broadly educated citizens. Expert and scholar are not the same thing. An individual does not become a critical thinker by reading the research reported in this paper; one has to employ the strategies in a discipline about which one has deep knowledge—this could be about Stravinsky, performance practices of the baroque, Elizabethan literature, or readings on the concept of justice. Integrating and relating what one knows with student and citizen interests require more than a repertoire of folk songs having a range appropriate for fourth grade students; we need to meet, more than halfway, the expectation of the public that their child's music teacher

is both a comprehensive musician and sufficiently well-educated to be aware of the challenges facing student upon graduation.

The proposal brings to music education the scholarship of teaching and learning advocated by Lee Shulman in 1987; it has yet to be met by most teacher education programs. Deborah Ball's proposal for pedagogical content knowledge is her attempt to bring such scholarship to the education of teachers of mathematics. Her suggestion is not applicable to music teachers as error detection and feedback is fundamental to music education and that competence is built into multiple courses. The same term, pedagogical content knowledge, is included in this proposal with a focus on the use of motivation, transfer, critical thinking, and assessment in the context of music which would be the responsibility of music teacher educators interested in the scholarship of music teaching and learning. Some traditional music education courses would be retained as they are presently part of the NASM approved content in music. The suggested music pedagogical content knowledge could be shared with quality courses offered by a college of education, although they need not be. The Peabody Conservatory, operating without a college of education, has integrated all teacher certification requirements into their courses. In-depth study could be accomplished in as few as four sequential courses in a single subject allowing for considerable flexibility by institutions and for individual students. In most respects, the program avoids any "cookie-cutter" characteristics being proposed by accrediting agencies; the commonness across institutions would be those competencies required by Schools of Music.

Arts advocates are presently suggesting that adequate music in the public schools can accomplish any and all of the 21<sup>st</sup> century skills, the wildly optimistic curriculum standards, the facilitation of core subjects through integration strategies along with the general school goals of citizenship and enhanced morality. The Association of American Colleges and Universities suggests 15 liberal art outcomes: Intellectual and practical skills identified as inquiry and analysis, critical thinking, creative thinking, written and oral communication, reading, quantitative and information literacy, teamwork and problem solving. Personal and social responsibility includes civic engagement, intercultural knowledge and competence, ethical reasoning and life-long learning together with integrative and applied learning (Rhodes 2011, 8). The concerns within music education should at least equal the scholarship concerns expressed by Donald Grout. If someone should be addressing important questions in arts policy and the philosophical base for the importance of music education, why not a

prepared music educator, one whose expertise extends beyond correcting the flating by the sopranos, and multiple music education experts working both separately and together?

## References

- Arostegui, Jose, ed. 2011. *Educating music teachers for the 21<sup>st</sup> century*. Rotterdam: Sense Publishers.
- . 2004. *The social context of music education*. Champaign: Center for Instructional Research and Curriculum Evaluation.
- Arum, Richard and Josipa Roksa. 2011. *Academically adrift: Limited learning on college campuses*. Chicago: The University of Chicago Press.
- Ball, Deborah, Mark Thames and Geoffrey Phelps. 2008. Specialized content knowledge is distinct from common content knowledge. *Journal of Teacher Education* 59(5): 389–407.
- Ball, Deborah and Francesca Forzani. 2009. The work of teaching and the challenge for teacher education. *Journal of Teacher Education* 60(5): 497–511.
- Bereiter, Carl. 2002. *Education and mind in the knowledge age*. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Bok, Derek. 2006. *Our underachieving colleges: A candid look at how much students learn and why they should be learning more*. Princeton: Princeton University Press.
- Bonney, Christina and Robert J. Sternberg. 2011. Learning to think critically. In *Handbook of research on learning and instruction*, ed. Richard E. Mayer and Patricia Alexander, 166–196. New York: Routledge.
- Bowman, Wayne D. and Ana Lucia Frega, eds. In press. *The Oxford handbook of music education philosophy*. New York: Oxford University Press.
- Bransford, John and Daniel Schwartz. 1999. Rethinking transfer: a simple proposal with multiple implications. In *Review of Research in Education* (24), ed. Asghar Iran-Nejad and P. David Pearson, 61–100. Washington: American Educational Research Association.
- Broudy, Harry. 1988. *The uses of schooling*. New York and London: Routledge.
- . 1977. Types of knowledge and purposes of education. In *Schooling and the acquisition of knowledge*, ed. R.C. Anderson, R.J. Spiro and W.E. Montague, 1–17. Hillsdale, NJ: Erlbaum.
- Colwell, Richard. 2011. Reflections on music teacher education. *Action, Criticism, and Theory for Music Education* 10(2): 127–160. [http://act.maydaygroup.org/articles/Colwell10\\_2.pdf](http://act.maydaygroup.org/articles/Colwell10_2.pdf)

