

Spring 1998

# Music and the general classroom: Literacy in a new key

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MUSIC AND THE GENERAL CLASSROOM:  
LITERACY IN A NEW KEY

BY

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DISSERTATION

Submitted to the University of New Hampshire  
in Partial Fulfillment of  
the Requirements for the Degree of

Doctor of Philosophy

in

Reading and Writing Instruction

April, 1998

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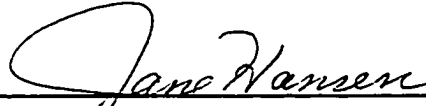
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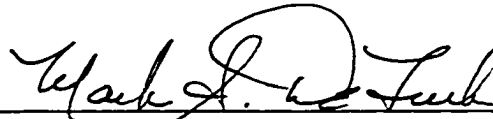
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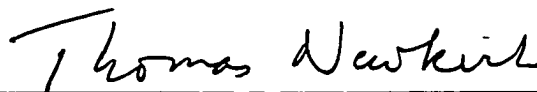
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## DEDICATION

I dedicate this dissertation to Lucille Chapin and the memory of Ardath Breitenbach Paul, both of Morrison, Illinois, whose brilliant organ and piano instruction helped me affirm my musical self during my high school years, and who were among the first to show me that learning continues for a lifetime.

## ACKNOWLEDGMENTS

I gratefully acknowledge Jan Roberts who not only invited her students' musical selves into her classroom, but a researcher as well to watch what happened. Without her continued cooperation, interest, and support there would be no dissertation.

Jane Hansen has been a Dissertation Director extraordinaire throughout the research and writing of this paper. She responded honestly, nudged patiently, encouraged generously, prodded when necessary, but most of all she saw the value in what I had to say and had the editor's ability to help me say it concisely.

I also fondly acknowledge my cohorts, Dan-Ling Fu, Bonnie Sunstein, and Peg Murray who gathered with me weekly for "Dissertations Anonymous" discussions. Even when the data seemed to sprawl in countless directions, our regular sharing sessions helped shape it into manageable bits, categories, and themes. From these caring women, I learned the value of sharing emergent thoughts, no matter how sketchy, for once those thoughts are out there, they can be examined and honed.

I thank:

Tom Newkirk for being an occasional reader of portions of the dissertation and asking the tough questions that bring focus;

Ann Diller for pointing out the "discovery draft" quality of an early chapter manuscript;

Mark DeTurk for kindly critiquing the music in my manuscript; and

Don Graves, my original inspiration for attending UNH, who challenged

and stretched my thinking in many subtle ways both in classes and out.

I owe gratitude to Don Murray as well. It was he who told me at one conference that I was "a musician and a practitioner" and to look there for research directions. Finding myself helped me find my topic.

My teaching partners, Tim Hillmer and student teacher Cameron Feir, made possible the final push to completion. Their hours of dedication and teaching allowed me the time needed to complete the dissertation.

I also thank my mother, Jean Seger, for her confidence in me during my graduate school years. She knew when to ask, and, perhaps more importantly, when not to ask how the writing was going.

And, most of all I thank my family for their love and support. My wife, Claire, not only was part of the classroom collaboration, but also the main source of the family's well being and income during our years in New Hampshire. She also became my main reader of manuscripts over the last several years. Her editor's eye, reader's ear, and insider's perspective kept me from straying far from an accurate story. My children, Jennifer Seger, Colin Seger, and Rolland Moody moved through adolescence into young adulthood during my graduate school years. I appreciate that they kept me a dad throughout. For me it was going to graduate school; for them it was moving across the country, leaving their home and neighborhood, changing schools and friendships, and ultimately doing the same thing again when we returned home.

I could not have done this without such a network of love and support.

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## ABSTRACT

### MUSIC AND THE GENERAL CLASSROOM: LITERACY IN A NEW KEY

by

F. Dan Seger  
University of New Hampshire, May, 1998

After a personal description of the traditional role of music education and its relationship to the overall curriculum of an American elementary school, this dissertation asks: What do grade 4/5 students do when their classroom and music teachers integrate music more deliberately into classroom life? Set in a classroom in a small New England town, the dissertation describes how a collaboration between a classroom teacher and a music teacher brought the music curriculum into the daily lives of students in a school where scheduled music class occurred only once per week.

Viewing music as a valid means to represent thought and express it, the teachers explored ways to weave aspects of the music curriculum into the general classroom's language arts, science, and social studies units. Their desire was to blur the boundaries between classroom and music room experiences and make music more available to their students for learning and showing what they know.

Descriptions of three thematic units show that the children first needed to play with the tools of the new literacy, namely musical instruments and sounds, to gain familiarity with them. As they learned



the potentials and limitations of the instruments in a way described as aural scribbling, they came to make informed choices of musical instruments to illustrate events and set moods in stories they had written.

A science unit on the physical properties of sound showed that some students chose music as a way to demonstrate what they knew about the topic. A social studies unit on cultural ways of celebrating holidays showed the students choosing music to symbolize certain elements of their celebration. Throughout the semester of the study, students also selected music spontaneously to satisfy various personal and interpersonal purposes such as recreation, problem solving, memory assistance, motivation for writing, and as a means of personal expression.

The study shows the importance of music specialists for adding breadth and depth to an integrated curriculum. It also suggests further research into music's relation to print literacy, into alternative evaluation methods, and into methods of including arts in collaborative approaches to instruction.

