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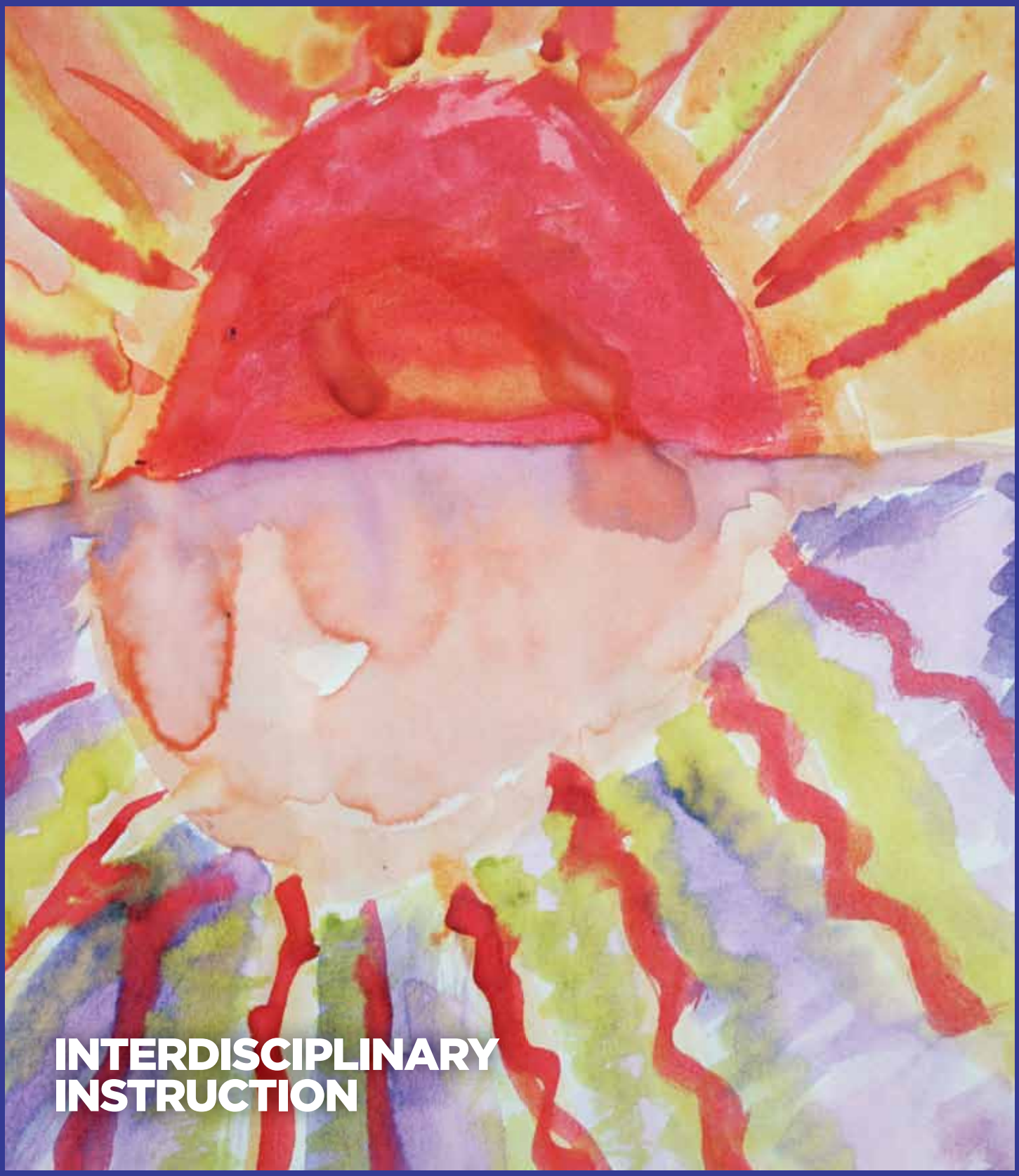

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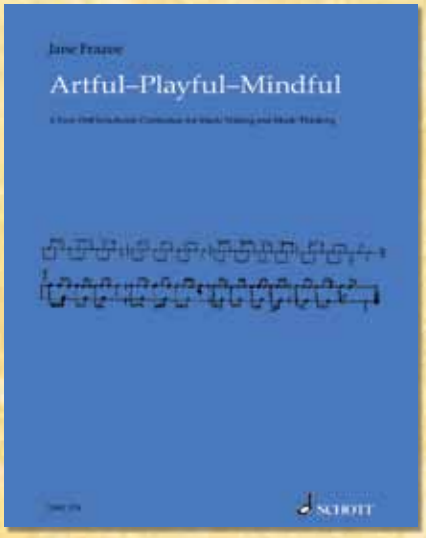

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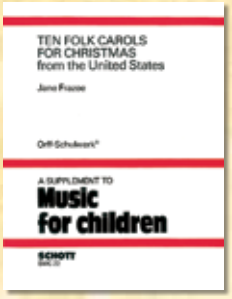

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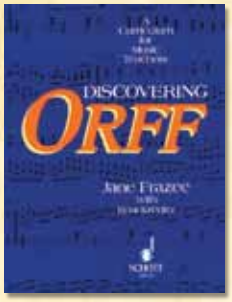

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By Jordan Johnson, a student at Trent Elementary School in Spokane, Washington. Art teacher: Sami Perry, who was an artist-in-residence at the school.

FEATURES

COLUMNS AND DEPARTMENTS

President's Message

Focus on Research

Orff Schulwerk: Contemporary Applications

IN REVIEW

CORRECTION: In the Summer, 2012 issue of the Echo, page 13, Figure 1, the activities were misplaced under the wrong headers. In other words, under "Change" appear the activities for "Patterns," and vice versa. We regret the error.

American Orff-Schulwerk Association

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Web site: http://www.aosa.org
Affiliate of MENC: The National Association for Music Education

Mission Statement

The American Orff-Schulwerk Association is a professional organization of educators dedicated to the creative music and movement approach developed by Carl Orff and Gunild Keetman.

Our mission is:

- To demonstrate the value of Orff Schulwerk and promote its widespread use;
- To support the professional development of our members; and
- To inspire and advocate for the creative potential of all learners.

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The Orff Echo Mission Statement

The Orff Echo is the national peer-reviewed quarterly journal and philosophical voice of the American Orff-Schulwerk Association.

Editorial Calendar

Issue	Topic	Coordinator(s)	Contributor's Deadline
Spring 2013	Orff Schulwerk and the Inclusive Classroom	David Thaxton	Sept. 15, 2012
Summer 2013	Open Submission	Nick Wild Patty Reed	Jan. 15, 2013
Fall 2013	TBD	TBD	March 15, 2013

We seek articles on these topics as they relate to Orff Schulwerk or to broader areas of teaching and learning. Editing and production is in process for some articles one year ahead of the publication date. If one of these topics appeals to you, please contact the appropriate editorial coordinator soon. Also, articles on topics other than those listed above may be considered at any time. Before submitting manuscripts, please contact the editor for a copy of editorial guidelines. We cannot guarantee the publication of any submitted material.

For guidelines or other editorial queries, please contact: echoeditor@aosa.org. Articles published in *The Orff Echo* are the opinions of the authors and do not represent the official stance of AOSA.

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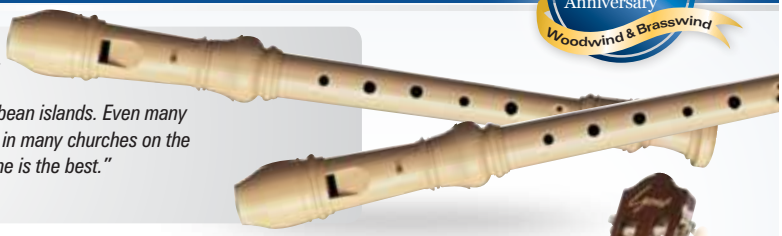

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BY KAREN BENSON

What's The Buzz?

"What's the buzz? Tell me what's a-happening..."

—From the rock opera "Jesus Christ Superstar"[1]

Although the original context of these lyrics was different, the question and phrase resonate with today's broader educational spectrum.

A recent search on various education websites produced a list of trends and issues actively addressed online. You may also see these appearing in a school district or learning community near you.

The issues on my initial list included:

- twenty-first century learning skills
- forty developmental assets
- brain research in education
- collaboration
- common core curriculum
- constructivism
- cooperative learning
- creativity
- critical thinking
- differentiated instruction
- diversity
- engagement
- equity
- fluency and literacy
- global education
- inclusion
- inquiry-based learning
- learning styles
- multicultural education
- technology

Are any of these familiar to you and your teaching situation? Have you enjoyed professional development in one or more of these areas?

Across our country, teachers experience a multitude of educational trends. Some have new names, or shiny new research that backs their claims of success. Those with lasting, significant value are integrated into schools' programs and approaches. But teachers may find it daunting to keep informed about best practices in all of these areas, especially when larger class sizes, less planning time, more standardized testing, and fewer resources prevail.

Reflecting as music and movement educators, how does Orff Schulwerk convey, support, and enrich these trends and educational theories?

Orff Schulwerk pedagogy works with students of any age, race, religion, and socio-economic status. It engages each participant, building from each learner's baseline knowledge and skills. It promotes collaboration, cooperation, and critical thinking. Orff Schulwerk classrooms blend prior knowledge and experiences with innovation and creativity to form new connections, learning, and understanding. It reaches beyond borders, advancing students' repertoire and comprehension of cultures other than their own.

The Orff Schulwerk process uses a natural flow of imitation, exploration, labeling, and creating. These stages are ongoing and fluid. The media used in Orff music and movement environments involve speaking, singing, moving, and playing activities that stimulate the brain, exercise the body, and provide expression through language. We know these aspects are wonderful for learning. By connecting general educational trends to Orff Schulwerk classroom practices, we will strengthen the important role of music education in our schools.

For example, when I teach a class, students typically begin with movement. This stimulates the brain, brings oxygen into the body, and requires spatial awareness while moving through shared space. It also reinforces the sense of pulse and rhythm.

While working with partners or in small groups, students learn collaboration and cooperation and experience belonging to a team or group. When the students are given a task or problem to solve, such as developing a movement ostinato, they construct their strategies using prior learning and experiences. This nurtures their creativity in a non–threatening environment.

As instruction proceeds, students use their voices to speak or sing expressively. Reading lyrics and notation increases oral reading fluency and vocal inflection. In addition to the singing, instrument playing occurs with forms of body percussion, drums, or xylophones. Again, multiple regions of the brain are stimulated with these actions. When composing or improvising at the instruments, the children use critical-thinking skills to produce their music.

Innovations in technology allow students to easily and efficiently create audio and video recordings of their work. Sharing it with others is instantly possible through Internet video applications and live streams. Conversely, the world has much to offer my students by making visual and aural examples readily available to play or project. The virtual walls of the music room now stretch across the globe. Amazingly, all of this can happen within a single class period.

So, whatever the "buzz" might be in your educational setting, ask yourself, "What does the Schulwerk have to offer?" You may find that through active participation in music and movement, you are already incorporating many aspects of current educational theories and trends. ■

Karen Benson *is the president of AOSA. She teaches pre-kindergarten through fifth grade in the Millard Public Schools, Omaha, Nebraska and serves as an AOSA clinician at numerous conferences and workshops.*

1. Andrew Lloyd Webber (music) and Tim Rice (lyrics), "What's The Buzz," from *Jesus Christ Superstar*, film directed by Norman Jewison (Universal City, CA: Universal Home Video, 1999).

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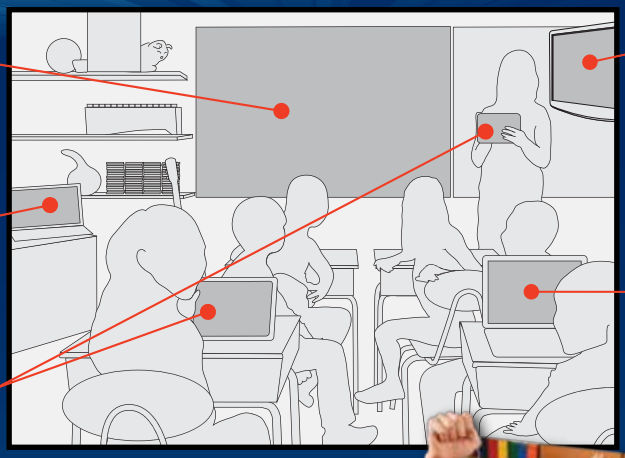

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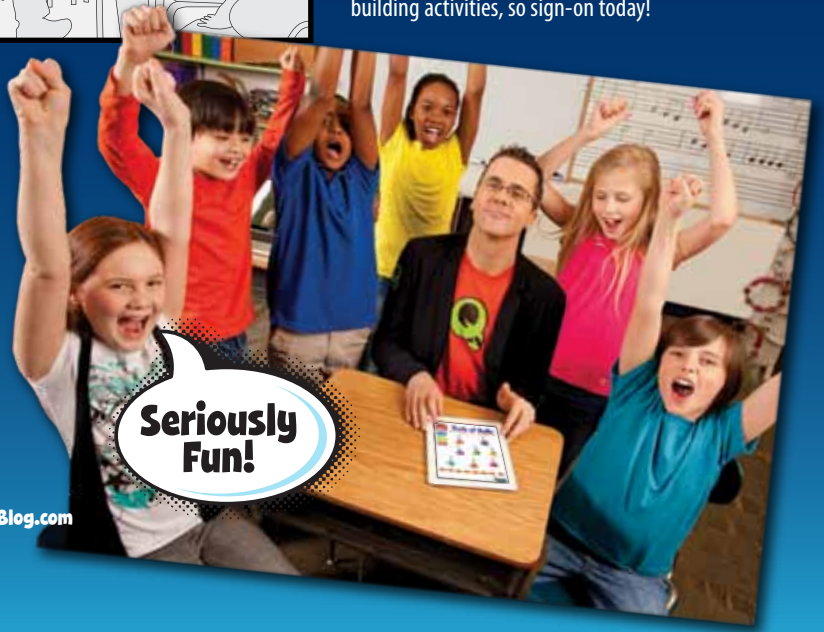

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Working Together: Interdisciplinary Ideas for Middle School

BY JOY HUGHES

Designing interdisciplinary lessons is a daunting task. Individual lesson planning is challenge enough: it requires a teacher to consider vertical alignment, national standards (singing, listening, appreciating, improvising, and playing instruments), Orff Schulwerk process and pieces from the Volumes, limited time with students, mainstreamed students, performance expectations, standardized testing, and Monday holidays. Where is time during the day to meet with other teachers? Which teachers would be interested and approachable? What does the administration support?

These issues can create teacher paralysis in the quest for integrated, relevant, imaginative, connected lessons. Yet time spent collaborating with other teachers deepens the core reasons for which many of us pursued teaching initially: to inspire, to open minds, and to give students rich experiences filled with opportunities that enable them to be active contributors in today's society. A positive role model of faculty working together in productive and creative ways cannot be over-emphasized. Students retain the lessons that we model far more than those we preach. Collaboration can also reinforce others' perceptions of music educators as integral, contributing members of the faculty, not just entertainment directors.

TWENTY-FIRST CENTURY SKILLS

Many in education say that today's American children—tomorrow's adults—need new, twenty–first century skills to be successful. However, many of these "new" skills are not new at all. Creativity, collaboration, communication, and critical thinking (to name a few) have always been necessary to a thriving society.[1]

A positive role model of faculty working together in productive and creative ways cannot be over-emphasized. Students retain the lessons that we model far more than those we preach.

What is new is that children's brains have been influenced with more electronic screen time than ever before. There are more diagnosed learning differences and challenges, changes in parenting styles, and technological advances. Multimedia communication, the economy, large-scale global and environmental issues, and the needs of businesses and employers dominate educational conversations around the globe.

What is also new is the demand that these so-called "new" twenty-first century skills be more effectively integrated and assessed in schools. Today's students face less stable communities, varied distractions, and immediate technological communications in their daily lives. These elements do not necessarily support sustained development of initiative, collaboration, innovation, and problem-solving in the same ways as playing with neighborhood children and building structures in the backyard once did. American children in general spend less time outside, in unstructured, free-choice play with peers, and working with their hands. Many of our students know more than we do about technology, but less about physical activity and social behavior.

As educators, we are already behind the curve of change, and we usually work within outdated systems of instruction. Our scheduling and classes emphasize discrete disciplines rather than big–picture thinking. Yet for our students to succeed in the future, we must engage children's imaginations, create relevance and connections, design for social interaction, plan assessments for individual and group accountability, and teach them to see beyond the artificial lines between disciplines. With all of these considerations, vertical alignment of lessons and integrity of content continue to be essential in teacher planning and for student outcomes.

ARTS TEACHERS AS INNOVATORS, CONNECTORS, AND COMMUNITY BUILDERS

As a graduate student, I experienced a transformative class about designing multicultural music curriculum, and witnessed Utopia—a middle school, arts-based interdisciplinary program.[2] Fresh out of graduate school, I arrived at my first teaching job in a middle school with gusto and passion for innovative lesson planning.

However, I soon learned that no arts-infusion framework was present, my skills were limited, and the reality of teaching middle school students in the throes of their physical and emotional changes did not always match my ideal scenario. Fortunately, many faculty members were patient with me, and willing to explore possibilities of

developing connected lessons without an administrative mandate.

I needed a strong interdisciplinary strategy to achieve the innovative goal I envisioned. The range of available interdisciplinary strategies is broad, ranging from parallel instruction to cross–disciplinary instruction to infusion.[3] These strategies work best in different situations.

In the absence of an administrative mandate or a school-wide framework, begin with parallel instruction. Capitalize on the obvious. If the seventh-grade social studies curriculum is American history, focus those students' music work on American music. If the American history class is year-long, and music class lasts only nine weeks, topics may not always be parallel, but students will have opportunities to see connections and relevance.

To create change at the grass-roots level toward cross-discipline instruction and team planning, find allies and start collaborating. Interdisciplinary work does not need long unit plans, nor does it need to involve everyone in a grade level or team to be meaningful and effective. Allies can even be in the visual arts. For example, a few of my art/music projects included Asian-inspired shadow puppet plays, class choreographies/class collages based on the same famous musical work, and parallel instruction such as Japanese brush-stroke art and setting haiku to pentatonic melodies.

You can also enlist the help of the librarian, English teacher, reading specialist, or classroom teacher. Explore the literature of a grade level. Use student writing in the music classroom. Long before I had Orff Schulwerk tools, I asked students to incorporate sounds and melodies into stories they wrote. In a later cross-disciplinary project, students studied meter in poetry and music simultaneously. They ended up writing limericks, the best of which we explored in music class and later presented to parents.

Starting small may be necessary, but the most transformative interdisciplinary work I have witnessed has been on a larger scale involving infusion. Note the Consortium of Arts Education description of infusion: "Students' learning and outcomes in infused approaches are focused on strong relationships between complementary subjects. One project or activity may show students' learning in both areas, since the relationship is so integral to both."[4]

Administrative appreciation, understanding, support, and sometimes mandates play a bigger role in making possibilities real. Grade-level field trips or a school-wide project such as a garden can link naturally to several subject areas. A school-wide cultural festival or year-long cultural focus can motivate and inspire collaborative efforts of faculty and parents. When culture is the focal point, set the context accurately and work for authenticity while honoring traditions, which discourages stereotypes and develops sensitivity.[5]

When working with multiple teachers, each teacher must avoid trite and

contrived connections, and follow an interdisciplinary instruction checklist, which may include measures such as "increases depth of understanding and student achievement… provides a balance among the disciplines… encourages formative and summative assessment… [and] develops higher-order thinking skills."[6]

To take interdisciplinary arts education a step further, consider this program model from Eastern Middle School, in Silver Spring, Maryland, which was the arts-infused Utopia I observed during graduate school in the 1990s. The whole framework of the A.R.T.S. (Arts to Reinforce Traditional Studies) program was designed collaboratively, with arts educators leading the academic team. Aimee Timmins, the arts coordinator, wrote, "The A.R.T.S. program is an interdisciplinary two-year sequence blending art, music, photography, computer technology, and dance with the regular academic program."[7]

Including arts educators into each academic team, and enabling academic planning time, as A.R.T.S. did, are great investments into our students and the skills they need. The result of connecting academic and arts teachers "brings about better success for the integration of the academic, creative, and aesthetic intelligence of the child."[8] Together, they addressed multiple intelligences and the needs and gifts of at-risk students in multiple ways. Another practical highlight of the program included scheduling longer blocks of time for project work, field trips, team-teaching, and grouping students by lesson intent, not just by class or subject. They adopted a major concept approach for interdisciplinary units: "creativity, unique/universal, change/evolution/revolution, and dependence/independence/interdependence."[9]

NATURE-BASED ART: THE SOUTH CAROLINA BOTANICAL GARDEN AT CLEMSON UNIVERSITY

Each year, from 2000 to 2006, our sixth graders at Christ Church Episcopal School, Greenville, South Carolina, participated in an interdisciplinary unit initiated by their innovative art teacher, Alice Ballard, and inspired by the nature-based sculpture at the South Carolina Botanical Garden at Clemson University in South Carolina. An all-day grade-level field trip provided a memorable and concrete experience for students. The sixth grade academic team of teachers developed lessons centered on nature, and executed some of these lessons outdoors at the garden.