- 
- Catterall, James S. 2002. The arts and the transfer of learning. In *Critical links: Learning in the arts and student academic and social development*, ed. Richard J. Deasy, 151–157. Washington, DC: Arts Education Partnership.
- Ceci, Stephen and Ana Ruiz. 1993. Transfer, abstractness, and intelligence. In *Transfer on trial: Intelligence cognition, and instruction*, ed. Douglas Detterman and Robert J. Sternberg, 168–191. Norwood, NJ: Ablex Publishing Company.
- Cochran-Smith, Marilyn. 2009. “Re-culturing” teacher education: Inquiry, evidence, and action. *Journal of Teacher Education* 60(5): 458-468.
- Cochran-Smith, Marilyn and Mary Kim Fries. 2001. Sticks, stones, and ideology: The discourse of reform in teacher education. *Educational Researcher* 30(8): 3–15.
- Cochran-Smith, Marilyn and Ken Zeichner, eds. 2005. *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahway, NJ and London: Lawrence Erlbaum Associates.
- Cochran-Smith, Marilyn, Sharon Feiman-Nemser, D. John McIntyre and Kelly Demers, eds. 2008. *Handbook of research on teacher education: Enduring questions in changing contexts*, 3<sup>rd</sup> edition. New York: Routledge.
- Council for Aid to Education. 2008. *Collegiate learning assessment common scoring rubric*. New York: Council for Aid to Education.
- Deasy, Richard J., ed. 2002. *Critical links: Learning in the arts and student academic and social development*. Washington, DC: Arts Education Partnership.
- Elder, Linda and Richard W. Paul. 2008. Critical thinking in a world of accelerated change and complexity. *Social Education* 72: 388–391.
- Elson, Louis. [1904] 1915. *The history of American music*. New York: The Macmillan Company.
- Ennis, Robert H. 1996. *Critical thinking*. Upper Saddle River, NJ: Prentice-Hall.
- . 1992. The degree to which critical thinking is subject specific: Clarification and needed research. In *The generalizability of critical thinking: Multiple perspectives on an educational ideal*, ed. S. Norris, 21–37. New York and London: Teachers College Press.
- . 1991. Critical thinking: A streamlined conception. *Teaching Philosophy* 14(1): 5–25.
- . 1981. A conception of deductive logic competence. *Teaching Philosophy* (4): 337–385.
- Colwell, Richard. 2011. Reflections on music teacher education. *Action, Criticism, and Theory for Music Education* 10(2): 127–160. [http://act.maydaygroup.org/articles/Colwell10\\_2.pdf](http://act.maydaygroup.org/articles/Colwell10_2.pdf)

- 
- Feistritzer, C. Emily. 2011. What is the role of teacher education? *Education Week* 30(21): 34–37.
- Fischer, Kurt W. and Ellen Pruyne. 2003. Reflective thinking in adulthood: Emergence, development, and variation. In *Handbook of adult development*, ed. J. Demick and C. Andreoletti, 168–198. New York: Kluwer Academic/Plenum.
- Fiske, Edward B., ed. 1999. *Champions of change: The impact of the arts on learning*. Washington, DC: Arts Education Partnership; President's Committee on the Arts and the Humanities. Online: [http://artsedge.kennedycenter.org/champions/pdfs/Champs\\_Report.pdf](http://artsedge.kennedycenter.org/champions/pdfs/Champs_Report.pdf). November 4, 2011.
- Foundation for Critical Thinking. 2009. Defining critical thinking. Online: [http://www.criticalthinking.org/aboutCT/define\\_critical\\_thinking.cfm](http://www.criticalthinking.org/aboutCT/define_critical_thinking.cfm). February 2011.
- Fraser, James. 2001. Time to cut the link between teacher preparation and certification? *Education Week* 20(20): 56–57.
- Friedman, Thomas L. 2005. *The world is flat: A brief history of the 21<sup>st</sup> century*. New York: Farrar, Straus and Giroux.
- Fuller, Robert. 1998. *ADAPT: A multidisciplinary Piagetian-based program for college freshmen*. Lincoln: University of Nebraska Press.
- Gardner, Howard. 2009. Five minds for the future. *The School Administrator* 66(2): 16–21.
- . 2006. *Five minds for the future*. Boston: Harvard Business School Press.
- Glenn, David. 2011. Writing assignments are scarce for students in 2 majors at Texas colleges. *The Chronicle of Higher Education* (January 18).
- Gomez, Louis M. and Kimberley Gomez. 2007. Reading for learning: Literacy supports for 21<sup>st</sup> century learning. *Phi Delta Kappan* 89(3): 224–228.
- Goodlad, John. 1990. *Teachers for our Nation's Schools*. San Francisco: Jossey-Bass Publishers, 54–64.
- Grout, Donald. 1966. The divorce of music and learning. In *Perspectives in music education: Sourcebook III*, ed. Bonnie Kowall, 131–138. Washington: Music Educators National Conference.
- Hersch, Richard. 2007. Going naked. *AAC&U Peer Review* 9: 6.
- Hetland, Lois, Ellen Winner, Shirley Veenema, and Kimberly Sheridan. 2007. *Studio thinking: The real benefits of visual arts education*. New York and London: Teachers College Press.
- Colwell, Richard. 2011. Reflections on music teacher education. *Action, Criticism, and Theory for Music Education* 10(2): 127–160. [http://act.maydaygroup.org/articles/Colwell10\\_2.pdf](http://act.maydaygroup.org/articles/Colwell10_2.pdf)

