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Implications for Music Educators of an Interdisciplinary Curriculum

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Abstract

This article makes the case that authentic music learning need not be sacrificed nor compromised in any way when the music teacher designs and teaches curricula and units of study that integrate music learning with learning in other academic subjects, including other fine and performing arts subjects. The author argues that music teachers may think they are losing instructional time in the service of other subjects when, in fact, if music teachers understand the cognitive connections and shared information among subjects, they have opportunities to enhance music learning in substantive and authentic ways. Some sample curricular designs are outlined in the article as examples of how learning among subjects can serve multiple subject areas, including music.

Imagine that the XYZ Middle School choral music teacher has decided to produce Lionel Bart's musical play *Oliver!* with the seventh and eighth grade chorus this year. She approaches the language arts and social studies teachers for those grades and inquires about the possibility of extending the learning experience to subjects other than music. The language arts teachers note that *Oliver!* is based on the Charles Dickens novel *Oliver Twist* and propose that they can have the students read that and other novels with themes of social injustice or childhood poverty and abuse. They believe that this collaboration could lead to a unit on rhetoric and persuasive writing. The social studies teachers decide that it would work well for them to have their seventh and eighth graders study the Industrial Revolution, concentrating on issues of child welfare and labor, the growth of

urbanization, and environmental pollution. All these teachers will discuss how works of literature change when they are translated into theatrical pieces, focusing on *Oliver!* and *Les Miserables*.

The seventh grade general music students will study about the American and British musical comedy as an art form. They will learn to sing and dramatize songs from various shows, noting the musical form, vocal demands, and stylistic features of the songs. In addition to *Oliver!* they will study *West Side Story* and how its libretto is essentially a modernized version of Shakespeare's *Romeo and Juliet*. They will also interview their grandparents and great-grandparents, or other elder relatives and friends, about their memories of Rodgers and Hammerstein and Lerner and Loewe songs in the 1940s, '50s, and '60s.

While the foregoing scenario is fictitious, it is a fact that interdisciplinary or integrated curricular designs have proliferated in U.S. K-12 education, and even in higher education, in the years since Howard Gardner first proposed his theory of multiple intelligences. The concept of learning information from various points of view and through multiple subject areas is not new and has had an impact on education, in one form or another, for some time. Since the mid-1980s, however, the movement has gained momentum that continues to build (Bresler, 1995). Various forms of interdisciplinary models for delivery of instruction have been widely adopted in classrooms, schools, and school districts across the U.S. (Drake, 1998).

Ideally an interdisciplinary curriculum enables a child to learn concepts from several cognitive and experiential points of view. The child is able to wed the discriminative and inferential modes of learning (Gordon, 1997). Facts, figures, information, and ideas are transmitted to the learner through a number of subject areas, each with its unique point of view. The expected outcome is that the child learns to infer or generalize from information learned in one subject area to gain understanding of the other subject area, and vice versa. While pre- and post-test designs to measure the learning that occurs in this setting have yet to be developed, educators are enthused about the concept of interdisciplinary learning for a number of reasons (Bresler, 1995). Teachers who have traditionally taught their own curriculum, or their own version of a curriculum, now work as members of a team, sharing ideas and approaches. This team approach has often led to exciting and unexpected results in terms of creative and innovative instructional design and implementation (Fogarty, 1995).

Administrators are often enthusiastic about interdisciplinary curricula or units of study, because they see a groundswell of teacher and student morale generated by some of these projects. Principals are also finding that some subject areas that are considered by students to be dull or redundant are enjoying a heightened interest, because they are being taught in more novel and engaging ways (Arredondo & Rucinski, 1998). There is some evidence to suggest that children/learners are themselves quite interested and engaged in learning that crosses subject areas. For example, students have reported positive reactions to math classes that include visual arts projects (Schramm, 1997). Children in the elementary grades have indicated considerable enthusiasm for language arts classes that include drama and visual arts components together with traditional reading and writing (Blecher & Jaffee, 1998). Interdisciplinary course offerings in middle schools have resulted in increased interest in social studies courses when these have featured instruction in the form of learning native dances, performing music, and dramatizing myths and folk tales that characterize cultures that are foci of the social studies curriculum (Drake, 1998).