FIGURE 1: Inspired by sculptor Andy Goldsworthy, students used natural materials to build various sculptures and artworks, cooperatively. Photography by Alice Ballard.

As a part of preparation for the field trip, students learned about famous conservationists, writers, and artists. They studied the art works of Andy Goldsworthy, who is known worldwide for his environmental art. They read and discussed writings of John Muir and Henry David Thoreau, and the history of Native American "Chief" Seattle. In the technology lab, they explored the web pages of the botanical garden through a scavenger hunt.

During the fall field trip, each teacher focused on a different sculpture site for his/her lesson activity. Students rotated between the different stations. At one sculpture, Crucible by Herb Parker,[10] students entered a man-made earthen clay hut and discovered a pattern based on the Fibonacci sequence[11] spiraling out of the hut's center. At another station, under a towering skeleton-tree sculpture, *Time Capsule* by Chris Drury,[12] students revisited quotations from environmental authors they had studied, and then wrote descriptive poems and paragraphs with their surroundings as inspiration.

At the art station, groups of two to three students created their own art works out of the materials available. (See Figure 1.) They chose a site (at the base of a tree, at the edge of the stream, or on a rock or stump of a tree), they selected materials (rocks,

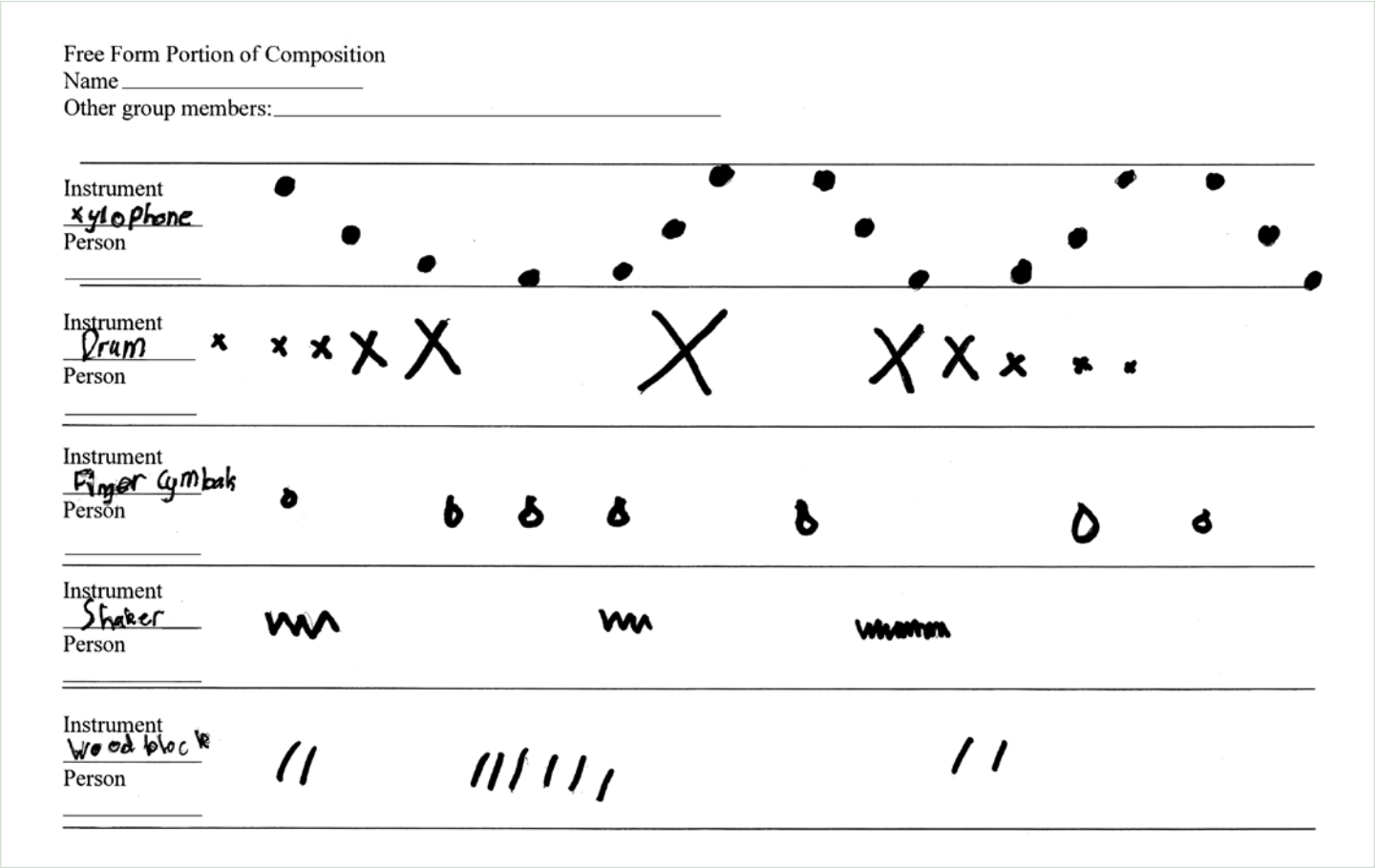


FIGURE 2: Students devised their own notation to match elements of the nature-based artwork.

flowers, woven leaves), and then they created a sculpture from the gathered materials.

Photographs made the art last a little longer than the moment. This station brought out amazing creativity, focus, cooperation, and the personalities of the students. Students were engaged with nature far beyond their normal range of experiences. When they returned to school, they created scrapbooks about the project with photographs, descriptions, quotations, and their own writing.

Back in music class, students were in slightly different groups of three to four students. Each group chose one of the on-site photographs as their inspiration for a composition. Music curriculum goals guided the project: formal structure, notation as communication, duration in note values, and group ensemble playing. Teaching challenges included varied musical skill and knowledge levels, and limited exposure to Orff process and playing percussion instruments.

Students were engaged with nature far beyond their normal range of experiences.

Based on their experience with creative movement and Dalcroze eurhythmics, students used a photograph to create a group tableau that represented the structure and elements of the work of art. (In other words, different students would shape themselves to illustrate the rocks, sticks, or the stream.) They used their imaginations to determine how to move away from the tableau and then return. With this technique, they enacted ABA form. This movement element activated their imaginations, demanded group accountability, provided an immediate formative assessment, and required that they study the art.

Next, students considered instruments to orchestrate their piece. Usually they chose instruments that reflected the qualities of the objects and structures of their artwork. (Each group could add a pitched percussion instrument, if desired.) Students planned one section of their composition using creative notation (for instance, a zigzag line might represent a guiro).

Students showed which instruments overlapped, and when they would stop and start. Some rhythm might be evident, but generally creative notation was focused less on steady beat and more on texture. (See Figure 2.)

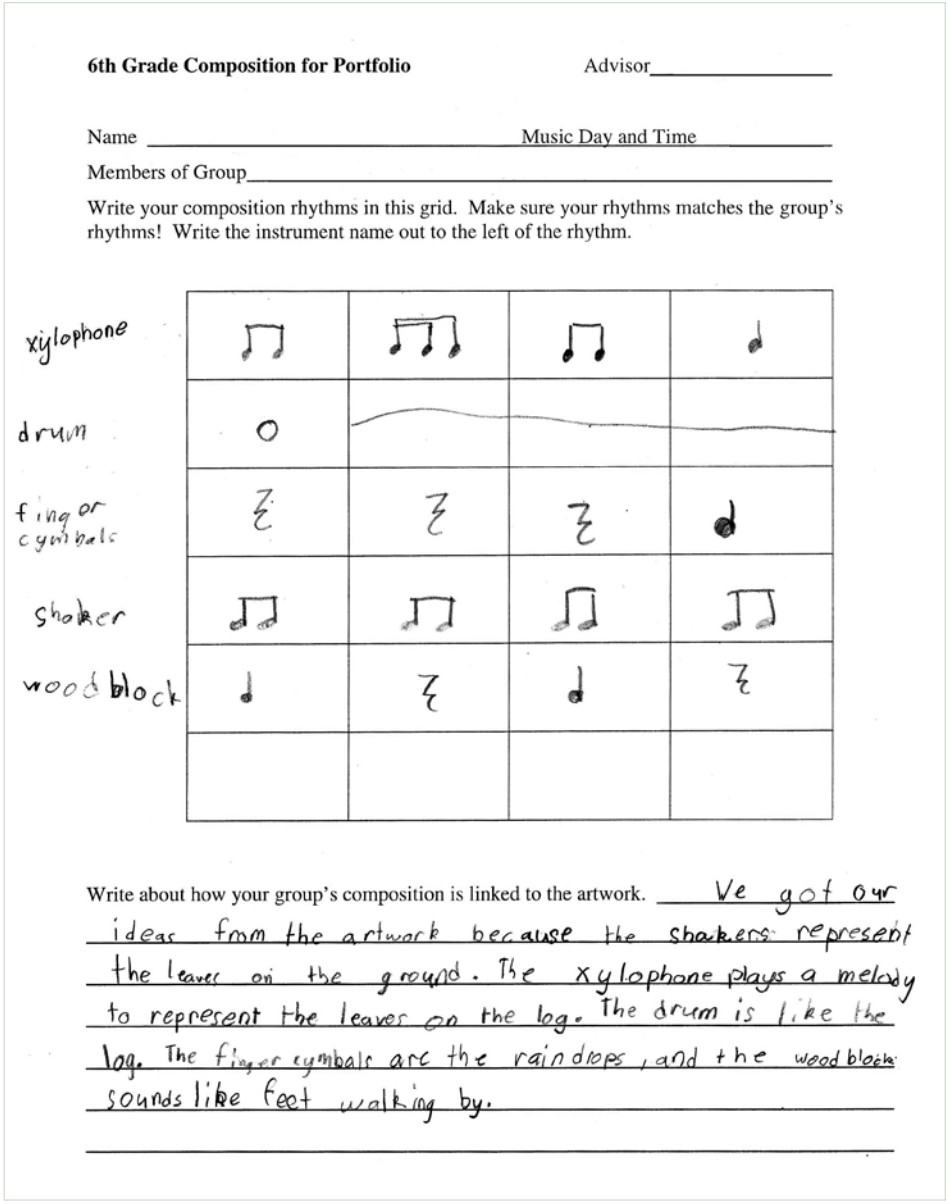
As students reviewed their thoughts and practiced with the instruments in hand, they made musical decisions and revised their ideas. Using the same instruments, students next designed a rhythm section with repeating ostinati

patterns. They used a rhythm graph (four beats across and six down) to learn to layer ostinati with one person playing each part. (See Figure 3.)

They wrote rhythm patterns to suit each instrument (considering, for example, that a rain stick would not play quarter notes effectively). They decided the instrumental entrance order and the structure, but they did not write out the whole piece. This added notation to the lesson, but maintained success for students with varied abilities. Students differentiated themselves by playing rhythms they could manage.

Finally, students constructed the whole piece in ABA form: they alternated the textured creative notation section with the rhythmic portion. They could choose which section went first. I find that ABA or ABAB structures in composition automatically create accountability, as students must be sure of a section in order to repeat it. We recorded their pieces, and took the time to look at the photographs while listening to the various compositions. Afterwards, we evaluated the musical pieces for the clarity of musical ideas, quality of performance, and evidence of completion.

We might have also incorporated the ABA movement into the ABA piece. Sometimes movement and playing works simultaneously, but other times I have had one group play for another group's movement in composing. In this assignment, I did not ask them to change their focus to another group or artwork. All students wrote adjectives to compare the art and music, and how the art inspired the music. Writing can be important for middle-school assessment, to reveal the thoughts behind the process and to hold each person accountable for the task. If I were to repeat this project today with more experienced student composers,


6th Grade Composition for Portfolio Advisor_____

Name _____ Music Day and Time _____

Members of Group_____

Write your composition rhythms in this grid. Make sure your rhythms matches the group's rhythms! Write the instrument name out to the left of the rhythm.

xylophone
drum
finger cymbals
shaker
wood block

Write about how your group's composition is linked to the artwork. We got our ideas from the artwork because the shakers represent the leaves on the ground. The xylophone plays a melody to represent the leaves on the log. The drum is like the log. The finger cymbals are the raindrops, and the wood block sounds like feet walking by.

FIGURE 3: Using traditional notation, students created a contrasting section for their composition.

I would add a melodic component. Given the pentatonic scale, we might choose different tonal centers to match the qualities of the given art works.

Out of all the projects in which I have played a part, this project was particularly inspirational because of the fascinating and temporary art, the connection to the environment, the ease of connection to many subjects, the collaborative work, and the kinesthetic demands of the project. Students were outside, working with their hands and developing ideas with their classmates for a creative task. The lessons extended into the classroom where students continued to collaborate on, reflect on, and participate in the project in new ways. Other than during the field trip, actual lesson scheduling was flexible, and varied from subject to subject. Very supportive administrators made the project possible, by providing substitute teachers so project teachers could spend a day planning and previewing the field trip itself. The collaborating teachers were willing to try new ideas, to work together, and to revise from year to year. I feel fortunate to have worked with such amazing colleagues and administrators. They have influenced my teaching strategies, inspired me to take on new challenges, and allowed the time and space to cultivate ideas. ■

Very supportive administrators made the project possible, by providing substitute teachers so project teachers could spend a day planning and previewing the field trip itself.

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11. The Fibonacci sequence is a series of numbers in which, by definition, the first two numbers are 0 and 1, and each subsequent number is the sum of the previous two. The sequence is related to spirals and the so-called golden ratio, the distribution of branches and leaves on trees, and the arrangement on a pinecone, among other natural phenomenon. Leonardo Pisano Bigollo, known as Fibonacci, introduced this sequence to Western European mathematicians in the early thirteenth century, although the sequence was already known by Indian mathematicians, possibly as early as 200 BC. –Editor.
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The Primary Years Programme: An Interdisciplinary Approach for Music Educators

BY RACHEL WIXSON

Interdisciplinary education is here. It is a growing force in curriculum planning worldwide. Educational leaders want to teach the skills and knowledge our students will need in the twenty-first century. Teachers also want to promote subjects and teaching methods that will support their efforts. Educators want curricula that focus on problem solving, creativity, critical thinking, communication, and collaboration.[1]

Teaching and learning strategies have begun to promote the growth of these skills, and the arts have not been left behind. Programs such as Visual Thinking Strategies (VTS),[2] BandQuest,[3] and ChoralQuest[4] are a few examples used by arts educators. The higher level thinking activities found in these programs bridge the gap between the music classroom and the general classroom. The Primary Years Programme[5] (PYP), the focus of this article, is one curriculum framework that strives for interdisciplinary education. It operates through the elementary branch of the International Baccalaureate (IB) program. PYP and Orff Schulwerk complement each other in working towards the goal of preparing students for the twenty-first century.

Many of us, myself once included, squirmed at the idea of integrating our music curriculum with other subject areas. We were afraid we lacked the time to plan and find relevant connections. However, a simple change in approach turned me into a believer.

THEME-BASED INTEGRATION

For single-subject teachers, the word "integration" has meant supporting another subject through a thematic approach. For example, fourth-grade students learning about United States presidents were asked to sing about presidents in music, sketch them in art, or dramatize their lives in theater. This is certainly an accessible and easy way to connect with other subjects. However, we should question if this approach alone supports musical thinking per se.

While themes from other subjects have proved to be excellent sources for inspiration in the music room—one of my favorites is a classroom unit on the water cycle to inspire movement, composition, and improvisation—I wonder, "Is this really integration or interdisciplinary?" While we may be using music in this way to support ideas from a particular theme and make them interesting and engaging for students, musical skills and ideas are not necessarily being supported by the theme, nor are authentic connections between the disciplines necessarily being made.

Integration may begin with a theme as its basis, but focusing on the theme's concepts provides a better chance at success. Instead of thinking *about* music, integration should strive to have students thinking like musicians.[6] We can find those authentic connections, which do not take away from either subject area, by looking at the concepts in the respective curricula.

FIGURE 1: PYP transdisciplinary themes translated into specific units for the music room.

TRANSDISCIPLINARY THEME	POTENTIAL UNITS IN THE MUSIC CLASSROOM
1. *Who we are:* The nature of the self	• How one uses one's voice, through singing and vocal exploration
2. *Where we are in place and time:* Orientation in place and time	• Musical styles, time periods, and genres
3. *How we express ourselves:* The ways in which we discover and express ideas, and extend and enjoy our creativity	• Composition, improvisation, and creative movement
4. *How the world works:* The natural world and its laws	• Rhythmic and melodic notation
5. *How we organize ourselves:* The interconnectedness of human-made systems and communities	• Role of the musician, conductor, or audience. How different ensembles function
6. *Sharing the planet:* Rights and responsibilities in the struggle to share finite resources with other people	• Non-traditional sound sources (such as "junk" or recycled items)

INTEGRATION THROUGH THE PRIMARY YEARS PROGRAMME

The Primary Years Programme (PYP) focuses heavily on integration within

the curriculum. I have become familiar with and enjoy it, especially since my first PYP training in 2005.

The PYP curriculum for the general classroom is divided into six *transdisciplinary themes*. Each theme is then translated by teachers into a specific unit for each grade level, specialist area, or integrated cross-disciplinary unit.

Figure 1 illustrates the transdisciplinary themes used by all teachers, and illustrates potential units specific to the music room.

Using this approach, students gain knowledge through hands-on, inquiry-based learning engagements that have global significance beyond the classroom. Incorporated into each unit is a focus on two or three of the key PYP concepts: form, function, causation, change, connection, perspective, responsibility, and reflection. Socially, the PYP focuses on skills (such as being principled, taking risks, caring, thinking critically, and communicating) that will help students become successful global citizens.[7]

In addition to their own stand-alone curricula, all specialist teachers must integrate as many of the general classroom units as is logical for their disciplines. For all PYP teachers, guiding questions for each unit help make connections across the disciplines. The main questions are:

- What are the key concepts (form, function, causation, change, connection, perspective, responsibility, reflection) to be emphasized within this unit?
- What teacher questions/provocations will drive the lines of inquiry during this unit?
- What guiding questions will define the scope of the inquiry into the central idea?
- What learning experiences suggested by the teacher and/or students will encourage students to engage with and address the guiding questions?

All subject areas focus on these guiding questions, so that when we integrate, students are exploring the same central idea and key concepts. Using this "big picture" framework, music teachers can then incorporate

FIGURE 2: A fourth-grade class performing the African song "Funga Alafia."

the United States' National Standards for Music Education and create lessons inspired by Orff Schulwerk.

To demonstrate this, Figure 3 outlines one unit for the fourth–grade curriculum that our teaching team at the American School of Bombay created.

Looking at this central idea, transdisciplinary theme, and key concepts, connections between the classroom and music room can be found easily.