## CHAPTER 1

### WHAT DO GRADE 4/5 STUDENTS DO WHEN MUSIC IS INTEGRATED MORE DELIBERATELY INTO THEIR CLASSROOM LIFE?

This literacy story began over forty years ago with me as a boy attracted very early to the seductive pulses and rhythmic sounds of music. At my grandmother's house stood a red mahogany Magnavox console phonograph, which stands now in my mind as the source of some of my earliest pre-school memories. The automatic changer intrigued me with its almost human-like knowledge of when a record was over, and when to turn itself off after the last disk played. But, the sounds that emanated from the speakers superseded my fascination with the mechanical. I found that I liked fast music better than slow. Hands and knees on the floor, I spun around the room like a gamboling foal in time to the music. Even now I feel the traces of movement in my muscles when I think or hear strong, rhythmic music.

When I was a little older, I remember once being drawn to a particular record cover that I saw on a wire rack in our local grocery store. The record contained several works by Rimsky-Korsakov, Borodin and other Russian composers. My parents bought it for me, and the orchestral sounds in Borodin's *In the Steppes of Central Asia* provided a new and enlightening experience. Even though I knew nothing of Russian musical tradition, the rhythms, melodies, and harmonies appealed to me immediately. They enveloped me so that I stood inside a moving realm of

sounds. They touched my intellect in ways that other modes of literacy did not. They created images, not of things, but of space and time sensations which were at once whole, sequenced and orderly. The experience made sense.

### I Learn to Express with Music

I learned to play the piano at age seven. This expanded my musical palette beyond kinesthetic response and opened a new world. Those simple tunes, no matter how awkward they may have sounded to my indulgent parents, were an important way for me to understand and express what I knew. Through these early musical experiences a personally significant well of knowledge and expression had been tapped.

In *Notebooks of the Mind*, Vera John-Steiner develops the concept of "languages of thought" (8), which she characterizes as "inner symbol systems" through which individuals store and organize experiences that have been transformed into "images,. . . inner speech,. . .[and] movement ideas." The symbol system that organized the images of my life seemed to be a musical one. I listened to the Borodin recording many times, far too many for simple novelty to be the draw. When I practiced the piano, I was extraordinarily patient with myself as I repeatedly and laboriously plunked out tunes from the music book. What I recall now is not the frustration of wrong notes, but the intellectual challenge, visceral joy, and esthetic satisfaction that derived from the interplay of pitch, movement, and rhythm supported by my family's context of comfort and acceptance.

### Challenges to My Personal Literacy

I learned early that my school system did not value my language of thought and expression as highly as I. In elementary school, music class happened twice a week for half an hour, in a separate room, oftentimes the cavernous stage of the gymnasium. We marched single file and silently down the hall and kept our hands to ourselves. Compared to the daily exposure and flow of reading, handwriting, math, and other subjects, music was segregated from the usual work of school; appreciated, but clearly on a lesser plane of importance. Music performances brought schedule disruptions for rehearsals which, if not excessive in number or duration, the classroom teachers tolerated. Darkened auditoriums, bright stage lights, dim and murmuring audiences all helped to separate music from everyday experience.

The annual piano recital at the Baptist Church elicited the same sense with its special-occasion clothes and stark separation of performer and audience. While the applause in both school auditorium and church recital always reflected warmth, the appreciative comments afterward reflected a detached spectator's perspective. Audience members readily noted the special occasion appearance, the courage, and the poise of the performers, but they limited their esthetic response to brief expressions of beauty and appreciation for hard work.

John Dewey had noted this state of affairs many years before. In *Art As Experience*, he deplores the "chasm between ordinary and esthetic experience" (10) that American society had created and said:

Finally we have, as the record of this chasm, accepted as if it were normal, the philosophies of art that locate it in a region inhabited by no other creature, and that emphasize beyond all reason the merely contemplative character of the esthetic . . . There is much applause for the wonders of appreciation and the glories of the transcendent beauty of art indulged in without much regard to capacity for esthetic perception in the concrete. (10)

Dewey's contemporary society in the 1930's defined art as the products hung in museums and heard in concert halls. This definition shears off the intellectual and expressive values found in the acts of artistic creation and limits esthetic response to individual reactions of like or dislike. Artists become producers; patrons become consumers; school audiences become indulgent onlookers. Ultimately, this definition mutes the power and status of the arts as legitimate forms of knowing, as it promotes the restricted view of arts education as merely performance training for entertainment.

In my community, this translated into minimal curricular emphasis and constricted time allocations for music. When I entered the schoolroom doors, I had to leave much of my identity outside, or at least repress it significantly while there. I lived with the prevalent notion that musical knowledge rated at least second to the culturally defined, important business of the school. It was viewed as an interesting hobby; appreciated, occasionally utilitarian, but an ornament rather than a serious pursuit. Plus, it provided a cost effective planning period for the

classroom teacher.