Imagine another scenario. Elementary general music teacher *A* is in a quandary. He is reluctant to forego his planned music curriculum for the fifth grade classes in order to participate in the fifth grade interdisciplinary curriculum on "Recycling and the Environment" that has been planned for the entire school for the next semester. This music teacher believes that such a project has little or no relevance to music, offering at most the opportunity for the children to learn or create a couple of recycling raps or to create soundscapes using trash items as sound sources. The music teacher believes that such projects could and should take place not in music class but in the language arts or science sections of the curriculum.

Teacher *A* understands that there may be limited music-learning potential in performing songs or rhythmic chants whose main relationship to the theme of recycling and the environment is through textual references. The teacher considers the idea of having the class collect recyclables for music instrument construction but is concerned about whether this time-consuming activity is going to promote a greater understanding of recycling and the environment or of music. Teacher *A* decides that these music class activities, while perhaps relevant to the overall curricular theme, do not necessarily promote authentic music learning. This authentic music learning is in contrast to music learning that focuses only on more superficial aspects, such as text meanings, or easily observable traits such as dynamics, tempo, mood, and timbre.

Music educators often have mixed emotions about interdisciplinary curricula and the part music can or does play in the design and execution of interdisciplinary lessons and units (Wiggins & Wiggins, 1997; Whitaker, 1996). Some music educators are passionately devoted to the concept, while others are reticent and consider interdisciplinary curriculum to be yet another way of measuring the importance of their subject area by how well it develops learning abilities in the "academic" subjects. These educators might be encouraged by Gordon Shaw's theory that all learning is a result of highly complex brain activity and that musical learning is, therefore, probably neither a greater nor a lesser influence on the development of the brain than is something like mathematical learning (Shaw, 2000). That is to say, recent research suggests that learning music may be just as likely to influence the development of cognitive functioning as learning in any other subject area.

Music educators may feel torn by considering the possibilities and, at the same time, the perceived limitations of interdisciplinary curriculum. They may fear that genuine music learning will be compromised because precious class time (which is probably already severely limited, particularly in elementary schools) will be primarily occupied by the activities and projects of the broader curriculum. For example, sixth grade children should be learning about the modes and how to sing, play, and improvise using modal harmonies yet be spending music class time rehearsing folk dances and songs for a puppet show from Southeast Asia in order to adhere to the interdisciplinary curriculum titled *Cultures of the Pacific Rim* in which the entire school is engaged.

Elementary school music educators in the U.S. typically see a few hundred children for about one hour per week (NCES, 1994). The social studies teacher, on the other hand, might work with the same three or four groups of students every day for 45 minutes or more. The language arts and math teachers probably see a few groups of students every day for even longer periods of time. This inequity in terms of class time and student-teacher contact hours means that if the music teacher is to participate in an interdisciplinary curriculum or unit of study, authentic music learning may, in the music teacher's opinion, have to be set aside, at least for a period of time.

Most music educators are unwilling to set aside any time for activities not perceived as contributing to authentic music learning, since their class contact time is already minimal in the typical school setting. As a result, classroom teachers and the administration may perceive the music educator as uncooperative or disinterested when it comes to planning interdisciplinary curricula. Perhaps the operant word in the previous sentence is “planning.” Music educators may or may not be invited to the initial planning sessions when themes or concepts which will form the basis for interdisciplinary curricula or units are first discussed. Whether or not they are invited to the initial planning sessions, academic teachers and administrators may ask or even expect music teachers to “teach some songs or dances that go along with” the planned unit of study or curriculum. Understandably, most music educators balk at the idea of participating in any curricular projects in which they had little or no part in planning from the outset.

What might be some options for Teacher *A* in the scenario above? This individual might consider alternative ways to think about a theme that has already been established by the teachers of language arts, social studies, mathematics, and science at the school. For example, Teacher *A* might consider which elements of the *concept* of recycling are common to environmental protection and to music. What is the essence or underlying concept of recycling? Constructing a word bank might yield terms relevant to recycling such as consumerism, waste, multiple uses, trash, form and structure, chemical compounds, biosphere, and cycles. Two of the foregoing terms, *form and structure* and *cycles*, stand out as terms that are also relevant to authentic music learning.

In terms of form and structure, recycling usually means that an item is melted down or otherwise deconstructed and then reformed or reconstructed into a fundamentally different form. For instance, old auto and truck tires become high school running tracks and tennis courts. The original material (rubber and other compounds) is still present in the new form, but the appearance and function of the new form are completely different.