- When people migrate, they take their music with them, often changing and combining it with other cultures in the new places they settle. This makes for an easy thematic connection.
- In the general classroom, teachers link the storyline of the Atlantic slave trade (specifically Spanish slave traders, West African slaves, and the mix of the two in Cuba) to the consequences of forced migration.
- In the music room, we investigate Spanish music, specifically through flamenco dance and its instruments, West African drumming including echo rhythms, improvisation, call and response, and polyrhythms, and Cuban music, especially the instruments and the traditional Cuban rumba. All three provide for engaging playing, improvising, singing, and dancing experiences.

Unit: Human Migration

Transdisciplinary Theme:
Where we are in place and time
The Central Idea:
Throughout history, human migration has shaped our world
Key Concepts

- Change
- Causation
- Perspective

LINES OF INQUIRY

General Classroom	Music Classroom
The social, economic, geographical, and political reasons why people move.	Elements and skills of African, Spanish, and Cuban music and musicians
How migration changes communities and migrants	Blending elements from African and Spanish music to create Cuban music
The obstacles and opportunities related to migration	Past impact of migration on music and musical styles, and possible effects in the future

FIGURE 3: An example of a fourth-grade PYP unit on human migration, and its connections between the general and music classrooms, using one of the transdisciplinary themes.

The conceptual connection is where cross-subject integration really lies. In both general and music classrooms, we focus on the three key concept ideas of change, causation, and perspective. In the general classroom, the students think from the perspective of an immigrant, noting societal changes and transformations, and the impact of migration on many facets of the human experience. In the music classroom, students think musically, specifically from the perspective of Spanish, West African, and Cuban musicians and dancers. Students inquire into the impact (causation) on the music of Spain and West Africa when brought together in Cuba, subsequently discovering the changes that inevitably happen when different cultures combine.

Over the long term, students may not remember all the details of the Atlantic slave trade, or specific skills and elements of the music they experienced. But the concepts of change, perspective, and causation that happen in societies and music when people migrate will remain.

FIGURE 4: Students trying out polyrhythms.

FIGURE 5: The boys finishing their own Cuban-inspired dance to the folksong, "Guantanamera."

Thematically, the general classroom and the music room are supported by a context that supports both disciplines. Because I wanted to spend the little time I have with students creating and making music, I chose not to investigate in-depth into the Atlantic slave trade or the cultures of the music we learned; the general classroom teachers would do that. From the music perspective, students connect more to the music they are making and creating by better understanding the contexts (historical, geographical, and cultural) from which it derives.

Learning in the general classroom is supported through the storyline of the Atlantic slave trade, demonstrating the consequences, impact, and transformations that happen when people migrate. This includes examples of what can and has happened to the music of migrating peoples. While these ideas are extremely helpful and wonderful to connect through both classrooms, it is in conceptualization—where the students transfer thinking about unique subject areas into terms of perspective, change, and causation—that true integration occurs.

Throughout this unit, students still focus on being musicians in the music

room. By communicating and planning with general classroom teachers, we arts teachers can go much deeper into the cultures, the human experience of migration, and musical styles presented. (See Figure 6.) Finally, students experience and explore how key concepts relate to two different subject areas through a fascinating theme.

FINDING AN AUTHENTIC CONNECTION

Obviously, there is not always a perfect connection between two (or more) subject areas, nor is it realistic to teach an entire music curriculum in this way. In fact, if you and your collaborators are having a hard time finding an obvious connection, then so will your students. This difficulty is a signal that integration should not be attempted. If no connection can be found both thematically and conceptually, look for ways to connect on concept alone. For example, if students are learning about how scientists use the creative process to build valid experiments based on the scientific method and uncover knowledge, in music class you can connect with how musicians use the creative process to write original compositions using the elements of music.

APPLYING THE PYP

Even if you are not working in a PYP school, basic PYP principles can be applied to any curriculum. Instead of a central idea and lines of inquiry, find the main theme and overarching ideas of the unit you are hoping to integrate. For example, in PYP, under the transdisciplinary theme of "how we express ourselves," the overarching ideas any teacher can look at are the ways in which we:

- Discover and express ideas, feelings, nature, culture, beliefs, and values
- Reflect on, extend, and enjoy our creativity
- Appreciate the aesthetic[8]

Every curriculum has some form of enduring understanding for students to learn. Once you analyze and find connections, planning an integrated unit is much more accessible. (See Figure 7.)

Even if you are not working in a PYP school, basic PYP principles can be applied to any curriculum. Instead of a central idea and lines of inquiry, find the main theme and overarching ideas of the unit you are hoping to integrate.

FIGURE 6: Students are highly engaged with the type of integration promoted by the PYP program. I had students coming to class with things to share and questions about the cultures and music we were exploring.

Finding Authentic Connections Between Classroom and Music

- Look at the central idea (or main focus of the unit) as well as the lines of inquiry that will be used for exploration. When you find a natural and meaningful connection, sketch out the concepts and skills from the music curriculum that could fit within that central idea.
- After finding those connections, narrow your focus. Describe the possible music-related subjects that general classroom teachers could include in their curricula.
- Time spent with general classroom teachers is crucial. Set up an initial meeting with the teachers to discuss the connections, learning engagements, and lines of inquiry to be integrated into both curricula. Identify common vocabulary and key concepts to help students and teachers transfer the ideas between classrooms.
- Once the unit has begun, make time for student questions and explorations. Keep referring to the central idea, lines of inquiry, and common vocabulary throughout your lessons.
- Check with the general classroom teachers mid-unit, and discuss any changes or additional support needed on either side.
- Once the unit has finished, assess and reflect. Identify, with both students and teachers, what connections were made. Take notes and adjust accordingly for the next year.

FIGURE 7: One process the author takes to find authentic connections that support both the classroom and music curricula.

The PYP approach may seem daunting. In fact, it does take some extra effort and time initially. But I have found that this interdisciplinary approach supports the music curriculum immensely. After integrating in this way, students begin to think more critically about their own music making. Students have asked about other examples of "mixed-up music" (their phrase) that exist, or what would happen if they tried to combine different styles themselves. You will be amazed at the other connections they draw. In one class, we even took an extra few days to experiment with "mixing up" music of their choice, and created small compositions as well as theoretical new genres.

The PYP philosophy feels right at home with music education and Orff Schulwerk. Under PYP, the role of the arts is viewed as "...learning through inquiry [with an] emphasis on, and the nature of, the creative process."[9] In the PYP classroom, students are encouraged to follow their own inquiries, experiment with new ideas, and create their own understanding. The basic principles of PYP can greatly enhance interdisciplinary learning for educators and students while staying true to the Schulwerk and National Standards, and promoting twenty-first century learning. ■

FIGURE 8: Creating accompaniment parts for the Cuban folksong "Guantanamera."

For more information on the Primary Years Programme, visit the IBO website at www.ibo.org/pyp, or find a PYP school close to you through the search option on the website.

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3. "BandQuest," accessed online on January 21, 2012, at http://www.composersforum.org/program/bandquest.
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9. *Ibid.*, 128.

Learning Through Collaboration: Using Integrated Or Interdisciplinary Approaches For Upper Elementary and Middle School Learning

BY LOIS VEENHOVEN GUDERIAN, PHD

Integrated and interdisciplinary curriculum designs provide meaningful learning experiences for both students and teachers. Such experiences contribute to students' contextual understanding of all subjects studied. They also develop students' abilities to recognize and understand relationships and connections between areas of learning.

The challenge for teachers is to design teaching and learning experiences that help students develop each discipline's necessary understanding and skill proficiency for use in ongoing learning settings and life situations. At the same time, teachers must place these learning experiences within broader social, historical, and cultural contexts. When the goal is students' educational growth in two or more subject areas, learning in at least one of the disciplines is the first step, so that students can later recognize connections between disciplines.[1]

When it comes to music, single-discipline education involves consistent development of students' musical skills, understanding, and knowledge of the world. This can be achieved through sequentially designed learning experiences in music: listening, reading, performing, improvising, composing, analyzing, and evaluating. It can result in a unique perception of the world.[2]

Interdisciplinary and integrated music education can take many forms. It often includes contextual cultural and historical understanding, or learning *about* music: when and where it originated, who originated it and why, how and in what style it originated, and/or the study of relationships between music and other subjects that add meaning to the experience of music, history, and culture.[3]

A comprehensive music-education curriculum combines disciplinary learning with interdisciplinary and/or integrated teaching and learning.[4] Such a sequentially designed curriculum includes carefully chosen examples of music literature, around which teachers design learning opportunities that foster students' musical experience and musicianship, their understanding of historical, cultural, sociological, and theoretical contexts, and the interrelated nature of the arts. A comprehensive curriculum can be developed entirely in the music classroom or collaboratively among teachers from several disciplines. Planning such a curriculum requires time, flexibility, and understanding of the curricular goals and desired outcomes, as described by national, state, and local organizations for both music and general education.

Planning such a curriculum requires time, flexibility, and understanding of the curricular goals and desired outcomes, as described by national, state, and local organizations for both music and general education.

A good starting point for designing an interdisciplinary curriculum is a sharing session between teachers. This is an opportunity to explore initial collaboration ideas and determine the goals and desired student outcomes for a project. Learning materials can be chosen throughout the planning stage, often with a particular work (a piece of music, novel, historical reading, or speech) serving as the nucleus or stimulus for the planned activities and instructional design. Teachers may have to search for high-quality examples that support both disciplinary and integrated or interdisciplinary learning.

During collaborations, teachers examine the characteristics of each discipline to determine connections between the disciplines. With that knowledge, they can design learning experiences to make students aware of the connections. Teachers can also determine the kinds of integration, learning activities, scheduling and space logistics, and supporting materials required for a successful collaboration. Each of these should represent the themes, ideas, historical eras, and socio-cultural contexts of the collaboration. They must also hold potential for learning experiences that will add to students' understanding of and skills in all disciplines involved. Interdisciplinary and integrated learning is beneficial when it appears logical, and when students and teachers may gain a more comprehensive understanding from the collaboration than if the content was taught through the lens of one discipline.

AN EXAMPLE OF COLLABORATION

In planning studies of the United States post-World War II, for example, social studies and music teachers could collaborate in teaching seventh and eighth grade general music students a few Vietnam War protest songs. In this kind of collaboration, simply learning how to sing the songs may not neces-

sarily improve students' disciplinary understanding and skills in either subject. Teachers must look into the songs for ways to design learning experiences that are appropriate for students' current levels of understanding and hold potential to expand students' abilities. The experiences must also meet curriculum goals and desired student outcomes.

In another approach, teachers could use the time from both social studies and music class to team-teach the project. This is a great opportunity to use methods of philosophical inquiry to engage students in thinking and discovery. Work and research stations could enable students to pursue specific topics of interest generated from the studies of the songs. Students would engage according to their interest, level of understanding, and learning style. Class benchmark lessons might include hands-on experience and instruction for playing, singing, creating, or listening. Later opportunities for small-group and individual research, plus exchanging and critiquing ideas and sharing information, can give variety and energy to learning experiences. Alternating between the two provides the broadest learning opportunities.

Collaborations between social studies and general music are often natural. Students can discover historical and social significance embedded in the songs and music from any given time period. Questions can serve as a starting point in examining a musical work. They can generate learning experiences in both music and social studies. Other subject areas could also be part of the collaboration. Language arts, for example, is a logical subject area for collaboration when examining original lyrics and their creation.

A QUESTIONING FRAMEWORK FOR GENERAL MUSIC AND SOCIAL STUDIES COLLABORATIONS[5]

In planning collaborations, developing a framework of questions aligned around learning objectives can guide the teachers' planning. A similar questioning framework can prime students' interest and research into the songs. If separate classrooms are to be maintained during the collaboration, each teacher can reference the learning from the other content area to support the two disciplines and the historical and artistic relationships between events.

This framework of questions, in general form, can be applied to the study of any works of art for collaborations. Below is a sample question framework to drive a combined social studies/music collaboration studying Vietnam-era war protest songs.

Questions For Teachers Planning Lessons

- In what ways can the students experience the musical pieces before discussing the about, *why*, *when*, *where*, *what*, and *how* of the pieces?
- In what ways can the students learn to sing and play the pieces? For example, students may use classroom instruments, such as soprano

or baritone ukuleles, guitars, or autoharps, or sing individually, in unison, or in choral arrangements. What vocal development techniques can be addressed? What vocal styles can be studied?
- During music-making experiences, what musicianship skills can be reinforced or developed?
- What recorded examples would create opportunities to study the music's style or the performer's life? What examples provide students with musically rich listening experiences?
- What current styles of music, if any, have evolved from the stylistic tradition of the songs? Chronologically, what has been that evolution? How can the lesson engage students in musical experiences in the process of understanding this evolution?
- What opportunities for students' creative work emerge logically from studying the songs?
- What activities will nurture students' understanding of song writing, including lyrics, melody, and harmonizing?
- How do the learning activities align with curriculum goals and desired student outcomes?

In-Class Questions
- How, where, and when did the songs originate?
- Who wrote them and for what purpose?[6]
- Discuss and describe the musical properties, such as the song's tonality (major, minor, modal, atonal), characteristic rhythms, harmony, phrasing, and articulation.
- What is the form of each song under study?
- Compare these songs to those produced during other wars. What are the musical similarities and differences, if any?
- What kinds of notation, signs, or symbols (both familiar and new) can students review or discover, learn, and apply from these pieces?
- What is the expressive quality of each song?
- What do the lyrics mean?
- What aspect of the war, sociological condition(s), or emotion of the song's time period do the lyrics portray?

Long-Range Question
- How can the results of studying these pieces be shared with the school, community, or others? Consider creative products, displays, presentations, or performances that describe socio-cultural and historical contexts as well as current contexts.

Working together in classroom communities, students develop both individual and shared knowledge by spending time at various learning stations.

OTHER COLLABORATIVE APPROACHES

A learning communities approach supports interdisciplinary collaborative work well. Working together in classroom communities, students develop both individual and shared knowledge by spending time at various learning stations. Typical experiences include research, explorations, and creative applications of their learning. For our example above, the social studies teacher could design learning centers where students choose research topics related to the songs, the war, and the sociological conditions of the time. The music teacher could provide participatory and ongoing experiences in music learning, review, study, practice, and performing of the songs. For example, students might analyze melodic phrase structures, harmonize with or accompany the songs on classroom instruments, sing, compare and contrast song forms, song styles, and performance practices, or study particular composers or performers.

Students could also work alone or in groups to compose their own protest songs. Using the in-depth study described above, students could gain the skills and understanding necessary to write meaningful songs. Bob Dylan's *Blowin' in the Wind* or Pete Seeger's *Where Have All the Flowers Gone* would serve as excellent models in our example. Both songs are excellent examples of protest songs from the period. Yet neither is too complex in melodic and harmonic content for first-time songwriters to study and understand. Both songs can be harmonized with I, IV, and V7 chords.

Students' melodic explorations and compositions can initially be represented in non-traditional, visual ways of notation, and later translated to Western notation. Because of the letter names on the bars, Orff instruments help students express their ideas before they have developed skills in Western notation. For example, students could write melodies using letter names, with arrows to indicate pitch direction and varying horizontal lines to indicate duration. This is just one of several methods of visually notating melodies.

Besides giving students an opportunity for creative work, translating students' work to traditional Western notation—either by hand or through computer notation programs such as Noteflight, Sibelius, or Finale—strengthens students' notating skills. Teachers may decide to precede melody-writing with music-making activities designed to illustrate relationships between degrees of diatonic scales as applied to the writing of melodies. For example, students might study the relationship between the I and V degrees of the scale, using chord tones as broken melodies. Alternatively, students may engage in an open-ended melody-writing process by creating melodies that express lyrics in word-painting fashion, or follow the rise and fall of the voice when reading the lyrics. These latter approaches better develop melodic contour that follows the expressive implications of the text.

Teachers could add another layer

of musical learning by having students practice and perform their work, or organize, teach, and direct fellow classmates to perform their work. Record performances for later evaluation by the student (with or without the teacher) or peer group.

Teachers can also create rubrics with designated criteria to help evaluate and assess student learning and creative work. Portfolios for each student that house compositions created during the year can be useful. Together, teacher and student can review the year's creations, and discuss the student's learning, growth, and improvements.

Further sharing and celebration of students' efforts can include performances for other age groups in the school, parents, public assemblies, formal concerts, electronic sharing, and other venues.

Over time, studies and activities in creative drama, art, dance, movement, and creative writing could be integrated into the music and social studies collaboration, or studied for their interdisciplinary connections. Given the opportunity to explore and apply these artistic forms, students may create and learn from their poetry, dramatic readings, scripts or plays, scenery, murals, and choreography. The question framework described above expands possibilities for comprehensive disciplinary and interdisciplinary learning. The framework can be applied to the study of many, if not all, works of art. The work itself is the nucleus—a point of departure and framework—for learning experiences and creative work.

Combined disciplinary and integrated or interdisciplinary teaching and learning takes many forms. Some require little preparation time. Others require more investment from teachers to design instruction and learning activities, to find materials that will support the work, and—in the case of collaborations—to coordinate teachers' efforts. However, the benefits are many and timely. Today's students require complex knowledge and understanding in many areas of life, and the ability to successfully communicate and live in diverse situations. A comprehensive music education curriculum model that includes disciplinary, interdisciplinary, and integrated learning among subjects can provide students with such skills and understanding. It can also create opportunities for children and youth to develop as musicians themselves, for lifelong joy and meaning through music. ■

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3. National Content Standards for Music Education numbers 8 and 9 reflect interdisciplinary and/or integrated approaches to music education. For descriptions of discipline fields, and descriptions and definitions of several kinds of integration and interdisciplinary curricula, see also Heidi Hayes Jacobs, "The Growing Need for Interdisciplinary Curriculum Content," in Interdisciplinary Curriculum: Design and Implementation, Heidi Hayes Jacobs, ed. (Alexandria, Virginia: Association for Supervision and Curriculum Development, 1987), 1–11.

4. See also Bennett Reimer, *A Philosophy of Music Education* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 2003), 233.

5. For a year-long model comprehensive curriculum, see also Lois Veenhoven Guderian, "Sixth Grade Curriculum" in *Music in the Elementary Classroom* (Lake Zurich, IL: LoVeeG Publishing, 1996/2012). For a similar model as applied to the study of African American spirituals, see Lois Veenhoven Guderian, "Combined Disciplinary and Interdisciplinary Collaboration Between General Music and Social Studies Classes," in *Igniting Creativity in Gifted Learners, K-6*, Joan Franklin Smutny and S.E. von Fremd, eds. (Thousand Oakes, CA: Corwin Press, a Sage Company, 2009), 104-108.

6. For a very useful facet model, see Janet R. Barrett, "Interdisciplinary Work and Musical Integrity," *Music Educators Journal* 87.5 (2001), 27–31. For more information on interdisciplinary instruction and music education, see Janet R. Barrett, Claire W. McCoy, and Kari K. Veblen, *Sound Ways of Knowing*. (New York, NY: Schirmer Books, An Imprint of Simon & Schuster Macmillan, Prentice Hall International, 1997).

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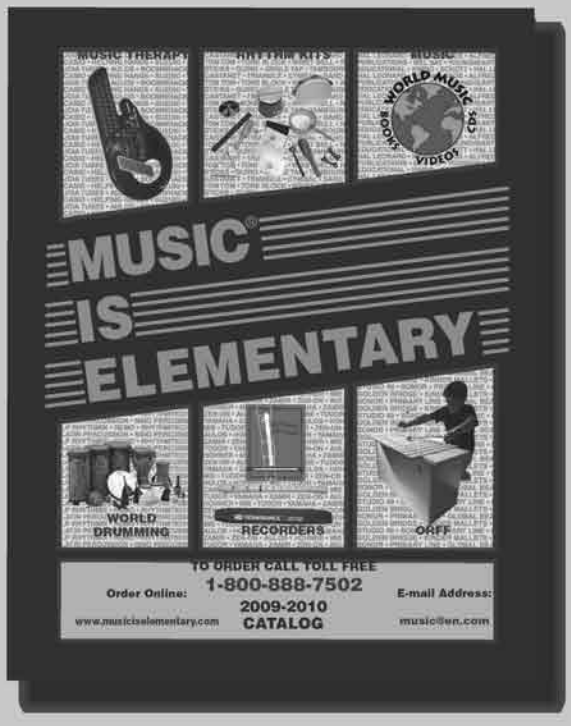

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Making Musical Connections Through Core Commonalities

BY SUE DeHART

Music and dance fill our world and minds, and awaken our creative spirits. They touch every part of our daily adult lives. But how do they influence the lives of our students? As young minds begin to perceive the world around them, how can we connect them to music and dance? How do we make music instruction relevant and correlate it to learning in other disciplines?