### My Literacy Goes Underground

What couldn't be repressed, though, was the inner music that flowed through me and enhanced my learning in secret ways. I made up sounds that mimicked the sweeps and stops in the motions of writing letters and numbers. I created rhythmic phrases out of the addition and multiplication number facts that were hard for me to remember. Sentence sense came easily because sentences were like phrases in music. The clock with its jumping second hand was the source of countless rhythmic subdivisions that I tapped out silently, tongue on teeth. Dull minutes in class were no problem, for I had a repertoire of mental tunes that I could replay at will to fill the time. The twice weekly music classes afforded the release of musical tension as much as it provided enjoyment. I could let myself go in the songs we sang and not feel self-conscious in the process. I did not understand how some of my classmates could dislike music class. It felt like a haven to me, and the time passed quickly. But despite my ways of coping, I felt the weight of Dewey's words about the gulf between ordinary and esthetic experience. They still rang true during the 1950's in my small Midwestern community.

### Forty Years Later

As I prepared for this dissertation I found the situation for music in schools largely unchanged. Different pedagogies guide instruction, but time allocations are similar to forty years ago. Art is still viewed

pervasively as products or performances of a gifted few, who are usually a bit eccentric, separate from common experience. And now, as school funds become increasingly scarce, many districts target arts and athletic programs for reduction or elimination. It is not difficult to curtail or eliminate as frills programs whose value has been reduced to entertainment or diversion, or whose value as a complex language of thought and expression has been eclipsed by the competitive clamor surrounding standardized scores on verbal and mathematical achievement tests.

This tendency to devalue arts education, however, disfranchises many of the students who come into our classrooms. It limits their voices primarily to oral, print, and mathematical literacies and drives what may be their primary languages of thought underground. Over time it can take its toll in attitude and respect for the very institution whose job, at least in part, is to open minds. I was lucky. The traditional literacies came easily for me, and I had plenty of time to pursue my music studies outside of school. But I have never accepted that situation as the way it should be for all.

### My Research Question

In his book *Cognition and Curriculum Reconsidered* , Elliot Eisner makes a compelling case for the use of all sense modalities in concept formation and the importance of affect on cognition. He further suggests that, as humans grow and mature, they develop certain "response tendencies" toward some senses over others, but not to their exclusion:

The painter will characteristically view the bridge as an expressive form having shape, scale, and color or as a candidate for a painting. The poet is likely to view the bridge as subject matter for a poem or epigram. The engineer regards it as an achievement in managing stress. Each construes the bridge in different terms, the terms with which each is most competent. As Ernst Gombrich once observed: "The painter does not paint what he can see, he sees what he is able to paint." (27)

Each of the senses has definable "forms of representation" for the concepts they hold. Thus, a person with an auditory tendency may express in poetry or music, one with a visual tendency may draw, paint, or sculpt, one with a strong gustatory sense may prepare regional cuisines or imaginative local fares, and so on.

Believing further that cognition and affect are interdependent qualities, Eisner challenges a predominate curriculum tradition which separates the two and subordinates feelings to the status of incidental by-products. For him, the feelings associated with a cognitive act inhere to the knowledge gained.

Similarly, Dewey touched on this relationship when he described the two aspects of any educative experience: "There is an immediate aspect of agreeableness or disagreeableness, and there is its influence upon later experiences" (*Experience* 27). The first quality engages or repels the participant; the second moves the significance and knowledge gained from the experience into future experiences. These two thinkers were



significant to me as I undertook my revised look at the role of arts, particularly music, in education.

Having silenced young students myself in my own classroom as they drummed out inner rhythms on desk tops during lessons or read-alouds, I knew that I needed to explore ways to help students find value in what they naturally did. *I became curious particularly about what happens to the music that children bring to school in their bodies and minds, but more than that, I was curious about what the possibilities were.* What if music were invited into the general classroom? What effect would a collaboration between a music teacher and a classroom teacher have on the literate lives of a class of upper elementary aged students? How would students incorporate musical knowledge as they created personal meanings within various contents and contexts and express them? These questions led me to fashion this research question:

**What do grade 4/5 students do when their classroom and music teachers integrate music more deliberately into classroom life?**

#### An Expanded View of Literacy

De Castell and Luke (159) give a foundational definition to the concept of literacy. For them, literacy means "to have mastery over the processes by means of which culturally significant information is coded." Typically, this code is thought of as print, and has led to the most commonly held definition of literacy: the ability to read and write. However, de Castell and Luke and other researchers into the history of literacy (Resnick and Resnick) caution that literacy is really not that simple.

Throughout history, societal needs, tempered by values, economics, religious influence, and politics have all continually shifted expectations concerning literacy. At one time to be literate meant to be able to recite from memory familiar texts relevant to religious activities. At another it meant to study and analyze exemplary texts written by famous authors. At still another, it referred to the ability to express one's self in a democratic society. And more recently, we find the term 'functional literacy,' implying an expectation of minimum competence for survival in the workplace.

None of these definitions is broad enough to fit the kind of literacy needed in an increasingly connected, information-packed society, yet pieces of them all continue to adhere to the word as loaded connotations. They tend to both fuel and muddy current public debates about schools' successes or failures in producing literate graduates. While all sides are interested in a literate citizenry, speakers and listeners have contrasting images as to what constitutes literacy, what a literate person should be able to do, and how literacy should be taught. Routman interprets this debate as a sign that society is again redefining and moving toward a "more critical literacy"(6). She says that for teachers and learners this demands "an active, meaning-making self, teachers that model the roles and operations of thinkers and learners, and a collaborative work setting that provides a network of tools for acquiring new skills and solving problems."