- 
- Higher Education Research Institute. 2009. *The American college teacher: National norms for 2007–2008*. Los Angeles: HERI University of California, Los Angeles.
- Hope, Samuel. 2010. Creativity, content, and policy. *Arts Education Policy Review* 111: 39–47.
- Kaestle, Carl. 1983. *Pillars of the republic*. New York: Hill and Wang.
- Keller, George. 2008. *Higher education and the new society*. Baltimore: The Johns Hopkins University Press.
- Kelly, Steven. 2010. Public school supervising teachers' perceptions of skills and behaviors necessary in the development of effective music student teachers. *Bulletin of the Council for Research in Music Education* 185: 21–32.
- Koza, Julia. 2010. When policy disappoints: Still worth less after all these years. *Bulletin of the Council for Research in Music Education* 183: 77–95.
- Kronman, Anthony T. 2007. *Education's end: Why our colleges and universities have given up on the meaning of life*. New Haven and London: Yale University Press.
- Labaree, David F. 2010. *Someone has to fail: The zero-sum game of public schooling*. Cambridge and London: Harvard University Press.
- Lehman, Paul. 2008. Getting down to basics. In *Assessment in music education: Integrating curriculum, theory, and practice*, ed. Timothy S. Brophy, 17–27. Chicago: GIA Publications.
- Levine, Arthur. 2006. *Educating school teachers*. Princeton: The Education Schools Project.
- Levine, Donald N. 2006. *Powers of the mind: The reinvention of liberal learning in America*. Chicago and London: The University of Chicago Press.
- Lumina Foundation. 2011. *The Degree Qualifications Profile*. Lumina Foundation for Education, Inc.
- McPeck, John E. 1981. *Critical thinking and education*. New York: St Martin's.
- Meyer, Jeremy. 2010. DPS teacher evaluations don't mirror quality, group says. *Denver Post*, (February 19).
- Norris, S. 1992. The generalizability question. In *The generalizability of critical thinking: Multiple perspectives on an educational ideal*, ed. S. Norris, 1–15. New York and London: Teachers College Press.
- Nussbaum, Martha. 2010. *Not for profit: Why democracy needs the humanities*. Princeton and Oxford: Princeton University Press.
- Colwell, Richard. 2011. Reflections on music teacher education. *Action, Criticism, and Theory for Music Education* 10(2): 127–160. [http://act.maydaygroup.org/articles/Colwell10\\_2.pdf](http://act.maydaygroup.org/articles/Colwell10_2.pdf)