Noted American educator Ernest Boyer proposed a curriculum design organized thematically on "Core Commonalities." These commonalities are "based on shared human experiences. [They] integrate the traditional subjects, [and help] students see connections across disciplines and relate what they learn to real life."[1] Boyer identified eight universal experiences.[2] He proposed using these themes to teach all educational content in an integrated curriculum:

- Life Cycle
- Symbols
- Group Membership
- Time and Space
- Aesthetics
- Nature
- Producing and Consuming
- Living with Purpose

This article explores each of these universal experiences, and defines some of the ways they influence children as they learn.

LIFE CYCLE

Studies in science, health, culture, and music focus on the cycle of life. In science, children study the life cycles of plants and animals. They learn how flora and fauna change as seasons and years pass. In health and physical education, children learn how their own lives are affected by good nutrition and exercise. In music, children celebrate annual special occasions with seasonal and holiday music. By expressing music with creative dance and movement, students learn how their bodies work and function, artistically and physically. Students begin to understand that their lives and health benefit from using dance as a form of physical activity.

Participating in lifelong cultural events helps children see continuity in their culture. Musical traditions such as play parties, singing games, and folk dances pass from older generations to younger ones. Cultures and families celebrate significant events with music, ceremonies, and festivals. Students learn that diverse cultures have different celebrations for various rites of passage. These experiences emphasize the ongoing cycle of life, where each of us is born into a culture, takes part in its important aspects, and passes those on to younger generations.

SYMBOLS

Symbols and symbolic experiences have been the basis of culture throughout time. In language arts, students learn to express themselves using symbolic verbal, non-verbal, and written communications. In music, students learn how music can convey thoughts, ideas, feelings, and emotions. They create "music" with language by using rhyme, rhythm, and other methods such as alliteration. In learning and writing aural music, students use the symbols of traditional and devised notation. They discover that these musical symbols change over time with their originating histories and cultures.

GROUP MEMBERSHIP

Humans are, in essence, social creatures. People of all times and places have formed groups for human contact and social interaction. A child's first group is his or her family. At birth, a child is introduced into the immediate family of parents and siblings. In some cultures, extended families, including grandparents, aunts, uncles, and cousins, help to shape a child's life. Within the core family group, the child first experiences music when parents, grandparents, and other family members sing lullabies and nursery rhymes. A community's children play and sing together as the children age.

Where schools are organized for formal education, students form ensembles for singing and dancing, building a sense of community and of belonging to the group.

Communities with a common heritage share a common identity through music, dance, art, and literature. By learning and performing dances and songs from a variety of cultures, students learn about cultural similarities and differences. By participating in a variety of groups, students learn about the rewards, rights, and responsibilities associated with group membership. As members of a musical community, children practice being responsible, valued group members.

TIME AND SPACE

A sense of time and space allows students to gain both historic and geographic perspectives.

In music, students explore both folk and classical music to understand how music of the past compares to that of the present. By singing songs their parents and grandparents sang as children, students sense the continuity of music production over time. Using this perspective, students can speculate about what music and what instruments might be like in the future.

To gain a geographic perspective, students learn about history and geography by studying their commu-

nity, city, state, nation, and the world at large. When students compare their own community's music to that of other cultures, they build a geographic perspective of music. Students analyze how beat and rhythm compare to the concept of time, while the concept of space is realized in intervallic relationships. Tempo and spatial awareness are reinforced as dancers move to music in time through space.

AESTHETICS

Human artistic expression is a profound and universal experience. People use non-language arts as a form of expression when language and other forms of communication are insufficient. Students develop an aesthetic sense by experiencing music, dance, art, and theater.

In music, students explore varying timbres to express different feelings and emotions through a wide variety of instruments and voices. Children discover the joy of making music and dancing. An elementary music classroom allows students to experience music and dance as a form of self-expression. The Orff Schulwerk classroom provides an opportunity to combine the art forms of dramatic speech, dance, music, and artistic backgrounds through formal and informal performances.

NATURE

Throughout history, humans have used materials from the natural world to construct musical instruments. Young children enjoy using natural, "found" sounds to create a musical ensemble. In the sciences, children learn about their physical world. Sound—and thus music—is governed by laws of physics. Children can experiment with acoustics, learn about vibration, pressure, and frequency, and discover how these variables affect music. Students are encouraged to act and think like scientists and inventors. Children train to be inventors when they design, create, and build musical instruments of their own using materials from their natural world.

PRODUCING AND CONSUMING

Children recognize that music is produced and consumed as part of daily life. Students produce music in formal performances and informal creative music-making. As they share their work, students learn to evaluate the qualities of musical performances.

Music-related vocations enable students to discover how music is used in the community at large. Frequent and early music experience can encourage a young child to become a lifelong learner and musician. As an adult, they will be both perceptive consumers and producers of music.

LIVING WITH PURPOSE

People seek meaning and purpose in their lives. Living with purpose includes the study of heroes, the value of vocations, and the significance of service.[3]

Children can be inspired by how great musicians have found purpose in their daily lives. For example, Aaron Copland became one of America's most prominent musicians by composing music to connect to an American audience. He also conducted performances, taught aspiring musicians, and wrote scholarly articles about music. Through Copland's prolific example of the daily use of music, students can be inspired by the many ways in which music adds meaning to one's life.

Some people find value and meaning in their life through religion. Understanding how religion influences composers and their music enriches one's awareness of music and its history.

Serving others contributes to a person's sense of meaning and purpose. Music students who perform at school and community events bring joy to others and set purposeful goals for themselves. Children's lives are enriched when they share their musical gifts with others.

APPLICATIONS FOR THE ORFF SCHULWERK CLASSROOM

Carl Orff believed that music should be taught in concert with other subjects. He said, "It must therefore be stressed that elementary music in the primary schools should not be installed as a subsidiary subject, but as something fundamental to all other subjects."[4] Drawing attention to shared human experiences allows students to reflect on their work and make connections to what they have learned in other curricular areas.

Highlighting universal themes in an Orff Schulwerk classroom does not alter the process or the product of children's music-making experiences. Children's thoughts, ideas, and beliefs related to each of Boyer's themes change over time, with additional knowledge and maturity. By studying music and other content areas concurrently, students develop a greater depth of knowledge. Discovering these connections adds relevance to students' musical expression, and gives meaning to their lives. ■

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1. Ernest L. Boyer, *The Basic School: A Community for Learning* (The Carnegie Foundation for the Advancement of Teaching, 1995). 81.
2. Ibid., 85.
3. Boyer, *The Basic School*, 100.
4. Carl Orff, *Orff-Schulwerk Past and Future*. (Speech given at opening of the Orff Institute, October 25, 1983). Retrieved on September 26, 2011 at http://www. vosa.org/aboutorffl?pageID= 17.

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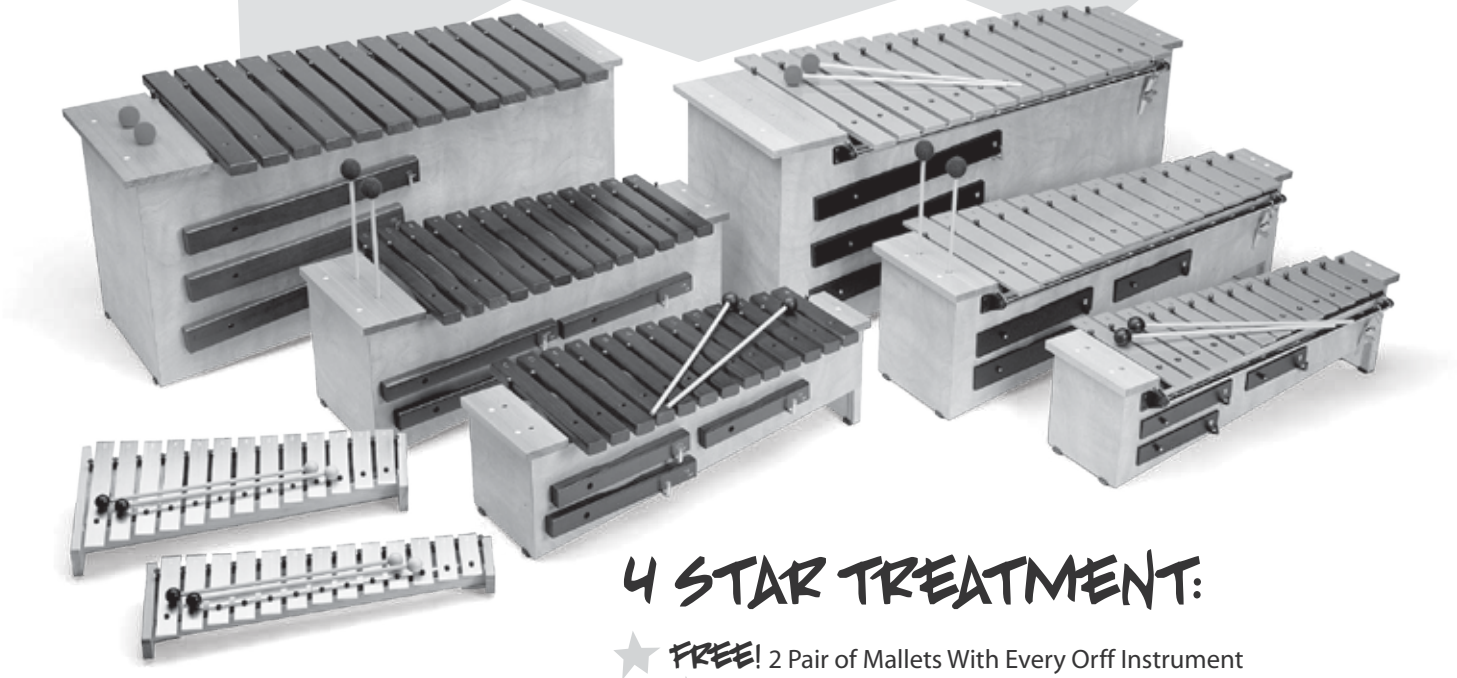

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Musical Math: A Schulwerk Approach to Combining Disciplines

BY KAREN S. STAFFORD

With the emerging expansion of National Common Core Standards in math (established by the Common Core State Standards Initiative)[1], educators in specialty areas such as music may be required to integrate mathematical concepts into their curricula, and demonstrate how their students use higher-order math thinking skills. Music teachers and other specialists are challenged to accommodate these requests without losing the core integrity of their disciplines. Fortunately, the Orff Schulwerk approach provides many opportunities to incorporate mathematical higher-order thinking skills without sacrificing core music learning or opportunities for musical creativity.

For example, barred instruments are one springboard to introduce or reinforce math skills at the primary level. Because studies indicate that 40% of students can be categorized as visual learners,[2] bars and other visual music tools are good ways to teach pattern objectives. One of the first things my students usually notice about the pentatonic bar setup is the pattern of twos and threes. Students may also grasp size relationships of the bars, and note that each one has its own home.

Another way to reinforce pattern objectives is by distributing instruments in patterns. When my kindergartners and first graders explore a rhythm activity, I distribute instruments by seating order in a certain pattern (for example, tambourines, triangles, and sticks distributed in that order). After two pattern sets, I ask the students to predict what instrument they should receive in the rotation. For additional visual reinforcement, use rhythm band maps or interactive whiteboard visuals. As kindergarteners and first-graders learn these concepts in their classrooms, they delight in making connections to other areas of their lives. (See Figure 1.)

FIGURE 1: Kindergarten students during instrument distribution.

FIGURE 2: First-grade students demonstrate "Draw Me a Bucket of Water."

Folk songs provide other math connections that can be incorporated without losing the integrity of the music curriculum itself. One of the more popular folk songs and games for younger children is "Draw Me a Bucket of Water."[3] (See Figure 2.) By analyzing the lyrics, students determine that they must be in groups of four to play the game, since the lyrics basically outline math facts of subtracting from four. ("*You have one in the bunch and three out the bunch.*") During the game, students going "out of the bunch" twist themselves into new shapes. By the end of the song, everyone in the group is contorted.

With more advanced primary or intermediate groups, build higher thinking skills by asking students to decide together how to play the game using subtraction factors of larger numbers, up to five or six.

Another common folk song is a standard version of "Weevily Wheat"[4] that includes multiplication by fives in its chorus. This song can be adapted by allowing students to substitute new multiplication, addition, subtraction, or division factors. To extend the lesson, students can improvise ostinati and various movement activities to reflect these math factors.

Various versions of "Weevily Wheat" exist. One such is the Ozark region version,[5] which does not include multiplication factors and uses a slightly different melody. (See Figure 3.) It does include a Virginia Reel-style movement activity, or dance. This can be used for lessons in estimation and measurement. For example, during the dance, students can estimate how far apart the lines must be. They can decide what to do if there is an odd number of participants in the class.

In one segment of this dance, students break apart the lines and swing with random partners. Allow them to decide how long it takes to get back into two lines and when they should start moving back. The more that the students themselves calculate what needs to be done in this activity, to both conduct the dance and meet the demands of the music, the more they incorporate higher-order math skills into real-life situations.

Use the same approach for concentric circle games. One of my students' favorite games is a version of

"Chicken on a Fencepost"[6] in which two students must weave their ways through concentric circles to reach a rubber chicken in the middle of the inner circle. (See Figure 4.) To make this work, the two circles cannot have the same number of students or there will not be an alley between the circles through which to run. Ask students to decide how many extra participants must be in the outside circle so that the game is safe and successful. Students can also estimate how far apart the circles need to be.

Refrain from making these decisions as the teacher as much as possible. When students calculate these numbers themselves, these games provide opportunities to apply estimates and visualize spacing. It will also help them remember the dances and games for future class sessions.

Polyrhythm and polymeter activities also provide opportunities to incorporate multiplication games and predictions. For these activities, one rhythm and/or meter contrasts with another, with neither being an exact subdivision of the other. Sources for these activities include various types of body percussion games adapted from *Rhythmisch Ubung*,[7] or stick games, such as Lummi stick games.[8] For example, one student might perform body percussion in a meter of three, while another uses an even-numbered meter or a meter of five. With the Lummi stick game, the students sing a chant in a meter of three and perform various stick routines in either duple or quadruple meter. In both situations, depending on their ages, students can either predict how many beats it will take until both arrive at the strong beat at the same time, or they can calculate it mathematically. (See Figure 5.)

For older students, aleotoric or chance music is an excellent opportunity to involve mathematical concepts, especially musical dice games. To prepare for this activity, lead students through body percussion and rhythmic echoing activities until they are comfortable with various rhythm patterns. Then divide them into groups of five to six students, allocating one

FIGURE 3: Fourth-grade students perform the dance to the Ozark version of "Weevily Wheat."

FIGURE 4: Fourth-grade students playing "Chicken on a Fencepost."

FIGURE 5: Fourth-grade students performing a Lummi stick game from "Dance Down the Rain, Sing up the Corn."[9]

FIGURE 6: Sixth-grade students compose chance music using the numbers from multiple rolls of a die.

die per group. Determine a correlation of die numbers with musical scale degrees (for example, C=1, D=2, and so on). Before students roll the dice, ask them to calculate the probability of rolling a number "2" out of 10 rolls, even numbers out of 10 rolls, or other predictions. (If desired, the teacher can reward students who made the closest predictions.) As an extension, the students, as they roll, can notate the correlating pitches on staff paper in the exact number order rolled. (See Figure 6.)

Students can also use results as a basis for composing a melody. They can expand their composition and roll the die again to determine the order of individual phrases, similar to the *Musikalisches Würfelspiel*, or dice games, of Mozart's time.[10] Then the activity can take many forms, such as the ones below.

- Before the dice activity, lead students through various body percussion and rhythmic echoing exercises, so that they have a rhythmic basis for their composition. These rhythm patterns should be comprised of various meters for the final composition.
- Students determine meter and notate pitches and rhythms according to the body percussion learned previously.
- Students improvise their own rhythms and determine their meters.
- Students either compose or improvise ostinati and borduns.
- Students add accompaniment with pitched or non-pitched instruments, body percussion, and/or vocalizing.
- Students improvise movement to accompany their compositions.

Encourage students to create movement activities using concepts from two- and three-dimensional geometry. Inspiration for these movements can arise from artwork or objects in the room. In addition, ask students to base instrumental improvisations on these shapes.

For example, my sixth-grade students recently completed an exploration of several mathematical concepts by orchestrating the book *Sir Cumference and the First Round Table*,[11] a fictional children's book that speculates how King Arthur decided to seat his knights at round table. The students not only created movement and composed music and lyrics to transform the story into a musical, but they also created the props. To do so, they measured and formed various geometric shapes. This was a practical application of what they were learning in math, but applied to music objectives as preparation for a performance. In addition, the props were also the basis for their improvised movements. The story reinforced their knowledge of geometry, and the practical applications solidified their knowledge in a kinesthetic manner.

Music teachers teach math concepts every day. The realities of educational legislation sometimes require music educators to specify exactly how they do this. Fortunately, there are many ways to reinforce math concepts within the music curriculum, while still maintaining musical objectives as the top priority, and without sacrificing musical integrity. ■

Other Resources

Dena Byers and Jennifer Donovan, "The Intermediate Shape of Things," American Orff-Schulwerk Professional Development Conference, November, 2011.

Susannah Cane, "Collaboration with Music: a Noteworthy Endeavor," *Music Educators Journal*. 96. no. 1 (2009), 33-39.

***Karen Stafford** is an elementary music specialist for the School District of Washington in Washington, MO, where she has taught for 18 years. Before teaching at Washington, she taught elementary and junior high music in New Haven, MO schools, and was a band and choral director, and piano and flute instructor.*

Karen earned both BME and MA degrees from Central Missouri State University, Warrensburg, MO (now the University of Central Missouri). She is working towards a PhD in music education through the University of Kansas, Lawrence, KS.

Certified in both Levels I and II of Orff–Schulwerk, Karen is secretary for the St. Louis AOSA chapter and general music vice president for the Missouri Music Educators Association. She is also a member of the National Education Association, American Recorder Society, and the Organization of American Kodály Educators.

1. The Common Core State Standards Initiative is a state-led effort to establish a shared set of clear educational standards for English language arts and mathematics that states can voluntarily adopt. For more information, see http://www.corestandards.org/ and Common Core Standards Initiative, "About the Standards." Last modified 2012. Accessed online on June 14, 2012 at http://www.corestandards.org/about-the-standards.

2. Marie Carbo, Rita Dunn, and Kenneth Dunn, *Teaching Students to Read Through Their Individual Learning Styles* (Upper Saddle River, New Jersey: Prentice–Hall, 1986), 13. Cited by the online consumer site Family Education Network. Accessed online on February 1, 2012 at http://school.familyeducation.com/intelligence/teaching-methods/38519.html.

3. Bessie Jones and Bess L. Hawes, *Step It Down: Games, Plays, Songs, and Stories from the Afro-American Heritage* (Athens, GA: University of Georgia Press, 1987).

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5. Vance Randolph, *Ozark Folksongs* (Champaign, IL: University of Illinois Press, 1982).

6. Various sources, including Peter Erdei, ed., *150 American Folk Songs to Sing, Read, and Play* (New York: Boosey and Hawkes, 1974). Game ideas from Music K-8 Discussion List, at http://www.musick8.com. Accessed online on February 4, 2012.

7. Gunild Keetman, *Rhythmisch Ubung* (Mainz, Germany: Schott Music, 1984).

8. Millie Burnett, *Dance Down The Rain, Sing Up The Corn: American Indian Chants And Games For Children* (Pittsburgh, PA: Musik Innovations, 1975).

9. Ibid.

10. Anja Funk, "Das 'Musikalische Würfelspiel' von W.A. Mozart," *Musik & Bildung*, 23 (Mainz, Germany: Schott Publications: 1991), 24.

