MUSIC AND THE THEORY OF MULTIPLE INTELLIGENCES

Gardner's theory has lent itself to classroom activities that exercise different intelligences, but some music activities supposedly based on this theory may be misguided.

BY CATHY KASSELL

Fifteen years ago, Howard Gardner wrote a book that was destined to become a rallying point for educators throughout the world. Always eager for outside validation, music educators were vocal in their excitement and welcomed *Frames of Mind: The Theory of Multiple Intelligences.*[1] Finally, here was confirmation of what some teachers had known all along—paper-and-pencil linguistic tests and logical, mathematical tests were not enough to measure intelligence. There were multiple intelligences—linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal.[2] Gardner theorized that "an intelligence can serve both as the content of instruction and the means or medium for communicating that content."[3] He thought that if a student was having difficulties understanding a principle in mathematics (the content), then the teacher could provide an alternative route (pathway) to understanding the concept (the medium or metaphor). In the past, the alternative route has most often been linguistic. Gardner suggested using one of the other intelligences as a medium for understanding the concept.

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Workshops, videotapes, and curricula flooded the market as teachers leapt onto the multiple intelligences (MI) bandwagon. Many teachers were approached by their principals and asked to design curricula that incorporated the MI theory. While all of this activity was interesting to observe, applications of the MI theory, in some cases, have created problems. In the attempt to address each intelligence equally, some teachers are developing curricula that often do not address any of the intelligences, much less musical intelligence, with substance. Some teachers are starting to balk when confronted with the way that music is treated and distilled within an MI lesson. Gardner himself reports that he has been "jarred" by attempts to teach all concepts or subjects using all the intelligences.[4]

Music educators need to stop and reflect critically before applying the multiple intelligences theory and consider the integrity of music and learning in general. As Gardner has written, "Only when educators clearly state and agree upon these larger goals—to teach for understanding, to prepare individuals for the world beyond school, to develop each person's potential fully, and to make sure that students master core knowledge—does it make sense to ask: 'Can MI be useful in pursuit of this goal. If so, how?'"[5] We need to examine the purpose of music education within the broader framework of education. Armed with a philosophy of music education, music educators will then be better equipped to answer demands that are made on them by the public and administrators to include MI activities in their music programs. As music educators, once we take the time to understand what Gardner's theory suggests, we probably will be able to devise applications of the theory that reflect "curriculum focused on understanding."[6] However, without considering the larger purpose of education

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Multiple Intelligences, as identified by Gardner's theory

- linguistic intelligence
- musical intelligence
- logical-mathematical intelligence
- spatial intelligence
- bodily-kinesthetic intelligence
- interpersonal intelligence
- intrapersonal intelligence

Source: This listing is based on *Frames of Mind: The Theory of Multiple Intelligences* by Howard Gardner (New York: Basic Books, Harper Collins, 1993).

and how we fit into that picture, we do ourselves no service.

Several types of MI activities deserve to be examined closely because they are popular and reach a wide audience of general educators. Even though these types of activities are usually presented with a disclaimer that they are not meant to take the place of a comprehensive music program, it makes no sense to use them if they are neither musically nor educationally sound.

Memory Devices and Drills

Much of the MI literature suggests exercises that link memorizing academic content with rhythms or simple songs. One reason this should concern teachers is the message it sends to students, administrators, and peers about the function of music; it suggests that music is simply a tool for enhancing memory. Another reason educators should be concerned is that this type of repetitive drill and practice fails to lead students to what Gardner calls "genuine or performance understandings" and makes the uses of the intelligences essentially trivial.[7]

For example, according to Gardner, if you are going to use music to teach a mathematical concept, the concept must be transferred back into mathematics if genuine understanding is to take place. Without making the translation back into mathematics, Gardner says that the students will never really think mathematically about the mathematical concept.[8]

Take my experience with music and math, for instance. A mathematics teacher once approached me and asked if I could teach songs or have my students write songs about division. I did this willingly. But on reflection, I realized that when my students sang songs, wrote words to songs, or made up game songs about mathematics, they weren't really doing math in a mathematical context or music in a musical context. Although the activities were an attempt to use music to communicate math, the math teacher and I had not translated the songs back into "doing" division (presumably real-life applications of division and not just workbook problems). Neither had we used the songs in a way that would further the students' thinking and understanding in and of music.