Eisner's (*Cognition x*) concept of literacy includes a network of various tools such as words, music, dance, and drama. A society uses all of these to create and express its most complex and profound meanings.

Further, Rexford Brown describes what he calls a "literacy of thoughtfulness," that infuses both reasoning and collaborative aspects into literate acts (35).

Anne Haas Dyson (*Multiple Worlds*) has written about the development of print literacy in young children. She offers that growth in writing is a function of children making connections among the multiple worlds--the imaginary world (mediated by symbols in talk, pictures, or text), the interactive social world of peers, siblings, and adults, and the wider experienced world of people, places, objects, and events--in which they live (23). To the symbolic, imaginary world I would add music. Each world carries with it a voice that locates it in time and space. Growth in writing springs when writers learn ways to negotiate among these worlds to share their meanings with others. She continues, "Children's sense of what can be accomplished through writing evolves as others respond, both playfully and critically, to their efforts" (256). As children successfully negotiate meanings in print, their understanding of the power of writing is internally reconstructed (264). In other words, when children see what they can do with their writing, it changes what they can see as possibilities.

These are many voices, all tugging at the same term, but among them I found support for my interest in music and literacy. Literacy is about making sense of one's environment and thoughtfully negotiating the meanings made with others. The negotiations change when an additional form of representation--in this case music--becomes incorporated as a full partner in the instructional plan. It's like looking at literacy in a new key.

Familiar repertoire can still be played, but, perhaps, with a different sheen.

The collaborative environment in which meaning making and modeling take place provides a social context that fosters significant, meaningful interactions, the space for literacy learning. This dissertation looks at one of those spaces, a grade 4/5 classroom, when music became part of the literacy program.

As mentioned earlier my research question is: What do grade 4/5 children do when music is integrated more deliberately into their classroom life? Three subquestions emerged: What will students do when their musical selves are invited into the classroom? How will this invitation affect the meanings they make in their school subjects? And, how will it affect their expression? My findings form the substance of Chapters 4, 5, and 6. Chapter 2 sets the research in the professional literature and provides a description of the people and places involved. Chapter 3 shows the methodology. In Chapter 6, I discuss the main, overall answer to my research question that evolved as I analyzed my findings.

## CHAPTER 2

### THE SETTINGS

Researchers have written about connections between visual arts and print literacy (Ernst, Hubbard). Both are forms of symbolic gesture using the hands (Vygotsky, *Mind* 107-108), both to a certain extent share visual imagery in their creation, and both create concrete symbols for their expression.

Aural arts and print literacy have a more covert relationship. Aural expression is more fleeting and exists only as long as it is performed. Aural images can be notated, but the notation is neither the art nor the expression. Looking at the score to Beethoven's *Symphony Number Five* is not the aesthetic equivalent of viewing da Vinci's *Mona Lisa*. Therefore, to explore what children do with the integration of music and the general curriculum, it is critical that research be done with methods which place the researcher in the environment of the children.

In a study of arts integration styles Liora Bresler writes:

Most writings on integration consist of success stories, mostly by teachers who report about their practice. There are also reports of research that measure the effect of integration on the learning of academic subjects. Integration in its natural environment is best examined by qualitative methodologies that involve extensive observations and immersion in the setting. There are few of these

studies, and they focus on the illumination of "best cases," that is those cases that promise the best conditions for integration. (32)

### Other Writers

These are what I found as well. Two studies (Blecher and Jaffee; Betts, Fisher, and Hicks) show promising results from music integrations. In their description of what they called the Cleveland Opera Project, Blecher and Jaffee show how they introduced opera into their first and second grade classroom with the help of the Cleveland Opera and Opera America. The Cleveland Opera was the initiator who supplied a "music mentor" and other unspecified support. The teachers found that their students responded enthusiastically, and that their classroom literary discussions were expanded when children connected opera themes to things read in class (129).

In the other study, Betts, Fisher, and Hicks assessed the effects of the Arts Integration Program developed by the Tucson (AZ) Pima Arts Council. This program placed specialists from music, dance, theater arts, and visual arts into the school settings. The goal was to bring an arts perspective into the core curriculum subjects. The Arts Integration Program supplied lesson plans and demonstration lessons. The researchers found that fourth graders showed short term gains in core curriculum taught through the program (10).

A common factor between these two programs is their seemingly heavy reliance on outside agencies for the planning, personnel, and probably some funding. The concepts were developed to a large degree by

arts organizations and brought to selected classrooms. Broad implementation would be difficult unless issues of time, number of professional artists needed per given school population, and funding were addressed.

Rauscher, *et al.*, found some provocative results in a controlled study her research team conducted in California. They examined the effects of eight months of music training (keyboard and singing) on preschoolers' performance on the spatial reasoning tasks of the Wechsler Preschool and Primary Scale of Intelligence Revised and the Stanford-Binet. The experimental group significantly outperformed the controls. In their conclusion, the researchers make a curiously cautious statement: "We have shown that music education may be a valuable tool for the enhancement of preschool children's intellectual development." On one hand they have found an interesting correlation, but on the other, they cannot assert a causal relationship. While the study does open a door for further inquiry into the relationship between music and brain functions, I feel it falls short of the researchers' hope that their data will help to "articulate a successful program for music in education that can become a permanent feature of the public school curriculum" (21). My concern is with the implied assumption that the justification for music in the curriculum rests on its ability to improve functioning in another area. This sidesteps the issue of music as an intelligence (Gardner), a language of thought (John-Steiner), or form of representation (Eisner) in its own right and relegates it again to handmaiden status.