11. Cindy Neuschwander, *Sir Cumference and the First Round Table* (Watertown, MA: Charlesbridge, 1997).

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Heightening Creative Sensibilities: An Integrated Arts Approach

BY MEI LI INOUYE AND MIKA INOUYE

"From one springs two, from two springs three, and from three springs a multitude of things." These lines from Laozi's *Dao De Jing*[1] describe the creation of the universe as a series of interactions and reactions, step-by-step processes with increasingly integrative and paradoxical complexity.

As students and teachers of music, language, and writing, we have similarly observed that merging our unique experiences and skill sets expands and deepens the content, form, reach, and articulation of our ideas. Our most noteworthy creative experiences, whether literary, musical, visual, or kinesthetic, have been both intentional and spontaneous, and individual and collaborative. Each one gurgles up from a spring of unique experiences, skills, and ideas, and each is necessary to the final result.

The thrill and tension of this creative paradox—simple and complex, practical and imaginative, planned and instinctive—have guided us in creating new ways to instruct our students. This article explores our process of responsive and cumulative creation through open-ended, integrated, and collaborative curricula.

Our annual Inouye Institute for the Arts Creative Arts Camp is our teaching and learning laboratory. We have developed an integrated curriculum that helps our students discover and pursue their creative visions. Our goal is to increase student proficiency in multiple "languages" (art, writing, movement, and music), and encourage these languages' use in unique and changing circumstances. The result is an unpredictable, cumulative application of skills, weaving music, movement, visual art, and creative writing into idea, execution, and product.

FIGURE 1: A student author shares favorite phrases and images from his writing with a teacher.

Practicing integrated processes with unpredicted results each time develops increased student intuition, confidence, and ability to communicate a vision. This practice also encourages resilience and flexibility to accept, reject, or adjust student processes and/or products.

Our first strategy is to build a collaborative, interconnected curriculum that engages all arts disciplines and establishes a common language. As we merge the unique expertise of that year's faculty—in videography, history, science, dance, math, education, writing, music, or art—we challenge our faculty in the same ways that we will challenge our students. We require them to contribute their different strengths to collaborative projects.

Two teachers from different disciplines (music, movement, visual art, or writing) plan and teach a 90-minute block together, using a shared text, work of art, or musical piece to teach. The lesson focuses on a single concept, such as repetition, foreground/background, negative space, or color. The block concept and teacher pairings change daily, so that students and teachers can make connections that they wouldn't have made previously between disciplines. This structure requires students and teachers to rely upon each other's imagination and skills. The variability of the structure encourages teachers to prepare multiple methods for achieving end goals, not knowing what paths students might pursue. It helps students develop the courage to follow unanticipated hunches or ideas that move them into new processes. In this way, students and teachers learn to celebrate each other's creativity, and to access possibilities that surpass individual accomplishments and disciplines.

A second strategy is identifying and building upon our students' pre-exist-

FIGURE 2: Students explore rhythms using mirroring exercises.

FIGURE 3: A teacher modifies an exercise for students, so they experience a different result.

ing "languages" of music, movement, visual art, and creative writing. Most of our students come from rural agricultural regions with limited access to and experience with the arts. We meet them at their natural skill levels. As we sing songs and explore simple body percussion and movement exercises, our teachers gauge how comfortable students are in their bodies and voices. As we tell stories and write for timed periods on a range of topics, we assess their ability and willingness to express their ideas.

We explore students' existing skills by breaking skills into their component parts, mixing them up, and isolating or deepening them. We also invite students to join in this exploration when they feel comfortable. In the process, they develop completely new skills.

For example, rather than use technical terms "melody" and "rhythm," we say "sound support" when we ask students to accompany a group of movers. Instead of consciously selecting measured time values and specific pitches, we let students discover through experimentation how their own melodies and rhythms evolve naturally. (See Figure 2.)

We remind them that once they find something they like, whether it is a word, a combination of tones, or a sound effect, to repeat it. Student musicians settle into a groove, the movers respond to specific sounds, and symbiotic relationships grow out of the experiment. By the end of the week, having stretched their understandings of familiar and new concepts, students are comfortably creating mixed media art with skills that didn't exist for them the week before.

Organically leading students into an awareness of new concepts requires a well-articulated teaching strategy. To expand students' artistic vocabulary across disciplines, teachers must use non-threatening terms for things students already understand and do. We introduce descriptive words in simple exercises, and consistently use the same words across languages throughout the course of the camp. A few examples of this technique are below.

- *Use your elbow to show a "rise" you hear in this Brandenburg concerto.*
- *Use three fingers in the air to mimic the rise and fall you see in this painting.*
- *Let's read this poem together and listen for where the language rises and falls. Read it again and match your eyebrows to your voice.*
- *Work with this fistful of clay for the next few minutes and let it find both a rise and a fall.*

Integrating words and ideas across disciplines in this way helps students make connections between seemingly unrelated concepts.

As students apply active, descriptive, and familiar words like *round*, *heavy*, *dab*, *dart*, *melting*, *floating*, *skimming the water*, and *stuck in the mud* to a range of situations and media, teachers strategically set parameters to solidify and expand student skills. Parameter examples may include:

- with a partner
- within two sets of eight beats
- using only one color
- making one point of physical contact
- using a pentatonic set-up
- moving without using arms

Teachers narrow or enlarge the parameters to suit the students' ever-changing abilities, and learners grow increasingly confident and conversant in applying their growing vocabulary to new situations and art forms. (See Figure 3.) As a result, they increase their proficiency in what we call the *languages* of art.

Everyday descriptive words and actions grow to include broader concepts. These develop into a common, collaborative lexicon for use in all classes, as seen in the examples below.

- *Consider how symmetry and asymmetry relate to rhythm, melody, texture, and form; or to a dancer's space, time, and energy.*
- *How can negative space or background and foreground be used to describe the action or silence or even layout in a poem or story?*
- *How can conflict and resolution be represented in an art medium?*

We play with symmetry and asymmetry as we make compositions of peanut-butter-and-jelly sandwich triangles, or roll "sushi" with wheat bread, cream cheese, red pepper strips, and watercress. We create a musi-

cal background and foreground for a movement sequence and formation. The negative space in our found-object sculptures directs the shape and motion of a body percussion ostinato. (See Figure 4.) In fixed shapes, we kinesthetically show where there is conflict and resolution in a poem or piece of music.

Using our varied expertise, we explore concepts within the scope of our own specialties and extend their meanings to other disciplines. Where we might use terms like *dissonance* in music, *tension* in art, and *bound energy* in movement, we make the effort to use *conflict* as our working terminology. This is not to dilute our pedagogy, but to develop connections between disciplines. Later we judiciously introduce more technical and specific labels, but only if they enhance or deepen student understanding. With a vocabulary that applies across languages, students begin to compartmentalize less and connect new ideas. They become able to articulate their own and others' experiences, and their creative work becomes more personal, voluntary, and involved. This is evident in their increased participation and willingness to share individual ideas.

Students respond well to these methods. As their proficiency increases, they apply their skills to create art unique to their perspectives and life experiences. As students develop pride in their work, they are eager to share it. They also better appreciate the work of others.

FIGURE 4: A student explores dimensions by creating a fruit sculpture.

For example, when a group of twelve- to thirteen-year-olds observes what eight- to nine-year-olds do with the older group's theme (background and foreground), topic (*This is Just to Say* by William Carlos Williams[2]), and focus (writing and movement), led by a different set of teachers, they are delighted at the differences and similarities. Since they practiced the same material, possibly in different ways and media, the familiarity encourages more group participation. (See Figure 5.)

Teacher modeling is also important in order to establish a safe, humor-

As students develop pride in their work, they are eager to share it. They also better appreciate the work of others.

filled environment where kids can try new ideas without pressure. When students observe a group of teachers engage in a 10-minute improvisation game using a "symmetry" theme, a student-composed haiku as the topic, and writing and movement as the focus, students see their own work validated. They also sense that "flopping," or testing an idea that may not satisfy the performer's personal expectations or diverts the performance from the direction the performers intended to go, is acceptable. The playfulness of the performance also inspires them to continue creating throughout the exercise and after camp.

The results we see from our camps differ from those of traditional classrooms, for both students and teachers. Team-teaching fosters a powerful synergy. Teachers' expertise in their respective disciplines affects the work but never determines the product. With each class and teaching team, the process and results are new. Although

FIGURE 5: Students synthesize music, movement, and poetry into a live performance.

FIGURE 6: Throughout the week, students describe their experiences in their notebooks.

the process includes imitation, repetition, exploration, and improvisation, variations are as unique as the products that materialize: a silent play, a musical drama, a chanted hand-jive executed by painted hands onto a white sheet, or a group body sculpture that pulsates to a single-moving drone on the xylophone.

We find that students are excited to listen, and even more excited to apply what they have learned. Their notebooks fill up with spontaneous sketches and poems. (See Figure 6.)

"Veterans" return each year more confident than before, willing to read or sing their work aloud, reveal something deeply personal, and watch each other perform in funny, awkward ways. Some of our students request positions as staff and teaching assistants. We are currently trying to fund students to work on projects throughout the year, with our summer camp continuing creative processes, and serving as a place for workshopping, further exploration, and feedback.

Most significantly, however, our students develop the ability to experience the world as a place of profound possibilities. Their skills allow them to see a stone as positive or negative space, or as a passerby caught in the conflict of earth's movement, or as a character meditating its next move. By applying old and new words to familiar and unfamiliar situations, students unveil additional meanings and interpretations. An old building in a new neighborhood narrates a history. A personal conflict emerges from layers of wallpaper, from text and subtext. And as students respond to the world with heightened sensitivities and increased points of connection, individual moments flower into possibility. ■

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The Inouye Institute for the Arts is a not-for-profit, family-run, community-partnered educational venture, dedicated to developing the whole child as a creative individual. The Creative Arts Camp runs for one week each summer in rural Utah. The main camp includes students aged 8–14, with a junior program for ages 4–7, serving over 120 students. A faculty of 15–20 siblings and cousins leads all programs.

1. Lao Tsu, *Tao Te Ching*, translated by Gia-fu Feng and Jane English (New York: Vintage Books, 1972), Chapter 42, lines 2-4. Mei Li Inouye translated this passage from Chinese to English while studying the Dao De Jing. She uses the pinyin system of spelling in use today, using "d" instead of "t" and "zi" instead of "tsu," which replaces the older Wade Giles Romanization.
2. William Carlos Williams, "This is Just to Say," *The Norton Anthology of American Literature*, Shorter 4th edition, Nita Bayam, editor (New York: W.W.W. Norton & Company, Inc., 1995).

Diary Of A Compulsive Integrator

BY JANET GREENE

THE BEGINNING

I admit it. I am a compulsive integrator. I am constantly imagining ways to connect the disciplines of math, music, botany, biology, geology, music, dance, language arts, and anything else my students are learning. For some unknown reason, I am not content to teach solely music and dance. Have I strayed too far from the path of an Orff teacher? When did I begin to slide down the slippery slope of making connections?

My journey began on one of those blue-sky days of spring. During a break between classes, I left my music room and strolled across campus. "I wonder what those kindergarten students are doing?" I asked myself. So I opened up a fateful door and walked into a miniature construction zone.

THE STAIRCASE

I can see it now: small children making what look like tiny staircases with plastic blocks. The steps ascend incrementally: one step, then two, three steps, then four, until they reach a total of twelve. After each new addition, the little builders carefully count the steps out loud, and then label each one with a corresponding number.

While observing them, I keep thinking, "Why not sing those numbers?" But I remain silent, not wanting to interrupt this brilliant lesson moving the children's learning from the concrete to the abstract. George Gershwin's "I'll Build a Stairway to Paradise" could have been the theme song for this lesson. But there was no singing.

Later that evening, when I got home, I couldn't wait to construct my own staircase using colored math blocks I had found in the school's recycling box. I "sang" up and down the staircase scale, and then did some "step skipping" with my fingers.

FIGURE 1: Students using the "singing staircase" for math and music.

Memories of my first experience playing Javanese Gamelan returned: each tone of the scale was assigned a number, and we sang melodies using these numbers. Yes, solfege is a great tool, but kindergartners are focused on learning and manipulating numbers. Why not teach number sequences and in-tune singing at the same time? I can't wait to try this with my kindergarten students next week!

SINGING THE STAIRCASE

When I brought my five-step staircase into class, the students looked mystified. I sang the numbers as my fingers walked up the stairs. I asked the children to echo me.

It was amazing. Most were able to sing the five-tone scale in tune. I tried skipping from 5 to 3, the familiar *so–mi* chant, and followed this with the intervals 1–3–5. Again, many were matching pitch. I think the visual cue of the stairs helped them understand pitch intervals. In the next class, I decided to pair up students for some musical stair games.

THE STAIRCASE TO ENLIGHTENMENT

This next lesson was exciting to watch! Pairs of students constructed their own staircases, then created different musical games to play. I realized that I had observed a brilliant math lesson and expanded it into the realm of music using the common element of number sequence. Stair steps teach more than math—they teach music equally well.

What a discovery! I was teaching two disciplines simultaneously. But was this something extraordinary? Don't children do this naturally before they enter school? My research on language acquisition demonstrated that infants move fluidly between speech and song. When young children begin to write, they mix pictures with letters. I had also observed preschoolers combining art and physics as they built block structures. Young children are scientists, mathematicians, dancers, linguists, musicians, and painters. Separate disciplines don't exist for these eager learners. They are natural integrators, traveling easily through these areas as if no walls existed.

What happens when these flexible learners enter school? Some continue along the integration path when allowed or encouraged by enlightened teachers. But many don't. Why not? Because in numerous schools, the walls between the disciplines are built, brick by brick, with rarely a window or door. This separation is accomplished in a variety of ways. One example is the daily schedule posted in every classroom that allots time for single subject areas: language arts from 8:45—9:30 a.m., math from 9:30—10:15 a.m., and so on.

THE OBSESSION DEEPENS

I am hooked on integrated learning. Over the next few weeks, I walk into

Suddenly, a "discipline" is not a permanent stone structure, but a flexible building with numerous open doors that encourage travel and transitions.

FIGURE 2: Children explore properties of balance using their bodies.

other classrooms. I am totally fascinated with what students are studying. In the second grade science curriculum, students were exploring balance by using cardboard and tiny weights. Balance is also a fundamental element of dance. I asked myself, "Why not experience balance through their bodies?" I composed a lesson where students used different body parts to balance while shifting their centers of gravity. The lesson culminated with a balance dance. I had found another point of intersection between two disciplines. Dance and science united!

Why can't students have more experiences where they learn a concept through different disciplines? Perhaps it is the word "discipline": in itself, it seems so permanent, so much like a fortress with solid, immoveable walls. Why not change the terminology and think of mathematics, music, or biology as different lenses through which students can view and experience the world? Each lens gives a unique perspective. Combine them and understanding deepens. At the interface of different disciplines, new discoveries can occur.

This approach allows teachers to imagine new ways of thinking about disciplines. Suddenly, a "discipline" is not a permanent stone structure, but a flexible building with numerous open doors that encourage travel and transitions. On their journeys, students not only gain multiple perspectives, they begin to perceive connections between the disciplines. Why is this so important? Because without the ability to make connections between environmental, political, social, and economic issues, citizens and their leaders will not make informed decisions that concern our very survival on this planet.

FIGURE 3: Creating a hexagon shape of an ice crystal, using the body.

WATER DANCE

Walking to lunch today, I spot a fourth grader with a clipboard and a ruler, staring intently at a water bottle. When I ask her what she is doing, she responds, "I'm measuring how much water has evaporated."

"But what does 'evaporate' mean?" I ask. A blank stare accompanies her silence.

I realize how many students learn the word "evaporation," yet have no understanding of its meaning. The phase change from a liquid to a gas seems mysterious because it is invisible. The water level in the bottle decreases. Where is the water now? Those colorful posters on the walls showing rivers and clouds and rain do not reveal the secret of what is happening.

How could I make this amazing transformation from liquid to gas visible? Through dance, of course! The phase change from liquid to gas is really about the movement of molecules as they speed up and move farther apart with the input of energy. Why not create a dance/science lesson where students become water molecules and physically experience this transformation? At the same time, they can explore the dance elements of tempo, levels, and energy.

The lesson grew quickly into a unit on the unique qualities of water, including surface tension, the hexagonal structure of ice crystals, and the polarity of the water molecule. Music was needed to provide an impetus, so student musicians created a musical accompaniment. Science, music, and

dance—there was a balance and a flow among all three subjects. The brick walls between the disciplines came tumbling down as students danced and played their own *Water Cycle*.

MRS. WIGGLE AND MR. WAGGLE DISCOVER MATHEMATICS—THE CLASSROOM TEACHER BEGINS TO INTEGRATE

For years I've been telling the story of Mrs. Wiggle and Mr. Waggle to help teach the concept of pitch. The students act out the story, and then use high and low voices as they follow yarn pathways on the floor.

I was amazed when one of the kindergarten teachers told me how she had incorporated the story into a math lesson. Students constructed their wiggle and waggle houses out of wooden geometric blocks, then re-created these structures with matching paper shapes glued onto a larger piece of paper. Finally, they drew pictures of themselves traveling on pathways to their "friend's house." The dimension of geometry had been added to this simple musical story.

It was so gratifying to see how a teacher incorporated my lesson into her curriculum. After this experience, I wanted to work more closely with teachers.

SEVERAL MONTHS LATER: THE INTEGRATION PROJECT

My wish to collaborate more closely with teachers has become a reality. I found a teacher from each grade level interested in integration. With the support of our fine arts coordinator, I received a grant from my school district to bring music and dance into kindergarten math, first-grade language arts, and second-grade science curricula.

The teachers and I chose several specific skills or concepts from each grade-level text. Then I created lessons that addressed these skills and concepts through music and/or dance. The lessons also addressed key California state standards in music, dance, and academics. My intent was to give equal value to the art and academic subjects while teaching them simultaneously. I also wanted to use these as model lessons to encourage

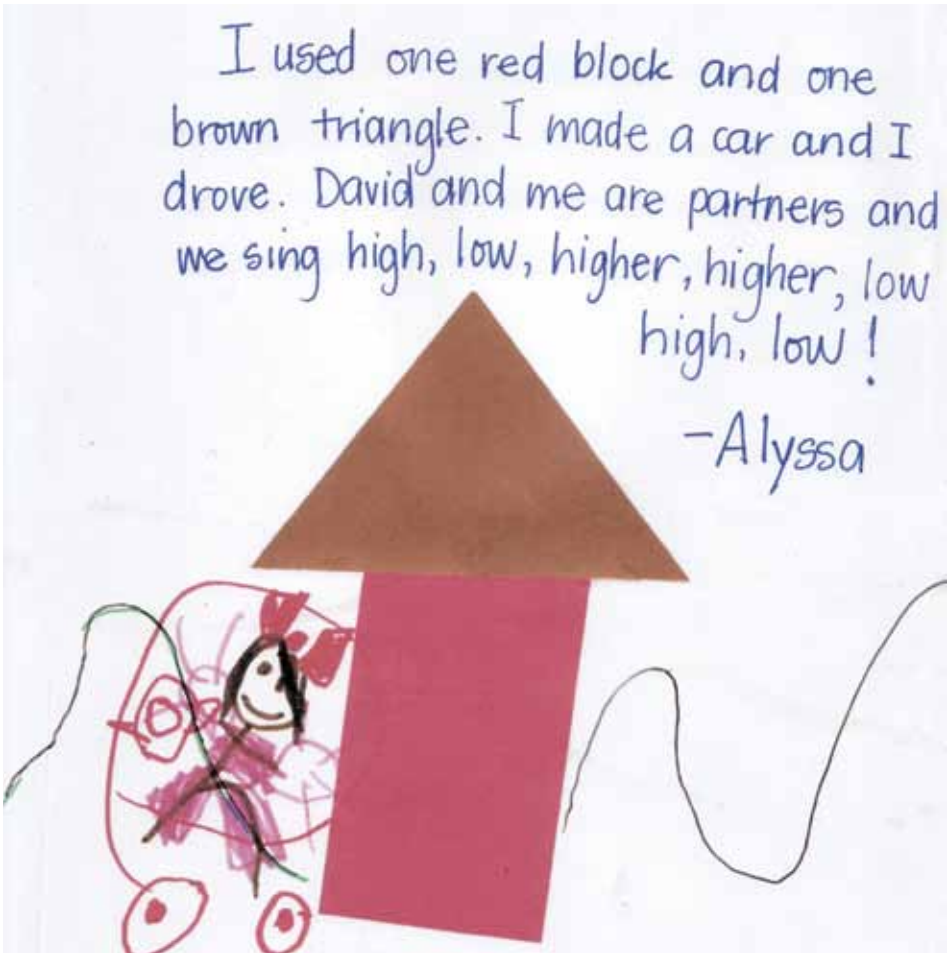

FIGURE 4: A student's "wiggle, waggle" drawing as part of a geometry lesson.