Another activity from an MI lesson resource book suggests that to internalize the main element that is being emphasized in a lecture, students should chant or express the point in a rhythmic format.[9] This particular activity had the goal of teaching John Locke's concept of natural law. For this lesson, the class is divided with one-half chanting "natural law, natural law, natural law, natural law" and the other half repeating "life, liberty, happiness, life, liberty, happiness."[10] The reader can imagine how an activity of this kind resembles a shouting match. Merely chanting the rhythm patterns to memorize the phrase does not give students the opportunity to understand the philosophical concept behind it. It is merely the memorization of a stock phrase, with no further inquiry. There is no possibility of really understanding John Locke's law. These kinds of activities give the appearance of success and student engagement, but there is really no learning.

As musicians, we realize in this example that the material is not being taught through an application of musical intelligence. The material is being memorized and applied within a linguistic context of a song. Although the students are still using linguistic intelligence for memorizing and presenting the information, there are really no "multiple entry points" (as Gardner calls them) into the curriculum. Gardner describes what he means by "genuine understanding":

> Not only are chances of acquiring understanding enhanced if multiple entry points are recognized and utilized, but in addition, the way in which we conceptualize understanding is broadened. Genuine understanding is most likely to emerge and be apparent to others, if people possess a number of ways of representing knowledge of a concept or skill and can move readily back and forth among these forms of knowing.[11]

If a music teacher were to involve himself or herself in the design and

implementation of the John Locke activity, then perhaps the musical connections might be situated in the historical context of the seventeenth century. However, as the study of natural law is philosophically complex, a direct connection to music would end up being forced and superficial.

Linguistic Activities

Writing the lyrics to songs to demonstrate one's understanding of the content of a lesson is a consistent suggestion from many sources for integrating the intelligences into lessons. Writing song lyrics might demonstrate a superficial level of understanding, but how deeply and how seriously can a student analyze and synthesize information when the constraints are a rhyming song with specific syllabic patterns? The following two verses were selected from a culminating MI activity in a social studies unit on multicultural art; the authors of the lesson believe that musical activities, such as clapping, singing, and tapping, are an enjoyable way to memorize information even if students have had no prior experience with music.[12] The students chose to create a song to the tune of "When Johnny Comes Marching Home":

> In China they made paper and they printed on it too.
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> They also built pagodas and made kites that really flew.
>
> They painted dragons in the air,
>
> They played their music everywhere,
>
> And they all had art that we have learned about.
>
> In Africa, they kept the beat, Hooray, Hooray.
>
> They played their drums and danced their feet, Hooray, Hooray.
>
> They dyed their cloth with patterns bright
>
> And sculpted metal to catch the light.
>
> And they all had art that we have learned about.[13]

As an example of a culminating activity from a unit on multicultural art, this is a painfully superficial activity. The juxtaposition of the dirge minor melody and the upbeat tempo disguise the depth and poignancy of this song originally written to depict a critical time in U.S. history.

Spelling Lessons

Sometimes, MI activities relate to spelling lessons. In one such activity, students spell new words to music because such an approach is "not only fun, but accelerates learning."[14] To accomplish this, students are asked to label the keys of the piano with the letters of the alphabet and then asked to play the spelling words on the piano. After they have done this, the students are asked to remember the sounds of each word and spell the word correctly.

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This is blatantly unmusical for several reasons. Labeling the keyboard using the entire alphabet can not only be confusing to students who are already familiar with the musical alphabet, but it is simply not an authentic musical experience. First the keys have to be labeled. The decision must be made as to where to start labeling the keyboard and whether one is going to include the black keys.