- 
- Pancieria, Joel. 1998. *Transfer of learning in choral settings*. DMA diss., Norman: University of Oklahoma.
- Paul, Richard. 1995. *How to prepare students for a rapidly changing world*. Dillon Beach, CA: Foundation for Critical Thinking.
- Paul, Richard, Linda Elder, and Ted Bartell. 1997. California teacher preparation for instruction in critical thinking: Research findings and policy recommendations. *ERIC Doc ED 537 379*.
- Paul, Richard and Linda Elder. 2001. *Critical thinking: Tools for taking charge of your learning and your life*. Upper Saddle River, NJ: Prentice Hall.
- Peter D. Hart Research Associates, Inc. 2008. How should colleges assess and improve student learning? Employers' views on the accountability challenge. Washington, DC: The Association of American Colleges and Universities. Online: [http://www.aacu.org/leap/documents/2008\\_Business\\_Leader\\_Poll.pdf](http://www.aacu.org/leap/documents/2008_Business_Leader_Poll.pdf). November 4, 2011.
- Regelski, Thomas and J. Terry Gates, eds. 2009. *Music education for changing times: Guiding visions for practice*. Dordrecht: Springer.
- Rhodes, Terrel. 2011. Making learning visible and meaningful through electronic portfolios. *Change: The Magazine of Higher Learning* 43(1): 6–13.
- Rifkin, Deborah and Philip Stoecker. 2009. A new taxonomy for learning in the music classroom. Paper given at the 2009 International Society for the Scholarship of Teaching and Learning, Bloomington, Indiana (October 14).
- Schmoker, Mike. 2011. *Focus: Elevating the essentials to radically improve student learning*. Alexandria: ASCD.
- Schubert, William. 2010. Journeys of expansion and synopsis: Tensions in books that shaped curriculum inquiry, 1968–present. *Curriculum Inquiry* 40(1): 17–94.
- Shulman, Lee S. 1987. Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review* 57: 1–22.
- Siegel, Harvey. 1993. The generalizability of critical thinking skills, dispositions, and epistemology. In *The generalizability of critical thinking: Multiple perspectives on an educational ideal*, ed. W. Norris, 97–108. New York and London: Teachers College Press.
- . 1988. *Educating reason: Rationality, critical thinking, and education*. London: Routledge
- Colwell, Richard. 2011. Reflections on music teacher education. *Action, Criticism, and Theory for Music Education* 10(2): 127–160. [http://act.maydaygroup.org/articles/Colwell10\\_2.pdf](http://act.maydaygroup.org/articles/Colwell10_2.pdf)

- Solomon, Jesse. 2009. The Boston teacher residency: District-based teacher education. *Journal of Teacher Education* 60(5): 478–488.
- Sternberg, Robert J., Linda Jarvin, and Elena L. Grigorenko, eds. 2009. *Teaching for wisdom, intelligence, creativity, and success*. Thousand Oaks: Corwin.
- Sternberg, Robert J. and Wendy Williams. 2010. *Educational psychology*, 2<sup>nd</sup> edition. Upper Saddle River, NJ: Merrill.
- Swartz, Robert J., Arthur Costa, Barry Beyer, Rebecca Reagan, and Bena Kallick. 2008. *Thinking-based learning: Promoting quality student achievement in the 21<sup>st</sup> century*. New York and London: Teachers College Press.
- United States National Commission on Excellence in Education. 1983. *A nation at risk: The imperative for educational reform: A report to the Nation and the Secretary of Education, United States Department of Education*. Washington: US Government Printing Office.
- Valanides, Nicos and Charoula Angeli. 2005. Effects of instruction on changes in epistemological beliefs. *Contemporary Educational Psychology* 30: 314–330.
- Vest, Charles. 2006. In *A test of leadership: Charting the future of US higher education*, ed. M. Spellings. Washington: US Department of Education.
- Wang, Margaret C., Geneva D. Haertel, and Herbert J. Walberg. 1993. Toward a knowledge base of school learning. *Review of Educational Research* 63(3): 249–294.
- Westerlund, Heidi and Lauri Vakeva. 2011. Who needs theory anyway? The relationship between theory and practice of music education in a philosophical outlook. *British Journal of Music Education* 28(1): 37–49.
- Willingham, Daniel. 2007. Critical thinking: Why is it so hard to teach? *American Educator* 31(2): 8–19.
- Wilson, Heather. 2011. Our superficial scholars. *Washington Post*, January 23.
- Wilson, S., R. Floden and J. Ferrini-Mundy. 2002. Teacher preparation research: An insider's view from the outside. *Journal of Teacher Education* 53(3): 190–204.
- Winner, Ellen and Lois Hetland, eds. 2000. Special issue: The arts and academic achievement: What the evidence shows. *Journal of Aesthetic Education*, 34 (3–4).
- Zimpher, Nancy. 2011. SUNY: The key to economic revitalization lies in teacher preparation. *Teachers College Record* (January 10).

## Notes

<sup>1</sup> Later publications reflect less direct transfer.

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