One teacher told me that her teaching has been totally transformed by incorporating music and dance into her curriculum. This was very gratifying to hear.

teachers to create their own integrated curricula. Since the teachers came to my music and movement classes with their students, they were able to observe the lessons and give me feedback.

Some of these lessons worked well; others needed revisions. At the end of the pilot project, I met with the teachers and gave them copies of the lesson plans and DVDs of some of the lessons. The teachers' responses varied. Some teachers appreciated how the lessons addressed different learning styles. Others questioned the value of integrating music and dance into the curriculum.

Members of one grade-level team were enthusiastic, and spoke of the importance of incorporating music and dance into their different subject areas. They obtained district stipends so I could continue to support them as they developed integrated curricula. They brought musical instruments into their classrooms, and we discussed additional integration ideas. One teacher told me that her teaching has been totally transformed by incorporating music and dance into

her curriculum. This was very gratifying to hear.

REFLECTIONS

Doubts about my integration obsession have disappeared. I know other Orff teachers who bring the riches of music and dance into other disciplines. I've also encountered many music and classroom teachers enrolled in my courses and workshops who are hungry to learn this kind of teaching. Schools and districts across the country are now integrating the arts into other areas of their curricula, despite the intense preoccupation with testing. Massive amounts of research data show a strong correlation between an arts-infused curriculum and student achievement in academic, social, and emotional areas. My integration obsession is spreading.

As I look back through my personal journey, I remember a quote from Carl Orff that continues to speak to me:

> "The place where [the Schulwerk] can be most effective, and where there is the possibility of continuous and progressive work, and where its connections with other subjects can be explored, developed, and fully exploited ... is the school."[1]

I believe Orff is saying, "Yes, go for it!" This dispels any doubts I might have that music and dance can breathe new life into other areas of a curriculum. I wonder if Orff himself had the opportunity to explore the connections between the Schulwerk and other subjects? I certainly have. During this integration journey, I have repeatedly asked myself the following questions:

- What are the connections between disciplines?
- How can I create an environment where my students discover these connections, while continuing to be musicians, dancers, scientists, mathematicians, and linguists?
- How can I do this in the present school system?

Perhaps Dr. Seuss had the best answer: "Think left and think right and think low and think high. Oh the thinks you can think if only you try!"[2] ■

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1. Carl Orff, *Carl Orff: Documentation, His Life And Works* (Vol. 2). Margaret Murray, trans. (New York: Schott Music Corporation, 1978). 245.
2. Dr. Seuss, *Oh the Thinks You Can Think* (Random House Children's Books, 1975).

Field Trips: "Slow And Deep" Through Arts Education

BY JUDITH THOMAS-SOLOMON

"Sense deals with the emotional experience… Cultivate the senses. Slow down perception to get into the work. Through arts education, we can take time to express the work. Take the time, because efficiency is for things that we don't like to do."

—Elliot Eisner[1]

The school bus, full of noisy fourth-grade students from Upper Nyack Elementary, drove into the Storm King Art Center parking lot in Central Valley, New York. The children jockeyed to reach the bus door, with jackets, lunch bags, clipboards, and pencils at the ready. When it opened, the face of the first boy in line lit up as a voyager's might on first seeing land. His free hand dramatically pointed outward as he recognized a sculpture he had studied in his classroom. Over his shoulder he yelled to his friends and to the world, "Alexander Calder!" before bounding out of the bus. The others were close behind. We, the organizing teachers, knew we had done something right.

Two months before that auspicious field trip beginning, Upper Nyack Elementary art teacher Gail Gompper, visiting school poet Susan Katz, and I, Judith Thomas-Solomon, music teacher, had planned this field trip. For our experience, we had selected a world-class sculpture garden, one of the most astonishing collections of outdoor sculptures in the world. We knew, from past experience, that the 50-mile, 45-minute bus ride to reach it would be well worth the travel.

THE VALUE OF FIELD TRIPS

We all knew the significance of field trips in general. Based on our experience of previous trips taken closer to home, we knew that they offered unlimited opportunities to create poetry, music, movement, and art.

One year, all of Upper Nyack Elementary had enjoyed a trip to Pete Seeger's sloop *Clearwater*, which was docked in Piermont, New York, a 10-minute bus ride from the school. We sang sea chanteys there, which we had studied in music class, and heard stories about the sloop and the history of that area. We seined for baby fish with high school biology students who brought holding tanks and wore hip boots. (The experience was later turned into a terrific food chain drama in the classroom.) We sketched portions of the *Clearwater* with the art teacher, and danced "play parties" from the historical era on the dock. The definitive poems, drawings, and music that the children created afterwards in class illustrated their new awareness and appreciation of their vibrant neighborhood. It certainly changed all the teachers' views permanently.

Another year, three fourth–grade classes walked about a mile from the

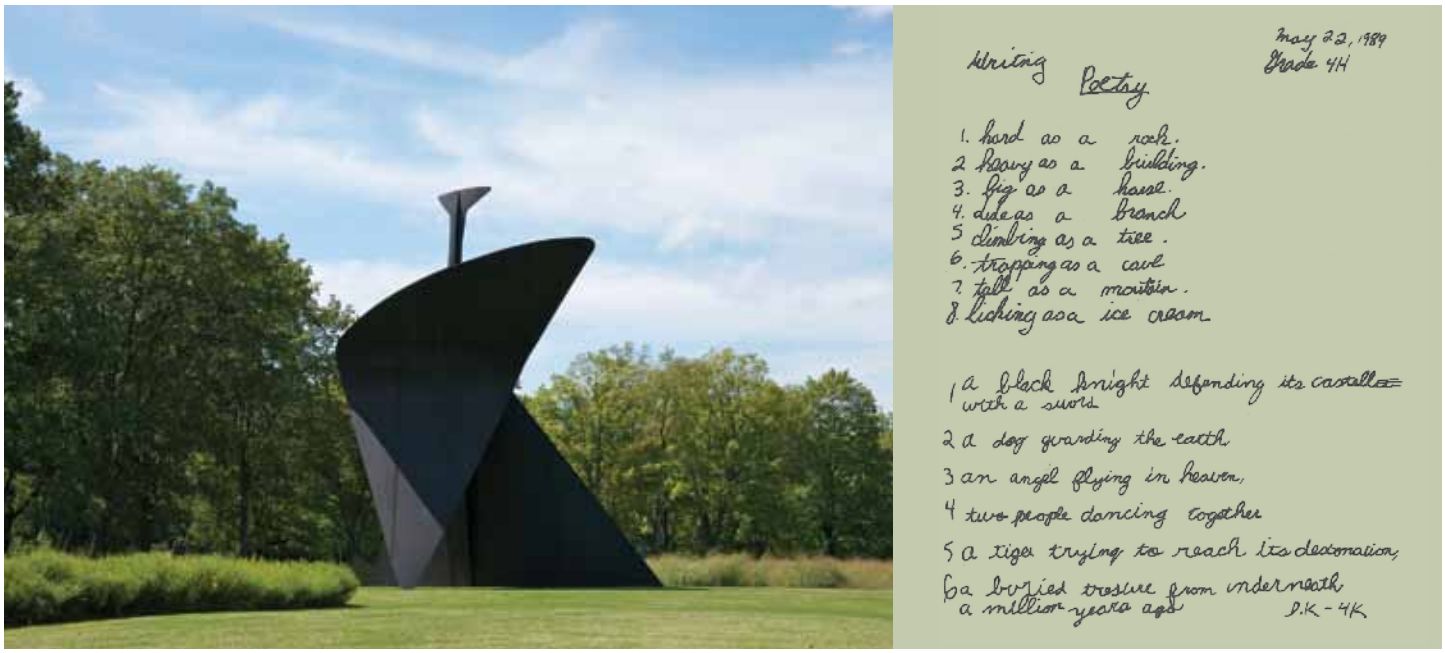


FIGURE 1: Alexander Calder's sculpture *The Arch (1975)* and a student's onsite impressions. Photo courtesy of Storm King Art Center, Mountainville, New York, and © 2012 Calder Foundation, New York/Artists Rights Society (ARS), New York; other images courtesy of the author.

One-half egg
I am inside it
Its walls are smooth
Like plastic on gravel
The shell is shiny
Like glaze on pottery
It is bumpy
It's cozy but I hear
A voice
My mother
I depart from my egg.
—E. O., fourth grade

FIGURE 2: Isamu Noguchi's piece *Momo Taro* inspired poetry during the field trip. Photograph courtesy of the Storm King Art Center, Mountainville, New York, and the Artists Rights Society, and copyright © 2012 The Isamu Noguchi Foundation and Garden Museum, New York / Artists Rights Society (ARS), New York. Poetry courtesy of the author.

school to the beach at Hook Mountain on the Hudson River, where Henry Hudson had named the massive river 275 years before. There the children wrote poetry and created songs and movements based on the fluid and historical attributes of the river. Afterwards, they returned to art class and learned how to create Hudson River scenes with watercolor washes, edited their poetry in language arts, and extended those works through movement and music in the music room. The hall bulletin boards sang of their creativity and the wonder of the Hudson Valley to the whole school. This type of post-experience schoolwork expands the influence of any trip, and shares the wonder and joy of learning.

Another spring trip took our students to experience the architecture and unicorn tapestries of the Cloisters Museum, in Upper Manhattan. On that trip, the fourth grade was divided into three groups. Each group rotated to one of three stations with a teacher: one group analyzed the tapestries inside the museum, and a second observed the outside architectural characteristics of the museum. The third played medieval music they had learned on their soprano recorders under the museum grounds' blooming cherry trees, to everyone's delight, students and teachers alike.

Each of these field trips required extensive planning. We used the same process to develop our trip to Storm King. We knew it would be important to engage all three phases of the field trip experience—preparation, actual experience, and aftermath—because each phase would contribute to a memorable experience. This article explores how we managed this field trip in detail, to help other teachers organize memorable trips for their classes.

BEGIN WITH HIGH EXPECTATIONS

We teachers knew what we wished to jointly accomplish during the Storm King trip:

- Break through any of the students' preconceived notions of what constituted a "museum," and share abstract and nonobjective art in an outdoor environment.
- Help students appreciate the monumental, massive sculptures.
- Make students aware of the ambition inherent in creativity: how a person can use his or her initial creative impulse to develop something real.
- Help students understand the exceptional professional skills in engineering, materials, design, and landscaping in this particular environment.
- Show students the relationship between visual sculpture and its translation into sound, movement, and language, using the sculptures themselves as stimulus.
- Apply creative language skills to describe things with form and substance—that is, select appropriate adjectives to enhance the image, and describe their feelings about and subject of each individual sculpture.
- Help each student experience the work on a sensory level—to internalize it and to make it uniquely his or her own—and feel the worth of his or her contributions.
- Heighten students' ability to accurately record forms and visual perspective on paper, through sketching the sculptures. These would later be used for interpretive work in the art classroom.

LIMITING OUR FOCUS

A month before the Storm King trip, we three teachers visited the site ourselves. We wanted to see what aspects of it stirred *our* creativity. We also documented parts of the experience that would help prepare our students for the trip, and build their anticipation.

Storm King's 400 acres are so vast that we decided to narrow our selection of "featured" sculptors to those with the most pieces and most distinctive visual styles. We planned to familiarize our students with the artists' works and names through photos in the classroom.

By reviewing these photos, the students would learn to name each sculptor. We wanted them to recognize the sweep of Calder, the busyness of Louise Nevelson, the eccentricities of Tal Streeter, the monolithic tubes of Alexander Lieberman, the mechanical machinations of Mark di Suvero, or the smooth stone rhythms of Henry Moore. We wanted students to feel that they knew what to expect for the field trip, and we felt that teaching them key elements of styles and sculptors' names ahead of time would keep their interest keen.

PREPARING FOR THE TRIP: IN THE CLASSROOM

Our teacher trip to Storm King was invaluable in helping us decide how to prepare our students for the experience. Before the students' trip, we planned specific learning activities.

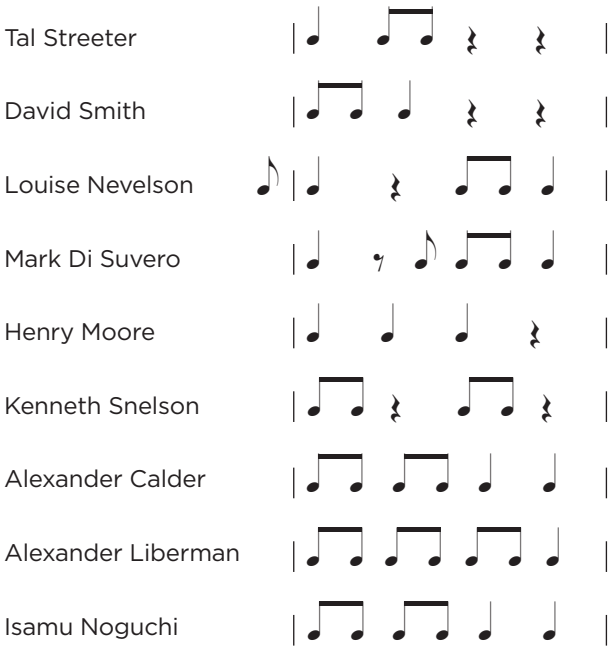
- In language arts, Susan, the poet, would build their poetic flexibility and awareness of verbal possibilities by creating group poems about the sculptures' qualities from photographs of the artwork. Students would be asked to use metaphor, simile, adjectives, senses, emotions, and personification.
- In art class, Gail, the art teacher, would begin a "junk" sculpture unit using paper tubes and found objects to create works resembling the Alexander Lieberman sculptures, with the focus on structural/architectural integrity and balance. These attributes would be essential in their art creations, just as they are in the sculptures they were about to visit. Students would continue this art project after the trip as a follow-up, to deepen their appreciation and awareness.
- In music class, I would facilitate the creation of rhythm chains from selected sculptor names and turn them into body percussions and melodies. We would play with the designs of particular sculptures and create sounds for them vocally, performing movements that the sculptures might make, and making their shapes with our bodies.

Melodic contours, sung and played on recorders, would parallel the visual contours of the artworks. Group movement pieces would relate to the various sculptures using vocal sounds, small percussion, voice, and recorder.

On site during the field trip, we would share these experiences beneath "The Arch (1975)," one of the huge Calder sculptures that formed a little natural amphitheater within its structure. As an ending, with me on recorder, a classroom teacher would lead us in a long, hand-joined line, improvising an *estampie*, much as people did in the twelfth century with whole villages participating. For us, it would mark the end of our journey, and we would traipse back across the field to the waiting buses.

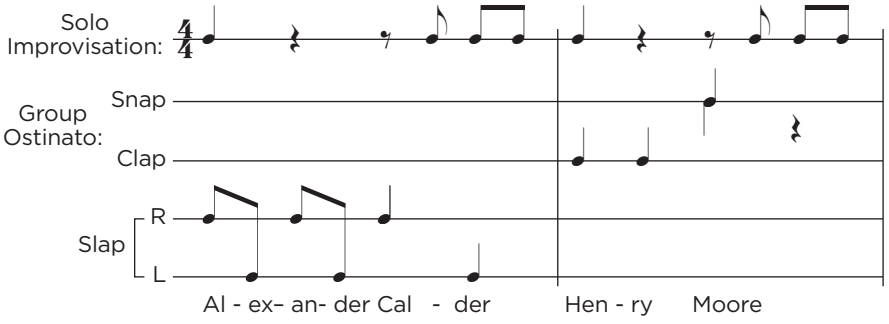
IMPLEMENTING THE LESSON MUSICALLY

We created rhythms for each of the artists we intended to study. These included:

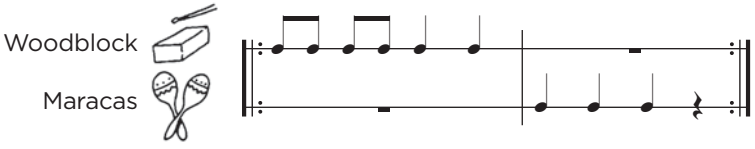


Using these rhythmic patterns, the students could explore combinations, such as:

These combinations translated into body percussion patterns, over which individual students improvised by clapping, using a hand drum, or tapping a desk top, metal chair, or leg. One of these improvisations is below.



Next, students created combinations with small percussion instruments, and played them under student improvisations.



The group was then asked to explore a musical order for all of the nine sculptors–an order which would have variety while allowing students to say the sculptors' names without distorting them. They developed this:

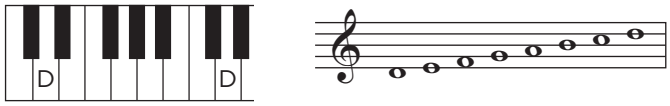
A Alexander Liberman, Louise ——— Nevelson
Alexander Calder, Hen - ry - Moore

B Kenneth Snelson Isamu Noguchi
Tal Streeter David Smith Mark ——— Di Suvero

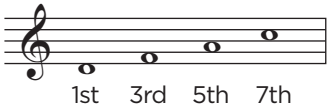
There was lots of playing around with inflection and dynamics, with the majority determining the outcome: first time forte (loud), repeat piano (soft), in ABA form. Students discovered that this form worked well canonically, and so became a speech canon.

A B A

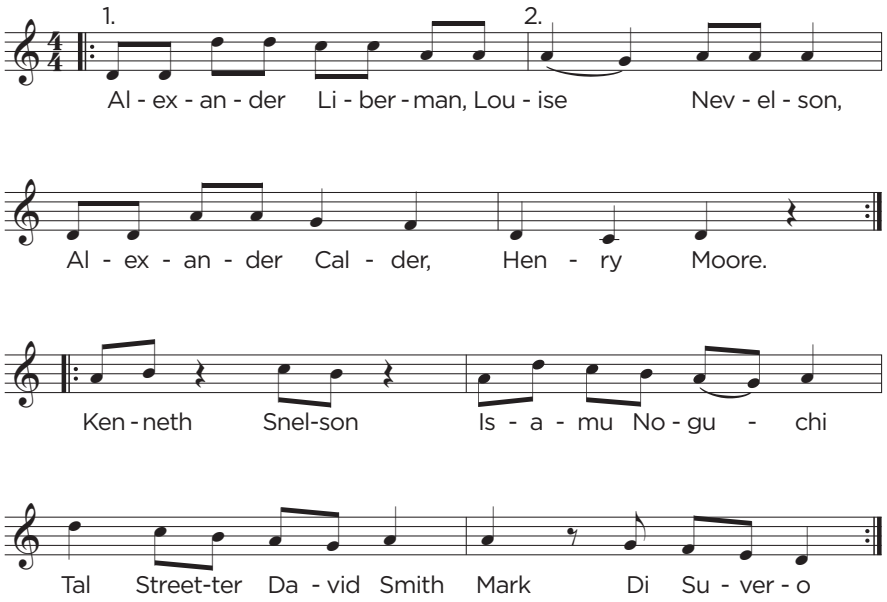
This became the basis for a melodic setting. The task was to use dorian, a recently studied mode, which occurs when notes are played from D to D on a piano.



Further, the group-written melody was to work as a canon. Students constructed the melody so that every strong beat landed on the first, third, and fifth notes of the dorian scale, ensuring a harmony when sung. The seventh tone was a possibility, as well.