Let's try this activity with the word "zebra," without using the black keys. If we were to begin the alphabet on the very bottom note of the piano the letter Z would not occur until the note E above middle C. This in itself is inconvenient for two reasons: (1) there is no way children would be able to sing the first twenty letters, and (2) it is very difficult to remember tonal patterns if they are not in a vocal range that is comfortable for the singer. At this point, we have established that the letter Z is the note E above the note middle C.

The next letter in zebra, E, offers the choice as to whether you would travel up the alphabet (or up the keyboard), or down the alphabet. Since the letter E is only five steps away from the letter Z (assuming the validity of the postulate that A follows Z), that is what we will choose. Now we choose to move back down two steps to the letter B in zebra. Then we travel up to the letter R four octaves above the note middle C, a note beyond human range. Since we will run out of notes if we continue up for our final letter A (which is the note F), we must jump down several octaves to finish on F above middle C.

Confusing? None of us could replicate this pattern. With just random notes all over the keyboard and no tonal center, it would be very difficult to memorize the tonal pattern to remember the spelling of "zebra." Of course, the activity is painstaking, and in the interim, the students might learn the spelling of zebra because of the process but not because it is musical and certainly not because spelling is couched in an authentic and contextual use.

Teachers need to become more wary of pulling skills out of context and equating memorization with understanding, both of which facilitate an environment that simply relies on rote learning and transmission of information. Unfortunately, as John Dewey pointed out, "it is possible for the mind to develop interest in a routine or mechanical procedure if conditions are continually supplied which demand that mode of operation and preclude any other sort."[15]

What Might Work

When considering these issues, it might be necessary for educators to concede that discrete discipline skills (music and otherwise) cannot be taught within an MI unit. If the purpose of education is, as Gardner and Veronica Boix-Mansilla have stated, "the capacity to use current knowledge, concepts, and skills to illuminate

new problems or unanticipated issues,"[16] then perhaps similar pedagogies, thinking skills, or higher order concepts (rather than isolated MI activities) should be the integrative thread. Further, Gardner and Boix-Mansilla also believe that for interdisciplinary work to be carried out effectively, students must have a base level of understanding in the relevant disciplines.[17] As music educators, we can interpret this base level of understanding to be the achievement standards that are outlined in the National Standards for Music Education.

If music educators still desire to create MI interdisciplinary units, links can be made that make use of music as a discipline and as a way of knowing, rather than making superficial connections that compromise the integrity of a music program. Some interdisciplinary connections may seem deductive and analytical, devoid of musical experiences, in which students do not experience musical thinking. However, in these kinds of interdisciplinary units, students do experience correlation in a broader sense. They can begin to make connections and understand the ways that music can extend and add to other contexts and disciplines. Certainly, there also can be interdisciplinary connections designed in which students are asked to actively experience music through listening, creating, improvising, or performing. Consequently, as Gardner and Boix-Mansilla have cautioned, teachers should think twice before throwing "out the 'disciplinary baby' with the 'subject matter' bath water."[18]

Music can function as a discrete discipline, as a way of knowing, and, according to Carol Edelsky, as "aesthetic, cultural (and therefore ideological) phenomena, created under particular social, political, and economic conditions."[19] An interdisciplinary unit can use music as a multiple entry point to extend the understanding of a concept. For example, a unit called "Escalation of Violence in America in the last Decade" allows students to examine the concept of violence by viewing these issues through multiple disciplines.[20] In the subject area of music, students consider violence as a thematic element in rap and graphic sound effects in movies. Rather than making up a rap tune to demonstrate their understanding of violence, students examine the ways that rap has been influenced or has influenced violence in America.

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An established music program that emphasizes an understanding of the sound/symbol notational system, the importance of acquiring discerning listening skills, and the significant social and historical role of music within cultures would also allow students to understand not only a social and musical historical framework for rap, but also its underlying rhythmic and melodic constructs. This kind of musical understanding would raise an awareness of rap that would transcend linguistic imagery and would provide a framework for a musical symbolic system or notation system; Gardner believed each intelligence must have such a system. Students who are able to analyze the musical value and linguistic implications of rap would be in a better position to make connections with other forms of musical structures. Music plays a powerful role in this perspective; it is constructive in its application, both musically and educationally.