In music, the concept of thematic transformation could be seen to be analogous to the foregoing. Thematic transformation can be as straightforward as theme and variations, improvisation, or the *leitmotiv* concept and how a *leitmotiv* may alter or change to fit a musical-dramatic scenario—or as subtle as ornamentation in *bel canto da capo* arias. Tracing one melody, such as “Amazing Grace”; “The Streets of Laredo”; “Twinkle, Twinkle Little Star”; or “Aura Lee” through various incarnations, arrangements, and cultures demonstrates how musical material is *recycled* and transformed for reuse that fits new needs and circumstances. Beethoven, master of thematic transformation and frugality in terms of use of musical material, demonstrates in the first movement of the Fifth Symphony how one small musical motif, through various kinds of thematic transformation, can become the major component of a 15-minute movement. Bach, in setting and resetting his own and others’ musical works, is an excellent example of musical thriftiness. Having a class listen to arrangements of a popular tune (e.g., “A-Tisket A-Tasket”) sung by children who are playing a game and compare that with the jazz version featuring by Ella Fitzgerald—or discuss the differences they hear between a recording of “Cotton-Eyed Joe” in the original bluegrass musical style as compared with the recent techno-rock recording of the same tune is another effective way to demonstrate musical recycling.

Regarding the concept of cycles, numerous examples of music features cyclic forms and forms within forms. Scale fragments, in the major/minor tonal system, often serve as the basis for cyclic forms of melodic construction. Harmonic progressions often occur in cyclic formation, the blues progression being one example and the oft-played

“Heart and Soul” chord progression being another progression familiar to most children. Rhythmic patterns occur in cyclic structures in many compositions. Musical forms such as the rondo and all ternary song forms are essentially cyclic. In addition, there are larger forms that are even labeled *song cycles*—and there is the cycle of operas by Richard Wagner known as the Ring Cycle. The Four Seasons, a set of *concerti grossi* by the Baroque Italian composer Antonio Vivaldi tonally depicts the cycle of changing seasons, with each concerto containing cyclic forms within the larger form.

In an integrated curriculum or unit on recycling and the environment, the above approaches to music learning could easily include opportunities for authentic music learning. Building *tunable* and *resonant* musical instruments using objects whose original purpose was not to produce music nor even sound can provide another kind of authentic music learning because pitch and resonance, while being scientific/acoustic phenomena, also have meaning in music. Students could stretch their ability to understand pitches, intervals, and scalar structures through this kind of lesson or unit. This activity need not be ultrasophisticated: tunable glasses or ceramic containers of varying shapes and sizes, filled with different levels of water, can provide an easily comprehended lesson in tuning to very young children as well as middle schoolers.

In a final fictional scenario, elementary school language arts and music educators have teamed up to work on a curriculum that centers on the issue of written or notated language. Third graders will create phrases and words for an invented, spoken language and the written symbols to represent it. They will also create original musical compositions and invent notation for their works. These teachers believe that the process of creating and then notating languages, spoken and musical, will help the children understand better the abstract and metaphorical thinking processes that are the foundation of all written human expression.

Identifying a concept that is central to multiple subject areas may prove highly revealing to the educator who sees little or no relationship between her subject area and those of others (Wiggins & Wiggins, 1997). Through conceptual thinking, music teachers may find that there are few interdisciplinary curriculum designs that cannot be interpreted in such a way as to promote authentic music learning and that hence develops children’s capacity for educative experience across as well as within the conventional divisions of the school curriculum.

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About the Author

Glenda Cosenza is Assistant Professor in the School of Music at Northern Illinois University. Her research interests include the impact of music on urban school children's language arts skills, how preservice music educators become reflective learners and teachers, and developing and testing curricula that integrate popular musical forms into music education. Cosenza points out that at a recent Learning and the Brain Conference, sponsored by Harvard and MIT, in Boston, MA, several sessions focused

on the topic of music learning and brain development. Specifically, these sessions described how music behaviors (creating, performing, listening) affect the brain in ways similar to how reading, writing, and mathematical thinking affect the brain. While the author and others in music education have intuitively understood these connections, Cosenza comments, the field of neuroscience is helping us to broaden our understanding of why interdisciplinary learning may be the most effective approach to learning. Readers interested in more information about this paper can contact the author at the School of Music, Northern Illinois University, DeKalb, IL 60115. E-mail: gcosenza@niu.edu.

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