The resulting canon developed from a collection of many students' ideas. The students experimented by singing or playing ideas on a recorder, until they had honed the results into this:



SPECIAL LOGISTICS TO INSPIRE FREE ROAMING

We also planned the logistics of the trip early. We knew small groups would enable students to move easily to the different sculptures, so we solicited the help of thirteen parents who would carpool behind the bus. Each parent would have six to seven kids in his or her numbered group. We documented all the parents' names and cell phone numbers, so people could contact each other on site.

At a brief, pre-trip meeting with the parents, we explained how the day would work, where the bathrooms were, and where particular sculptures were on a map we provided. We also assigned compatible groups of students to each parent. Students would be requested to bring bagged lunches for ease of disposal, with no sodas to "spritz" at each other. We three teachers left ourselves free of groups so we could wander, share, and motivate groups as needed. This kind of detailed planning is critical when you have seventy-five students roaming over 400 acres of turf. It ensures that the field trip experience is positive for students, parents, and teachers.

THE PLAN COMES TO LIFE ON-SITE

When we reached Storm King, each of the small groups were told they could wander where their interests took them. They could decide on a particular sculpture to sketch on the provided clipboards and describe in a poem. They also were assigned a few sculptures to find and identify from photos.

The adults delighted to see their nine-year-old charges sitting silently, galvanized at their clipboards, sketching and writing poetry, completely in their element—totally absorbed in that marvelous creative space where one has no body and there is no time. How wonderful to give students a chance to be nurtured in that "zone," as some call it. In fact, it is a good rule to purposely develop field trip schedules so that students can create on-site, because, as Elliot Eisner so aptly put it in the beginning quote, "…slow down perception to get into the work..."[2]

AFTERMATH: THE POST-TRIP CLASSROOM

All of the work the students did on–site was used after the field trip in the three classrooms, to reinforce and explore elements of each artwork in terms of language arts, music, and sculpture, and the overall experience. Sharing these results with the school at large, through bulletin board displays and performances, also helped reinforce the experience and the learning.

CONCLUSION

Every school, no matter the location or neighborhood, has something waiting to be viewed with fresh eyes and examined back in the classroom through the arts. An arts-based field trip experience, with all its implications and enrichment possibilities, can as easily entail a trip to the local Chinese restaurant, the botanical trees on the school grounds, a zoo, an historical village, or a local mansion: a "world class" sculpture museum isn't a pre-requisite for a fantastic exploration of the power of art. Neither is the age range of students a factor. The techniques of erasing the lines between curricula via the arts apply easily to any grade level. So enjoy your field trips, with "slowness and depth" as your handmaidens. The possibilities for this kind of experience are as limitless as the individuals who are willing to experiment with them. ■

This article was excerpted from Teaching Creatively by Working the Word: Language, Music and Movement, *by Susan A. Katz and Judith A. Thomas (New Jersey: Prentice Hall, 1992).*

Special thanks to the Storm King Art Center, the Artists Rights Society (ARS), the Calder Foundation, the Isamu Noguchi Foundation and Garden Museum, and Jerome Kirk.

A swirled
lollypop
a pin in a
crystal ball
that is ready
to destroy
the world.

—Fourth grade
Upper Nyack student

A globe
Shining and spinning
  in its own
  queer stillness...
Sitting in
  eerie light and feeling,
Inside it,
  a life is growing,
  changing, learning.

—Fourth grade
Upper Nyack student

FIGURE 3: Student poetry based on Jerome Kirk's sculpture *Orbit*. Photograph courtesy of the Storm King Art Center, Mountainville, New York, and Jerome Kirk, and copyright © Jerome Kirk. Poetry courtesy of the author.

Judith Thomas *is a long-time national and international music educator and Orff Schulwerk devotee, ever more aware of the power and importance of music in teaching. She promotes integrated music enthusiastically through workshops, master classes, and books. Judith trained at the Orff Institute in Salzburg. She also holds an MM in piano from the University of Illinois.*

The author is indebted to two people who contributed to the work described in this article: Susan Katz and Gail Gompper.

Susan Katz *is an internationally known poet, author, lecturer, and educator. Her work has appeared in numerous journals, magazines, and anthologies, including* When I Am An Old Woman I Shall Wear Purple *(Sandra Martz, ed., Watsonville, CA: Papier–Mache Press, 2007). She was a contributing author to the Scott Foresman/ Pearson K-8 Music Series: Making Music (2005–08), and* Many Seeds, Different Flowers: The Music Education Legacy of Carl Orff *(Andre de Quatros, ed., Perth, Australia: The Callaway International Resources Center For Music Education, University of Western Australia). She was a poet–in–residence for the New York State Poets in Public Service for two decades, and worked closely with Judith Thomas at Upper Nyack Elementary in Upper Nyack, NY.*

Gail Gompper *studied at the Chicago Art Institute, the Museum of Modern Art, and the Art Students League. She holds a degree in Art and Art Education from City College of New York. She taught art K–12 in the Nyack Public Schools in Nyack, NY for over 20 years. In her last decade there, she shared her work at Upper Nyack Elementary and many teamed projects with Judith Thomas. She has worked as a textile designer, stained-glass artist, and a children's workbook illustrator, and is currently promoting her first children's book,* Every Day by the Bay *(Nyack, NY: Puddle Jump Press, 2012).*

1. Elliot W. Eisner, "The Arts and the Creation of Mind" (New Haven: Yale University Press, 2002), Introduction, p xiii.
2. Ibid.

Early Childhood Music Instruction

BY DIANE LANGE, PH.D.

Early childhood is a critical time for growth and development. Children from birth to approximately age five are not typically in a formal school setting, where a trained music specialist teaches music. They are either in an environment with their parents (who are "more capable of guiding and instructing their children in the development of language and arithmetic skills"[1] than in music), or in a daycare-type setting. Even in daycare, music is usually taught by a non-musically trained classroom teacher, who may play a CD to direct the musical activities, or sing songs during circle time in a range too low for children.[2] In this article, I will address developmentally appropriate musical activities and the learning environment for young children between birth and age five.

The goal of an early childhood music program should be to teach children to audiate,[3] sing in tune, and keep a steady beat. An ideal musical situation for teaching young children music combines Orff Schulwerk and Edwin Gordon's Music Learning Theory. Gordon's theory of how one learns music maintains that music is learned the same way that a language is learned. One must develop five vocabularies to be musically literate (see Figure 1). In an early childhood setting, the first three vocabularies (listening, singing/chanting, and audiating/improvising) should be cultivated. Gordon declares, "the listening vocabulary is the most important of the five [vocabularies,] because it is first to develop and because without it, the other four would not develop properly."[4]

If audiation is the goal, it is imperative that children develop a large listening vocabulary of music that consists of a wide variety of tonalities (modes) and meters. Young children should be exposed to a musical model where they are encouraged to sing, chant, and move informally, similar to the informal exposure they receive in their native languages. Adults should not expect correct musical responses in an early childhood setting. "Like speech development, a child's musical development is not immediate."[5] Instead, adults should guide children from musical babble to audiation.

FIGURE 1. Five Vocabularies in Language and Music.

LANGUAGE	MUSIC
Listening	Listening
Speaking	Singing/ Chanting
Thinking	Audiating/ Improvising
Reading	Reading
Writing	Writing

Just as all children go through a "babble" stage in language, children go through a musical babble stage. This stage consists of children experimenting with and exploring their musical singing and chanting voices. During this stage, the music teacher sings short melodic or rhythmic patterns to the child, and then waits for the child to respond musically. Once the child responds tonally and/or rhythmically, the teacher can engage the child in musical conversations using tonal and/or rhythm patterns playfully. Once again, the teacher should not expect correct responses.

PREPARATORY AUDIATION

Gordon outlined three types and seven stages of how children learn to audiate, which he calls *preparatory audiation*.[6] (See Figure 2.) First, in the acculturation type of preparatory audiation, children develop their listening vocabulary through *absorption*, where they listen to music in their environment. They then explore their singing/chanting vocabulary through random response and *purposeful response*. This enables children to listen to sounds in their environment, and learn to discriminate similarities and differences among those sounds.[7] Through random response and purposeful response, children still learn primarily through listening. However, musical babble begins to emerge and develop as children explore and interact with musical sounds in their environment. This musical interaction is vital in developing audiation for the next type of preparatory audiation, which is *imitation*.

Imitation consists of two stages: *shedding egocentricity* and *breaking the code*. During imitation, children realize for the first time that the musical responses they are making are not the same as those in their environment. Gordon coined the phrase *audiation stare* to describe this type of preparatory audiation, because children who previously responded to their musical environments now appear not to be participating in musical activities. Instead, they appear to be staring as they discriminate between same and different patterns. These children are figuring out how to "break the code" of the musical sounds in their environment, similar to when they were "breaking the code" of language and imitating real words.[9] Explains Gordon, "Whether or not they imitate correctly or incorrectly, or even with logical consistency, imitation is of enormous benefit to children, because unless they

FIGURE 2. Types and Stages of Preparatory Audiation[8]

TYPE	STAGES
Acculturation: ● Birth to age 2-4 ● Participates with little consciousness of the environment	1. *Absorption:* Hears and aurally collects environmental sounds of music 2. *Random Response:* Moves and babbles in response to, but without relation to, environmental sounds of music 3. *Purposeful Response:* Relates movement and babble to environmental sounds of music
Imitation: ● Ages 2-4 to 3-5 ● Participates with conscious thought focused primarily on the environment.	1. *Shedding Egocentricity:* Recognizes that movement and babble do not match sounds of music in the environment 2. *Breaking the Code:* Imitates with precision sounds of music in the environment, specifically tonal patterns and rhythm patterns
Assimilation: ● Ages 3-5 to 4-6 ● Participates with conscious thought focused on the self.	1. *Introspection:* Recognizes lack of coordination between singing, chanting, breathing, and movement 2. *Coordination:* Coordinates singing and chanting with breathing and movement

engage in imitation, they will lack the readiness to engage in assimilation."[10]

The two stages within assimilation are *introspection* and *coordination*. During these stages, children begin to compare their performances to the performances of others. They are learning to coordinate their "singing and chanting with breathing and movement."[11] Once they pass through the final stage, they should be able to audiate, and are ready for formal music instruction, such as playing an instrument like the piano.

The types and stages of preparatory audiation outlined above are developmental. Gordon adds, "Under no circumstances, however, should the child be rushed through the types and stages of preparatory audiation."[12] A typical early childhood music class consists of children at various stages within preparatory audiation. To help individual children develop appropriately, it is important during these classes that children build a repertoire of tonal and rhythm patterns.

The best way to build a repertoire of patterns is through individualized instruction. It is imperative in an early childhood music class that children are asked to sing and chant by themselves. (I have found that using puppets is a great way to encourage these musical responses.) Solo singing and chanting is vital to children beginning to audiate, and eventually understanding music. Gordon declares that if children learned language the same way they learn formal music, speaking only in groups and repeating what the teacher said, they would never be able to form complete sentences or thoughts. That is why children should be asked to sing and chant individually several times in an early childhood music class.

MODAL MELODIES

Singing songs to children in a wide variety of tonalities (modes) is also essential for musical development. Gordon states, "The more varied the music that children hear, that is, the richer their musical environment is in tonalities [modalities], harmonies, and meters, and the more they are encouraged to interact with what they hear through structured and unstructured informal guidance in music, the more they will profit."[13] Some existing folk songs are written in the modes; however, it can be difficult to find these melodies.[14]

The other option to performing modal music in an early childhood classroom is for the teacher to write original melodies. Paul Cribari was immensely successful at demonstrating this task when he presented a session for the 2011 Texas Music Educators Association Clinic/Convention titled *Exploring the Phrygian Sound*.[15] He was able to show participants how to write a phrygian melody and set it to classic literature, such as a poem by Langston Hughes. In spite of this successful presentation, observers could sense apprehension from the participants regarding writing their own modal melodies.

Writing modal melodies is simple if you think of them belonging to two families, rather than the theoretical approach taught in undergraduate music theory courses. The two families are *major* and *minor*.

Within the major family there is *major*, *lydian*, and *mixolydian*. All three of these modes contain a major tonic triad. As seen in Figure 3 (see page 48), each mode has a special characteristic tone unique to that mode. When comparing lydian to major, the characteristic tone is the raised IV scale degree. In order for a song to feel like it is in lydian (rather than major), the raised IV scale needs to appear at least twice. If the raised IV scale degree only appears once, then the person audiating the song will audiate the song in major tonality with an accidental, instead of truly audiating in lydian. The other major family member, mixolydian, has the characteristic tone of the lowered VII scale degree. With this tone lower than the tonic, the cadence can be what

FIGURE 3. Modal Families.[16]

MAJOR FAMILY

Lydian (fa to fa)
- Raised IV when compared to Major Tonality

Mixolydian (sol to sol)
- Lowered VII when compared to Major Tonality

MINOR FAMILY

Dorian (re to re)
- Raised VI when compared to Minor Tonality

Phrygian (mi to mi)
- Lowered II when compared to Minor Tonality

BLACK SHEEP OF THE FAMILY

Locrian (ti to ti)
- Cannot be compared to either Major or Minor Tonality

solidifies the audiation as mixolydian, and not major. When creating mixolydian melodies, try to make sure to use the characteristic tone as the second-to-the-last pitch of the song, to secure the audiation of mixolydian.

The other family, *minor*, also has three modes: *minor*, *dorian*, and *phrygian*. The commonality in this family is the minor triad.

Unlike minor, dorian's characteristic tone is a raised VI scale degree. Melodies should include at least two characteristic tones (the raised VI) so the person will be audiating dorian and not minor with altered pitches.

Likewise, phrygian has the characteristic tone of a lowered II. That pitch needs to appear several times in the melody. To strengthen phrygian, the cadence should include the characteristic tone, just like the earlier discussion in mixolydian. Since phrygian has an upper leading tone as the characteristic tone, try to include this pitch in the cadence and have it fall into the tonic. The lowered II has a strong pull toward the tonic, so try to play with that natural tendency.

The "black sheep" of the family is *locrian*, which does not fit into either the minor or major families. The unique and often dissonant feature of locrian is that the tonic triad is a diminished triad. In addition, there are difficult resolutions when taking these melodies to the barred instruments. The tonic to dominant relationship is a tri-tone, which is not prevalent in American musical culture.

One way to begin writing melodies in the modes is to "noodle around"[17] with the tonic triad in each family, and then begin adding characteristic tones. For example, start singing the tonic triad in major tonality, and then add the raised IV scale degree. Develop this exploration in lydian until improvisation occurs and a simple melody evolves.

Another way to begin singing in these modes is to have a reference song for each mode. Theme songs from the television shows *The Jetsons* or *The Simpsons* are great reference songs for hearing lydian. Once these songs are audiated, create and expand the modality until a new song is developed and can be notated to sing later.

Modal music is appropriate for children of all ages. In an early childhood music class, sing songs to children so they develop as wide a tonal vocabulary as possible. Since most learning is done through comparison, it is essential that the modes be included in any musical curriculum. If children can perform songs in several different modes, then major and minor will make more sense. Think about trying to explain to someone what "hot" means without comparing it to "warm" and "cold." The same is true of major tonality and all of the modes.

By including the modes into the curriculum, the wider and more diverse the children's vocabulary will become, and the better they will be at audiating.

DEVELOPMENTALLY APPROPRIATE ACTIVITIES

Teaching music to preschool children is quite different from teaching those in elementary school. Since research has shown that very young children often learn on their own, similar to how children learn language, developmentally appropriate activities must be conducted in an early-childhood music classroom.[18] These activities should consist of both educational play and child-initiated play. Guilbault states, "Educational play is predetermined and controlled by the teacher, whereas child-initiated play is a natural outgrowth of the desires and ideas of children."[19] She adds, "An appropriate early childhood learning environment must provide many opportunities for children to play freely and spontaneously, as their own ideas and feelings emerge."[20]

The environment in an early childhood music program should include movement activities that incorporate muscle coordination (both large and small), singing, and chanting. Lange points out, "Encouraging children to move with continuous fluid movement (moving arms, legs, and torsos in large circles and flowing movements), or engaging in activities that incorporate tiptoeing, jumping, or galloping, support gross motor skill development."[21] Manipulatives, such as scarves, streamers, or parachutes, encourage children to move to music in a free-flowing way to develop large-muscle coordination.

Using manipulatives in an early childhood program also develops fine motor coordination, and prepares children for an Orff classroom. Manipulatives such as rhythm sticks not only develop coordination and steady beat performance, but prepare children to play barred instruments later in school. Encourage children to hold the rhythm sticks correctly so the skill transfers to later barred instrument performance. Rhythm sticks can also be used to develop fine motor coordination. Children can pretend to paint the floor with the sticks, or draw designs using sticks as pretend "sidewalk chalk." Rhythm sticks also work well to pantomime making cookies: pretend the sticks are spoons and use them to stir and scoop cookie dough.[22]

Of course, you can also use rhythm sticks traditionally. Sing a song, for example *Old Joe Clark*,[23] and tap the sticks together, roll them on the floor, tap them on your feet, tap them on your head, and so on. This activity allows for several different objectives. The tonal objective is for children to hear mixolydian. Other objectives may include hearing ABA form and changing movements to reflect it, and barred instrument readiness.

Another way to prepare preschool children for music instruction in elementary school is to use the individual tone bars (such as D and A) to allow children to experience bordun performance. Once children are developmentally ready (at approximately age four), they can explore a barred instrument such as the alto xylophone. Set the instrument up into a pentatonic scale, and allow each child to explore after you sing *Rain, Rain Go Away*.[24]

Unpitched instruments, such as hand drums, lollipop drums, mini cabasas, and chiquitas, provide an introduction to timbre and exploration. Eventually, students will be able to classify the instruments into families (woods, skins, and metals). Whether children are using different manipulatives or instruments, watch them for new and creative ways to move or play. Incorporating their musical ideas brings child-initiated play into your classroom. Being flexible with your teaching is not only developmentally appropriate for the children, but adventuresome for you.

Early childhood musical classes should be fun, as well as developmentally appropriate. These classes are vital to the continued success of music education, and will prepare children to perform wonderful improvisations later in an Orff Schulwerk program. An ideal situation for teaching young children music is to combine Orff Schulwerk and Music Learning Theory, which, used together, enable fun, appropriate developmental experiences, and preparation for future musical learning. ■

Diane Lange *is Associate Professor and Area Coordinator of Music Education at The University of Texas at Arlington. Dr. Lange has taught elementary music for 10 years in both Michigan and Nevada. She received her Orff Levels and Master Class at Memphis State University, and her GIML Level I and II at Michigan State University. Dr. Lange has published several books and articles on combining Orff Schulwerk and Music Learning Theory. She is president for the National Gordon Institute for Music Learning, and is a certified faculty member where she teaches GIML Level I around the country.*

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1. Wendy H. Valerio et al. *Music Play: The Early Childhood Music Curriculum Guide for Parents, Teachers and Caregivers* (Chicago: GIA Publications, 1998), 3.
2. Some facilities are fortunate enough to have a music specialist who can sing to children in an appropriate singing range and perform developmentally appropriate activities.
3. The word "audiation" was coined by Edwin Gordon to explain the hearing and comprehension of music so one can truly understand music and function as an independent musician.
4. Edwin E. Gordon, *Learning Sequences in Music: A Contemporary Music Learning Theory* (Chicago: GIA Publications, 2012), 247.
5. Valerio et al. *Music Play*, 3-4.
6. Edwin E. Gordon, *A Music Learning Theory for Newborn and Young Children* (Chicago: GIA Publications, 1997).
7. Ibid.
8. Gordon, *Learning Sequences in Music*, 250.
9. Gordon, *A Music Learning Theory for Newborn and Young Children*.
10. Ibid., 35.
11. Ibid., 33.
12. Ibid., 31.
13. Ibid., 33-34.
14. Diane Lange, "An Examination Of The Tonalities And Meters In 21st-Century Elementary Music Textbooks," *Audea* 14 (Fall 2009).
15. Paul Cribari, "Exploring the Phrygian Sound." Presentation at the Texas Music Educators Association Clinic/Convention, San Antonio, Texas, February 9-12, 2011.
16. ———, *Together Again in Harmony: Combining Orff Schulwerk and Music Learning Theory* (Chicago: GIA Publications, 2012), 3.
17. "Noodle around" in the tonalities/modes is a phrase used by Cynthia Taggart (Professor of Music at Michigan State University) to encourage someone to vocally experiment with a new tonality/mode.
18. Gordon, *Learning Sequences in Music*.
19. Denise Guilbault, "Music Learning Theory and Developmentally Appropriate Practice," in the *Development and Practical Application of Music Learning Theory*, ed. Marian Runfola and Cynthia Crump Taggart (Chicago: GIA Publications, 2005), 72.
20. Ibid.
21. Diane Lange, "Fine and Gross Motor Movement," *Perspectives: Journal of the Early Childhood Music and Movement Association* 3:1, accessed January 6, 2012.
22. Ibid.
23. Diane Lange, *Together in Harmony: Combining Orff Schulwerk and Music Learning Theory* (Chicago: GIA Publications, 2005), 65.
24. Peter Erdei (Ed.), *150 American Folk Songs to Sing, Read, and Play* (Boosey & Hawkes, 1974), 3.