Canadian music educator, Rena Upitis writes of a music program she developed when she was a research assistant for a project at the Massachusetts Institute of Technology in Cambridge, Massachusetts. She conceived her program along the lines of what she calls a "whole language approach" (*This, Too, . . .* 8). By this she means that her classes were child centered and that she drew her musical ideas from her inner-city students' lives and experiences. She asserts that "One way of developing musicianship is by integrating music, as modeled by the whole language approach, with all of the other subjects, particularly with the visual and dramatic arts" (8). She states further that "such an approach is also justified simply because music is not separate from other disciplines: it is a part of language, a part of mathematics, a part of movement, a part of dance. No subject, if studied deeply enough, is separate from the others" (9).

Upitis's book set the stage for the kind of classroom in which I collected my data. Upitis connects diverse forms of representation at a deep and meaningful level, and she values the uniqueness of each as a means of thought and expression. The book, however, speaks only to the music classroom end, not to what can go on in a general classroom. Plenty is implied, and it gave me much to consider, but it did not probe what would happen outside of the music classroom.

The classroom in which I researched was one where music was a part of the daily lives of its inhabitants, not merely a subject down the hall on certain days of the week. It valued the knowledge and forms of



representation that the students brought, and its curriculum reflected the knowledge, expertise, and experiences of both the classroom and the music teachers. These teachers themselves devoted considerable time and energy to the integration of music and literacy. Their program was neither a funded "best case," nor an overlaid curriculum of a kind that Betts, Fisher, and Hicks concluded might "burden a teacher. (20)" I collected my data in the bustling everyday world of an elementary school in which a music teacher and a classroom teacher explored ways to bring music into the literacy program of a grade 4/5 classroom.

### The Research Setting

#### The Teachers

I was very fortunate to know two women teachers, both veterans of many years of teaching, who wanted to do just what I was interested in observing. Jan, the teacher of the grade 4/5 class, and Claire, the music teacher, had become acquainted with one another during the previous school year at Elementary School in a small New England town. I met with them and found them eager to blend their expertises and create an integrated curriculum which included a music component in each unit of the grade 4/5 literacy program. I would research their journey. They did not have a road map that would show them whether the next stretch of their journey would be straight forward, full of curves and forks, mountainous, or flat. In fact, Jan admitted at the end of September feeling "somewhat awash in the sea of uncertainty." What they did have was mutual trust and respect based on a knowledgeable regard for each other's

professional ability and judgment. They knew that each had firm knowledge of their respective fields. Each had years of experience in their classrooms, had capitalized on this experience through advanced degree work, and had formed personal philosophical frameworks that guided their instruction. Both were also mindful of the school district curriculum and viewed it as a guide.

Both women received energy from the students they taught and could talk knowledgeably about individuals. Whenever I asked about an individual student Jan answered the question easily and usually offered an anecdote relating the student to other activities both in and out of school. Claire could do this as well, although, with the constraints of time and numbers of other students she taught, it took longer for her to become acquainted with individuals. While Jan saw her class for nearly the entire school day five days a week, Claire saw Jan's class in the music room only on Mondays for forty-five minutes of music class, on Tuesdays for chorus, which had a different curriculum, and on occasional classroom visits. In addition she taught the other thirteen classes and two choruses in this K-5 school, as well as the choruses at two other elementary schools and one middle school.

### The Students

Twenty-four fourth and fifth graders made up Jan's class. Of them, ten were fourth graders and fourteen were fifth graders. There was a lopsided balance of girls (17) to boys (7), but it was not intentional in any way. Elementary School placed students randomly into classes, and then

honored specific placement requests made by a very few parents. There was no attempt on the parts of Jan, Claire, or the administration to select students specifically for this collaboration. Therefore, the range of abilities in the classroom was no different from any other classroom at the same levels. Community satisfaction appeared high for both the staff and the programs of the school.

### The Collaboration

There was a qualitative difference between the way Claire planned with Jan for this class and the way she worked with other teachers. This special relationship showed up early in the year. In the very first entry Jan made into the three-way research journal we called "the yellow notebook" she wrote: "I'd like to have Music upstairs in the classroom sometimes, because the physical continuity seems to make connections come more easily . . . The mystery-by-committee stories have potential for sound effects. Could Claire work them in?"

This not only departed from the other classroom teachers' expectations for a music class, but it also illustrates two themes that underlay this collaboration: (1) the blurring of boundaries between the classroom and the music room and (2) the importance of connectedness in the students' school experience. Jan was looking at the music curriculum not as a way to entertain her students while she had a planning period,--in fact, she attended many music classes herself throughout the semester--but as a resource she could draw from for her own learning as well as her students'.

Jan's method of planning lent itself to collaborative work. When conceiving a new thematic unit, she created a web on paper. The theme was written in the middle. She surrounded it with the various subject areas, under which she wrote concepts or activities that related to the main theme. She had always included a strand for Art in addition to Language Arts, Science, Social Studies, and Math. Her own Bachelor's degree in art and art history made this a natural. Now that she had a resource and a person to help, she regularly added Music as well, not as an ornament, but as a full partner with a content to be incorporated.