Integrating Music

Perhaps the broader overarching question we should ask is: How can music be incorporated effectively within an integrated setting? To be even more explicit, what are the fundamental beliefs classroom teachers and music teachers hold about the aim of general education within these musically involved MI curricula? Rhythmic or melodic patterns can facilitate the memorization of facts and figures. However, it is possible to integrate music with educational and musical integrity in ways that can lead students to a deeper involvement with the basics of music literacy and can provide what Gardner had originally intended—"a multiple entry point."

Educators should not fall prey to the belief that MI theory is the ultimate answer to curriculum and assessment issues within the educational community. Whether there are seven intelligences or more, it is mandatory for today's educators to consider intelligences other than linguistic and logical-mathematics.[21] If, through a closer examination of what has been considered an equal application of intelligences, we discover that equal means diluting the intelligences to applications of their lowest common denominator, then we must continue to evaluate, revise and seek other interpretations and solutions and not content ourselves with quick fixes or panaceas.

As with any significant educational issue, the theory of multiple intelligences raises concerns that lend themselves to partisanship. Rather than situating ourselves in one camp or another, the theory provides for music educators the opportunity to engage in a dialogue that encourages each of us to examine more closely and reflect more deeply on the purpose of education, our practice, and our philosophical beliefs.

Notes

1. This article is based on some of the ideas included in a presentation given by the author at the Ithaca Conference '96: Music as Intelligence and published in the proceedings *Ithaca Conference '96: Music as Intelligence Sourcebook* (Ithaca, NY: Ithaca College, 1996), 117–32.

2. Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences* (New York: Basic Books, Harper Collins, 1993).

3. Howard Gardner, *Multiple Intelligences: The Theory in Practice* (New York: Basic Books, Harper Collins, 1993), 32.

4. Howard Gardner, "Reflections on Multiple Intelligences: Myths and Mes-

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sages," *Phi Delta Kapan* 77, no. 3 (1995): 206.

5. Howard Gardner, "Multiple Intelligences as a Partner in School Improvement," *Educational Leadership* 55, no. 1 (1997): 20.

6. Howard Gardner, "The First Seven ... and the Eighth: A Conversation with Howard Gardner," *Educational Leadership* 55, no. 1 (1997): 11.

7. Gardner, "Reflections on Multiple Intelligences: Myths and Messages," 206.

8. Gardner, *Multiple Intelligences: The Theory in Practice,* 33.

9. Thomas Armstrong, *Multiple Intelligences in the Classroom* (Alexandria, VA: Association for Supervision and Curriculum Development, 1994), 77.

10. Ibid., vii.

11. Howard Gardner, *The Unschooled Mind* (New York: Basic Books, 1991), 13.

12. Linda Campbell, Bruce Campbell, and Dee Dickson, *Teaching and Learning through Multiple Intelligences* (Stanwood, WA: Campbell & Associates, 1992), 82.

13. Ibid.

14. Ibid., 89.

15. John Dewey, *The School and Society [and] The Child and the Curriculum: A Centennial Edition* (Chicago: University of Chicago Press, 1902/1990), 207.

16. Howard Gardner and Veronica Boix-Mansilla, "Teaching for Understanding: In the Disciplines and Beyond," *Teachers College Record* 96, no. 2 (1994): 200.

17. Ibid., 208.

18. Ibid., 199.

19. Carol Edelsky, Bess Altwerger, and Barbara Flores, *Whole Language: What's the Difference?* (Portsmouth, NH: Heinemann, 1991), 65.

20. Lynn Erickson, *Stirring the Head, Heart, and Soul: Redefining Curriculum and Instruction* (Thousand Oaks, CA: Corwin Press, 1995), 115.

21. Gardner has recently defined an eighth intelligence—naturalistic intelligence, which is the ability to recognize patterns in nature and classify objects. See Kathy Checkley, "The First Seven ... and the Eighth: A Conversation with Howard Gardner," *Educational Leadership* 55, no. 1 (1997): 8–13. ■