In-Class Collaboration: Studying Ecosystems With Orff Schulwerk

BY JENNIE ANDREASEN

When a fourth-grade teacher asked me to collaborate on a project about prairie ecosystems, I jumped at the opportunity. American prairies support a plethora of animals, birds, wildflowers, and plants that burst with color and energy. They evoke timeless images of earth, air, fire, and water, and the predictable cycles of nature. Yet they also exemplify contemporary environmental challenges and the fragility of life.

Similarly, elemental music incorporates ancient and modern aesthetics. It is predictable yet ever-changing, timeless yet ephemeral. Joining the two provided a perfect opportunity to harness the expressive power of elemental music and movement to enhance students' environmental awareness and aesthetic sensitivity.

CURRICULUM GOALS

Based on the book *Sarah Plain and Tall* by Patricia MacLachlan,[1] we designed the project to support both the classroom curriculum (language arts, science, and social studies) and the music curriculum (improvisation and movement, 6/8 meter, pentatonic scales, and major and minor modes).

SOURCE MATERIALS

I wrote these lyrics for the melody from Volume II of *Music For Children*.[2] We called this "The Prairie Song":

"It's a colorful place to be. The wildflowers dance in the wind while the golden sun shines down. It's a colorful place to be.

"It's a jubilant place to be. The ground squirrels play and chase all around while the meadowlarks sing out. It's a jubilant place to be."

Then I added a contrasting B section from Volume IV of *Music For Children*,[3] with lyrics describing a prairie fire, called "Fire Song":

"The fire grows, the prairie glows, the flames burn on through the day and night and still

"The fire grows, the prairie glows, the flames burn on and on.

"Comes the fire, ever higher, burning brighter, as the flames crackle

"Here comes the fire, ever higher, burning brighter. What will happen to us?"

IMPROVISATION

We asked our students, "What would you find on the prairie?" They were enthusiastic to share, and we asked them to explain their answers:

Child: "Sandpiper crane."
Me: "What is that?"
Child: "Well, it's a bird that…[the child explained more about the bird]"
Classroom Teacher: "What else do we know about the sandpiper crane?"

Next, we identified words from our list that fit into a single 6/8 measure, and each student picked their favorite word to say four times in a row. Then we chose our second and third favorites, and repeated the process. Each student combined their speech patterns in ABAC form and shared their unique rhythms with the class. Last, we transferred the rhythms to body percussion and xylophones (in *do* pentatonic on C) to create improvised melodies.

MOVEMENT

We added movement by dividing the students into five groups. Each represented a different component of the prairie environment: trees and plants, flowers, animals, birds, or fire. Within the groups, each student chose a specific item from his/her category. For example, if Claire was in the flower group, she might be a purple coneflower. Charlotte, in the same group, might be a dotted mint plant. Students discussed how they should grow and look depending on what they chose to be. In the fire group, the discussion was focused on pathways and levels and how they could work together to cover the room.

We created a "prairie scape" by layering the movement pieces together. To begin, the "plants and trees" planted themselves firmly in the ground, growing at different tempi and levels to add visually interest. Next the "flowers" blew in as seeds, planted themselves and grew, using scarves as props. Scurrying "animals" and soaring "birds" followed the flowers, adding complementary motion to the stationary plants, trees, and flowers. "Fire" came last, incorporating various pathways and levels as the flames "burned down" their classmates. (Science is not for the faint of heart!)

We had an excellent discussion about what happens during a prairie fire, including questions such as: What happens to the birds and animals? What happens to the plants, trees, and flowers? After the fire obliterates the prairie, what happens? We let the discussion lead the movement, and it provided an excellent opportunity to discuss the nutrients in the soil and the regeneration of the prairie after a fire.

FINALE

For our final performance, one group of students improvised on glockenspiels while the prairie "grew." They played simultaneously but in random

tempi, because the prairie environment does not share a single tempo. When the prairie was fully grown (including wildlife), we sang the "Prairie Song," followed immediately by the "Fire Song" as the fire rampaged through the room. After the fire, we regenerated the prairie with melodic improvisations, ending by singing the "Prairie Song" again, performed in ABA form.

CONCLUSION

Nearly 50 years ago, Carl Orff said, "I should like to describe Schulwerk as a wildflower … Elementary music, word and movement, play, everything that awakens and develops the powers of the spirits, that is the 'humus' of the spirit …"[4] Nature is filled with awe-inspiring wonder, simplicity, and beauty. Music lessons inspired by nature are a perfect fit for the aesthetic and expressive potential of elemental music. Let both inspire you to explore your own prairies and grow your own wildflowers. ■

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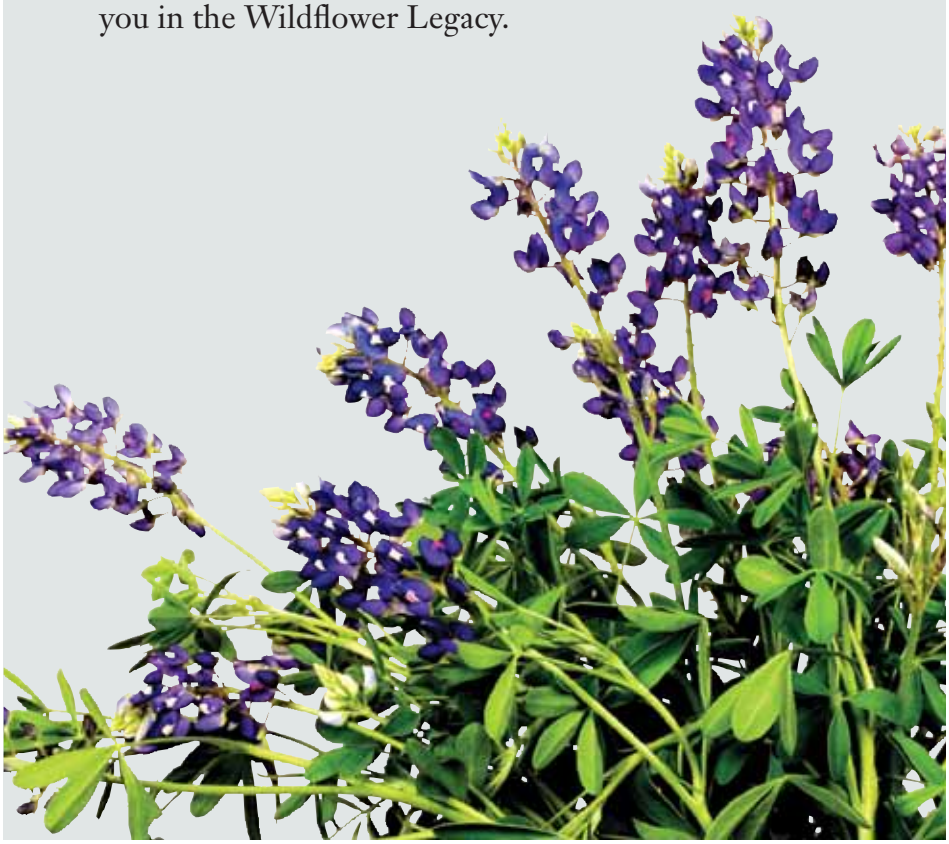
1. Patricia MacLachlan, *Sarah Plain and Tall* (New York: HarperCollins, 2004).
2. Margaret Murray (arranger), Gunild Keetman (author), Carl Orff (composer), *Music for Children: Volume II* (Mainz, Germany: Schott Music, 1976), 11, #6.
3. Margaret Murray (arranger), Gunild Keetman (author), Carl Orff (composer), *Music for Children: Volume IV* (Mainz, Germany: Schott Music, 1976), p. 5.
4. Speech given by Carl Orff at the opening of the Orff Institute in Salzburg on October 25, 1963 (published by B. Schotts Soehne, Mainz in the Orff Institute Jahrbuch 1963) Translation by Margaret Murray published in *Orff Re-Echoes Book 1* (ed. Isabel McNeill Carley, AOSA, 1977).



REVIEW BY DAVID THAXTON

Blue is the Sea: Music Dance and Visual Arts

By Sofia López-Ibor
San Francisco, CA: Pentatonic Press, 2011

Sofia López-Ibor is a chef. Not because she is known for her culinary passion in the kitchen, or has volumes of recipes in her head. A skilled chef does more than follow the recipes. She is intricately familiar with ingredients and techniques. She has an insatiable appetite, for food and for using her expertise to explore, experiment, and create. Sofia may apply all of these skills in the kitchen, but what makes her a true chef is how she approaches the art of the music she teaches.

López-Ibor's *Blue is the Sea* is a "cookbook" of sorts that embodies a lifetime of inspiration and teaching in music, dance, and visual art. It is hardly a simple collection of recipes. Instead, it is a collection of limitless possibilities. "Lesson plans" are secondary, while in the forefront is something far more valuable to the Orff practitioner: page upon page of inspirational raw materials, philosophical discussions, and vibrant photos of child-created art and dance accompanied by the author's artful arrangements of traditional rhymes and songs. The book's presentation plants seeds of ideas for the reader, outlining entire thematic explorations and copious suggestions for the diverse paths these explorations might take.

As part of the Integrated Learning Series published by Pentatonic Press, *Blue is the Sea* focuses on the visual arts aspect of an integrated music curriculum. Herein lies its strength. In the book's dedication to Barbara Hasselbach, Sophia remarks on her own training at the Orff Institute, "I became closer friends with Wassily Kandinsky, Paul Klee, Alexander Calder, and Pablo Picasso, as well as Martha Graham, Merce Cunningham, Alfred Schnittke, and Igor Stravinsky." Such an awakening to the vitality of integrated visual and performing arts evokes classical ideas of education and culture. Rather than focusing on compartmentalizing and standardizing disciplines in order to achieve higher test scores, *Blue is the Sea* combines them to cultivate learning in the child as a whole. As one peruses the pages filled with diverse music, poetry, movement, and art, it is clear that López-Ibor paired these elements carefully to create unified concepts ripe for exploration. Each of these concepts is solidly rooted in countless hours of work with children. The book beckons readers to adapt the lessons to their own tastes and teaching styles, as well as insert new elements and materials.

One of the most enlightening graphics for this integrated approach is a diagram in the preface, which entwines activities such as singing, movement, art appreciation, listening, art projects, Orff ensemble, games, drama, and percussion in a web of flowchart-like arrows. At first glance the complexity is perplexing. On further inspection, the message becomes simple: All things are connected, but the directions those connections can take are endless. In spite of myriad possibilities, López-Ibor has organized the book into carefully unified, discrete sections: music, movement and art; graphic notation; connecting image to music, art, and poetry; and music listening and the visual arts.

Much like the Orff Schulwerk *Volumes*, *Blue is the Sea* resembles a chef's pantry with its carefully organized shelves stocked with a bountiful array of raw ingredients. But unlike the Volumes, this book provides glimpses of the end products of the activities. These are presented not as points to achieve, but as inspiration for the reader's own goals and visions. As Sofia herself recommends, "Not only reproduce the ideas, but also re-create them."[1]

As a source for teaching materials, *Blue is the Sea* is impressive, with plenty of beautiful Orff ensemble arrangements, art projects, movement activities, and references to children's literature. But its true power lies in how Sofia López-Ibor has, like any great chef, married these elements together. *Blue is the Sea* will bring a feast of integrated art to any classroom—music, art or otherwise. *Bon Appétit!* ■

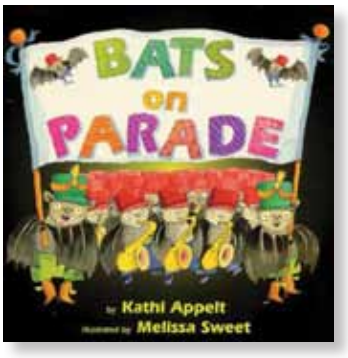
David Thaxton *teaches kindergarten through sixth-grade music at Diedrichsen Elementary School, Sparks, NV and serves on* The Orff Echo *editorial board.*

1. Sofia López-Ibor, *Blue is the Sea* (San Francisco: Pentatonic Press, 2011), 5.

REVIEW BY HOLLY DEUEL GILSTER

Bats On Parade

By Kathi Appelt
Illustrated by Melissa Sweet
New York: HarperCollins, 1999



"The grandstands were packed

On that midsummer eve,

Wing to wing, paw to paw,

Beak to beak, sleeve to sleeve."

So begins Kathi Appelt's book *Bats on Parade*. As the story unfolds, we see that this charming book is, at heart, about a grand parade with all the trappings of a high school marching band. "Bat Masterson" is the grand marshal, encouraging the town of exotic animals to "let the good times begin." And they do!

Melissa Sweet illustrates the story with watercolor over ink-pen drawings filled with humor and details. We see a cool, "batty" New Orleans jazz combo, complete with sunglasses and French berets, on one parade float. "Cleobatra" has her own flower-bedecked convertible car. She is preceded by the "bat rangerettes" in white patent-leather cowgirl boots!

I love this book for a number of reasons. For the music teacher, it is a story about a marching band in a small-town parade. I can hear John Philip Sousa in my mind as I read it to my classes. The elementary classroom teacher will appreciate that the story is told in rhyming couplets, allowing students to increase their linguistic skills.

As a musician, each turn of the page introduces a new and specific section of the marching band, from the piccolos to the sousaphones. An additional bonus is—well—addition! As each instrument enters the parade, the text reveals a multiplication problem. Rather than being awkward and inhibiting the story line, the language flows smoothly throughout the body of the story.

"And right on their heels,

Their golden horns gleaming

49 trumpets

In sevens came streaming"

I teach pre-school and elementary music. Whenever I find literature that integrates core curriculum and promotes a musical concept, I grab it. With my own district's dwindling budget for materials and supplies, I must be circumspect in what I purchase. *Bats on Parade* gives the reader an introduction to the instruments in a marching band, it offers cool math problems through multiplication, and it is told in rhyme. I call that a three-in-one treasure.

"They turned towards the grandstand.

What flourish! What flair!

Then that old 'Stars and Stripes'

Filled the midsummer air."

With flourish and flair, I recommend this book as a staple in the elementary music classroom. Because it stars bats, not goblins, it's a great alternative story for use during Halloween as well. ■

Holly Deuel Gilster *has been teaching music using an Orff Schulwerk approach for more than 30 years. She has studied children's literature with the acclaimed author Jeanne Whitehouse Peterson. An author herself, her young-adult short story "Lost" won first place in the 2008 SouthWest Writers International Writing Competition. She has published a book of listening "maps" for the elementary classroom teacher, called* Learning to Listen, Listening to Learn Vol. 1, *and is a frequent presenter at Music Teacher conferences.*

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Introducing "The Tech Spot"

Watch for a new column in the fall issue of Reverberations! "The Tech Spot" identifies technology applications unique to Orff Schulwerk. It focuses on how technology can facilitate Orff Schulwerk's characteristic elemental and playful engagement as students experience music and movement. The new column also describes effective ways technology can support teachers outside of the classroom.

Members interested in writing for "The Tech Spot" are encouraged to contact the Reverberations editor at communications@aosa.org.

reverb

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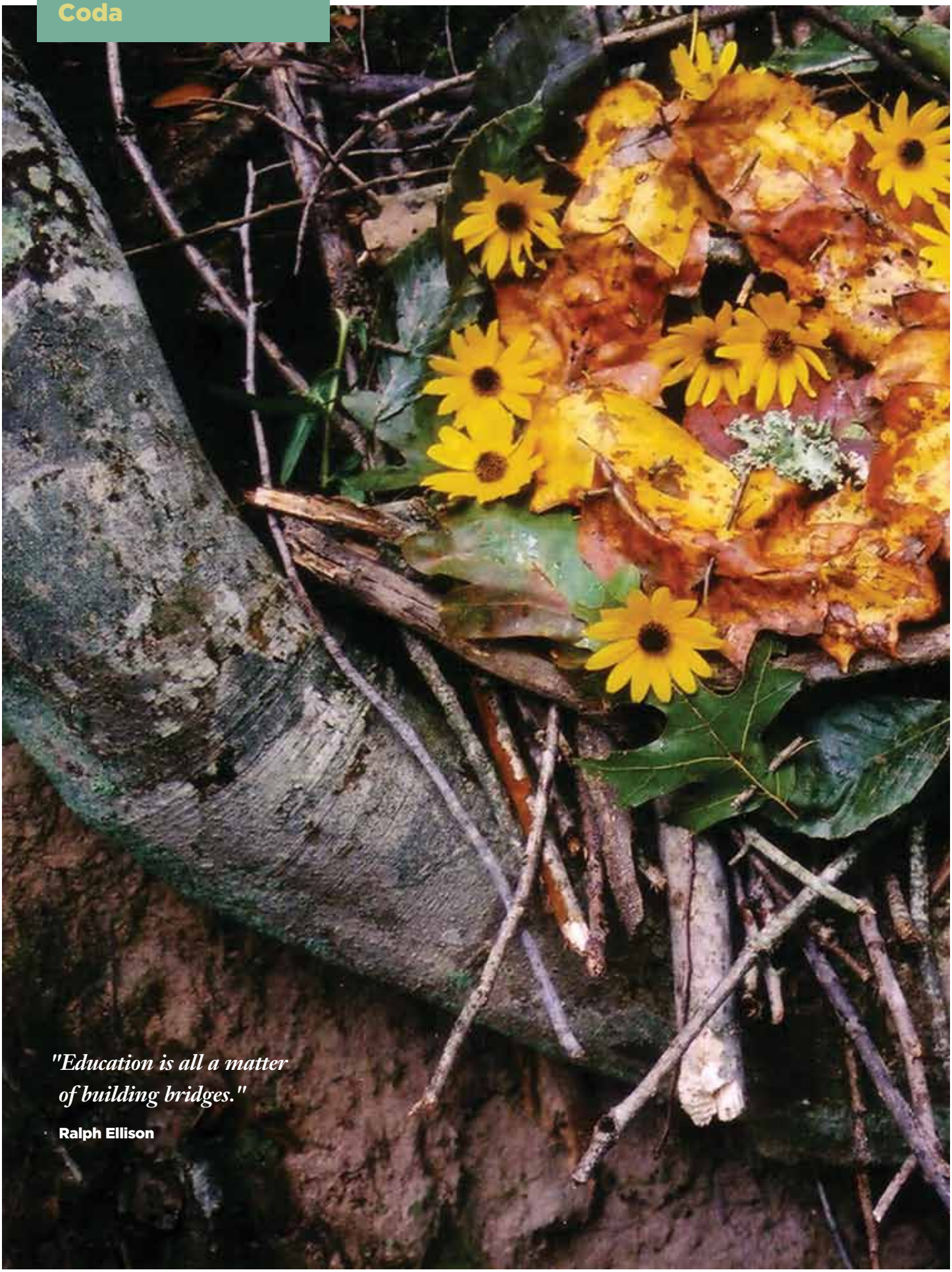

"Education is all a matter of building bridges."

Ralph Ellison

CREDIT: ALICE BALLARD

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