These webs became the point of contact for the collaboration. Well in advance of a unit, Jan and Claire met to exchange ideas and find common or complementary threads that linked Jan's unit theme and the music curriculum. These then transformed into the lesson plans--sometimes for the music room, sometimes for the classroom--through which learning was drawn.

Often, the women changed plans to accommodate each other. In November Jan wrote:

Claire--

We talked about doing "beginnings" of music as a mini-lesson.

Would it be too much to hold off on that and do something with either the light theme or the celebration theme or a combination of them?

We can always do beginnings and endings, but I feel the pressure of time with the celebrations. And this fits in well with the homework assignment for 11/19--interviewing family members about their

Thanksgiving traditions.

Claire responded:

Dear Jan,

It's fine with me to wait on the beginnings-endings mini-lesson and concentrate on light and/or celebrations now. In that regard, I keep thinking about very early historical solstice celebrations to scare off winter and bring back the sunlight, to "wake up the earth," a whole tradition of English dance and music.

Jan raises concerns about time pressures and overloading; Claire responds with accommodation and a suggestion of how celebrations and light might come together. Claire's suggestion not only fits with Jan's unit goal, but also contains rich content and validity within the music curriculum as well. This give and take gave the collaboration a sense of being alive. It continually moved forward, looked around, backed up a bit in response to relevant information, clarified destinations, steered clear of obstacles, and moved forward again, a vivid example of the "reflection-in-action" that Donald Schön ascribes to artistic professionals in *The Reflective Practitioner* (49).

The collaborative relationship among the women, the children, and the curriculum energized them and buoyed their enthusiasm. A month into the collaboration, Jan's exuberance showed:

As for me, I don't think I've ever had so much fun. It feels as if we are flying above the groundedness of curriculum. . .in an aura of creative energy. The classroom feels right for elementary kids--a

place where they are free to explore, experiment, create alone, together, and in response to the solutions of others. Even spelling . . . is fun. By giving the kids additional choices of the words they work on and music-related choices of practice activities, they are challenging themselves and using words in fantastic ways.

These are the words of someone who is getting at least as much positive energy back as she has invested in the endeavor. The above paragraph appeared in the yellow notebook immediately after Jan had recounted many ways she had seen music appear in her classroom. The classroom environment felt rich, diverse, and full of content.

What struck me about the style of this collaboration was the way the two women integrated their respective curricula to enrich their own curriculum as well as that of the other. When Claire offered a way to add music into the classroom celebrations, it supplied a medium for her curricular goals as well. It was not offered in the sense of simply adding interest to the unit.

In Bresler's study of arts integration, one of the styles she identified was 'adding interest,' which she calls the "subservient approach." Little depth is expected of the art in this approach. It risks violating what Robert Donmoyer calls "Harry Broudy's eleventh commandment: Thou shalt not use the arts to make social studies interesting" (18).

Bresler describes further an "affective style," wherein a piece of art or music is used to set a mood or to spark creativity, and a "social integration style," wherein arts are used to enhance schools' public

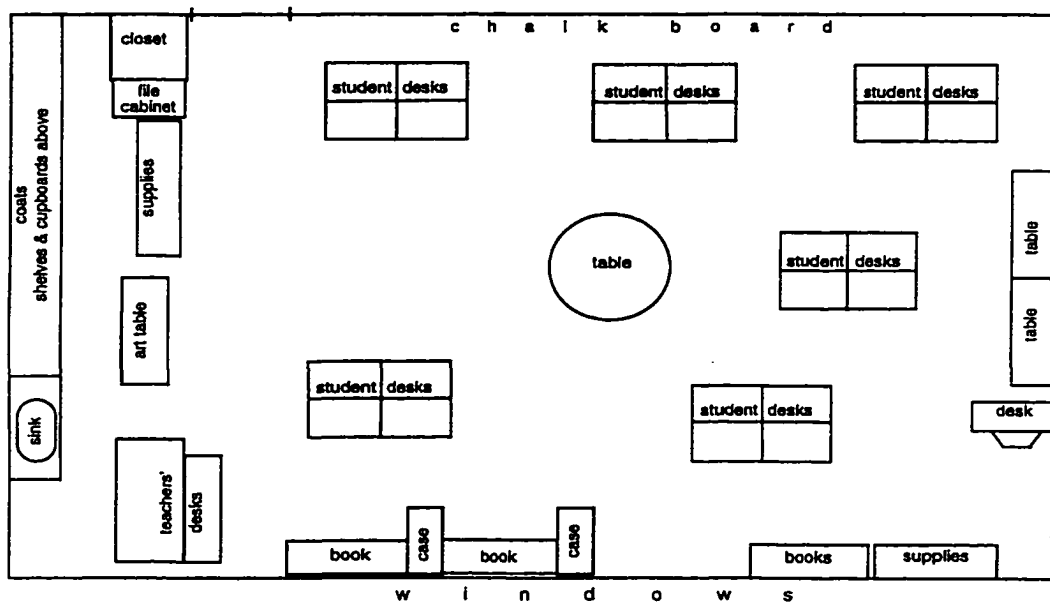
meetings, thereby increasing parental attendance. Her fourth category, and least common in practice, is a "co-equal, cognitive style," which she says "attempts to integrate the arts into the curriculum in ways that draw and build on the characteristics of art, requiring classroom teachers to provide direction and guidance that often transcend their visions and current abilities" (36). In this collaboration, Claire provided the "direction and guidance," from the perspective of a musician educator, to extend Jan's "vision and current abilities." Together they combined command of content, connectedness, boundary blurring, reflection, and negotiation to give a new sense of coherence to the children's academic lives. Thus, music became an ally for their creation of meaning.

### The Physical Spaces

Elementary School occupies the two-story west wing of an elementary/middle school building. The K-5 school attaches to the middle school through a two-story section which contains a cafeteria on the lower level and the middle school's gymnasium above. A long hallway extends from the office area down to Jan's room. The atmosphere in Room 16 is one of engaged--not necessarily quiet--industry. Arranged in quartets with pairs of students facing each other, the desk clusters facilitate conversations. Students keep texts and school supplies in their desks while jackets and coats hang, for the most part tidily, at the left end near the sink. Art supplies are nearby. Bins of chapter and picture books, grouped by genre, rest on the low shelves lining the windowed wall opposite the door. In the center stands a round table that serves a variety of functions: display

table, conference table, quiet work table, overnight storage table. . . The room is large for the twenty-four students and movement is not at all constricted. Above the windows over the book bins are fastened collage pictures that show students engaged in various classroom units and events. Jan adds a new one after each unit which stays up the rest of the year to chronicle the school year pictorially.

**Figure 2-1 Jan's Grade 4/5 Classroom**

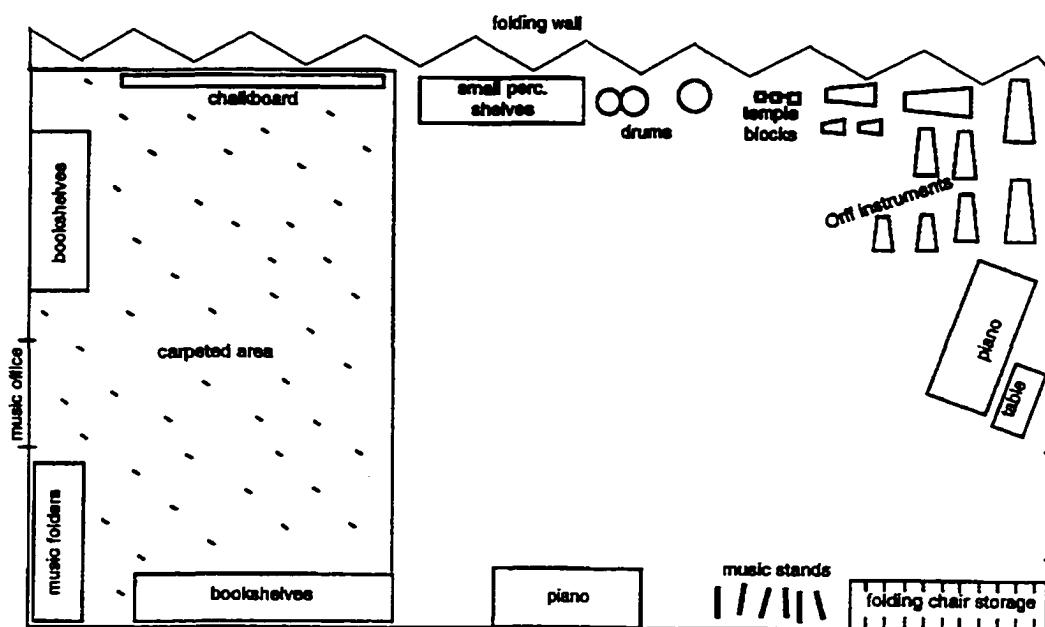


The music room is one classroom beyond and half a flight of stairs below Jan's room. It occupies the cavernous stage of the multipurpose gymnasium at the end of the building. The ceiling is very high and the floor and windowless wall surfaces are hard, giving a keen edge to sounds produced. Soundproof, accordion-fold doors separate it from the gym and soften the sound somewhat. Claire prefers folding chairs for seating because they make possible quick changes from choir seating to open space



for movement. Drums of various sizes are tucked around the edges, an upright piano stands against the back wall, and several boxes of small percussion instruments are stored against the folding wall. The atmosphere is tidal. It ebbs and flows between the organized and focused class sessions and the noises of transition as one class files out and the next one files in every thirty to forty-five minutes for most of the day.

**Figure 2-2 Claire's Music Classroom**



### Becoming an Old Shoe: Methodology and My Role

On the first day that I observed in Jan's classroom Alisha, the daughter of a colleague, walked past me and said with the intonation of fulfilled expectation, "So. You're here." I asked if her mother had told her that I planned to spend time in her classroom. She replied, "Yes. She told me that you'd be coming to watch me."

Another student, Amanda, apparently knew that I had an interest in music. She had been writing a story with a jilted lover theme and needed a song title. She asked me if I knew any "stupid country songs." She was not to be satisfied with just any made up title; she said she wanted a "real title that sounds outrageous." I suggested a song title I'd heard, "You Stomped on My Heart and Squashed That Sucker Flat." Amanda giggled hysterically and went back to her story.

These were indeed two roles that I hoped to maintain in the classroom: observer and participant. The question that I explored--what do grade 4/5 students do when music is deliberately integrated into instruction--invited an educational reformer's stance that asks how we can create classrooms in which students use music to explore and understand themselves and their work. My focus was alternately wide-angle, as I stood back to see how the parts related to one another, and close-up to see what the parts were like. The events of the classroom seemed to me very much like listening to the music of Bach. What starts out as a complex mass of flowing sound becomes increasingly organized as I pay attention to repeating patterns of pitches and rhythms, which combine into larger patterns of sections, movements, and ultimately the entire work. It is at once the whole and the particle. It can be conceived in an instant, but it must be experienced in linear time. Similarly, in these classrooms, I wanted to find patterns of meaning making and literate occasions, touched in some way by this unique collaboration, amidst the vigorous flow of a school day. To do this I had to fit in.

My role as researcher in this elementary classroom was sometimes puzzling for the children. Within a school setting, certain people have expected roles. Researcher exists outside the normal expectations, and so my apparent role of 'tagalong and note taker' sometimes confused them.

An opportunity arose early in my fieldwork to clarify my "participant" role within the classroom. As the "mysteries-with-musical-sounds" projects (Chapter 3) were being prepared for a public performance Jan asked me to help supervise groups as they explored sounds and instruments to add to their stories. After a few of these rehearsals, when I arrived in class, several students would usually ask me if I would take their group. Thus I felt an easing of the uncertainty between being a stranger (*i.e.* researcher) and being a friend (*i.e.* an expected member of the school community), that often characterizes anthropological fieldwork in schools (Khleif 391).

Getting involved this closely with the activities of the class addressed another issue related to fieldwork: reciprocity. Everett C. Hughes's term for this is the "research bargain" which Khleif explains as answering the "What's in it for me? What's in it for you? What's in it for us?" questions (392). Jan and Claire generously allowed me into their classrooms, and now they had a need that I could help them with. Given my own musical aptitude and training, plus my years of experience as a language arts teacher, music and language arts are subject areas in which I have expertise and knowledge. I would be able to run the rehearsals with little additional preparation and enrich my observations as an insider.

Sociologist Kurt Wolff ("Surrender . . . ") has written extensively about the concept of "surrender and catch" in relation to social inquiry. He suggests that by surrendering to the flow of the situation one can catch nuances that otherwise might escape a more distant eye. My new role shifted my balance more toward participant than observer, but not to the point of "going native" and losing the necessary research distance. I had to train myself to make mental notes consciously while rehearsing with the children, and then to write frantically when I had a break. With practice this method worked. I found that I could reconstruct the rehearsals in my mind with fairly accurate quotations. I may have traded some note taking flexibility, but the gains in field relations and rapport with the children more than compensated for it. After the presentations at the end of October, my role changed back to less participation and more observation, but I had achieved the understanding I was after. I mentioned this in a note to Jan in the yellow notebook. She wrote back: "Yes, you are becoming rather an old shoe in the classroom for all of us . . ."

I spent two to three days each week over three months in both classrooms. During my three hour visits I logged many pages of field notes, recorded many conversations, collected artifacts, and interviewed students and teachers. These notes, when retyped, became the raw data for me to make sense out of. Earlier I mentioned how I make sense out of hearing the music of Bach. These fieldnotes reminded me of seeing the score to his B minor Mass for the first time. They made an impressively thick volume, but, like the Mass, they wouldn't make music until they were

rendered. I read, re-read, re-read again, highlighted, underlined, and skipped around in an attempt to create "sections and movements" out of the mass of data. Glaser and Strauss (*Grounded Theory*) helped me identify conceptual categories and their properties, Geertz taught me to write "thick description" (*Interpretation of Cultures*), and I sharpened my focus with what Eisner (*Enlightened Eye*) would call my "epistemic eye," that is, being able to see the qualities of the particular, as well as seeing those qualities as part of a larger set. The qualities that I sought led me into anthropology, sociology, psychology, linguistics, psycholinguistics, elementary education, musicology, and music theory and philosophy paradigms. Throughout this dissertation I use theorists from these fields to inform my findings.

## CHAPTER 3

### STUDENTS PLAYFULLY EXPLORE INSTRUMENTS AND MUSICAL SOUNDS TO ILLUSTRATE STORIES

It's no surprise for literacy to begin in play, for "play is definitely the 'business' of childhood" (Weininger and Daniels 57). I wondered about the aptness of Weininger and Daniels's metaphor. But when I saw the return on investment that Jan and Claire's shared class of fourth and fifth graders garnered, the metaphor fit. It not only fit, but it also underscored the important role of play in learning. In this descriptive analysis I show how play naturally entered into the first collaborative unit that Claire and Jan undertook. It wove through the project and proved a valuable ally in maintaining diverse students' interests while connecting them to new curricular content. Through various kinds of play with the tools of music, these children came to make informed and literate decisions about sound illustrations for stories they had written. Play thus emerged as a surprisingly powerful catalyst for easing the students into an expanded palette of expression.

#### Playful Beginnings

Jan had originally introduced what she called "mysteries-by-committee" as a playful problem solving strategy for writers who felt stuck with writing a story. Early in the collaboration she saw possibilities for connecting these writings with music. As a result, this activity emerged as

a pivot within her collaboration with Claire, as an influence on the curriculum direction for the semester as well, and the activity pulled together several strands of writing instruction that had been on her mind for several years; for Claire, it presented a context with which she could extend music into the lives of her students beyond the music room; for both, it gave insight into the other's domain and furnished the seeds for further connections of subject areas; but most of all for the students, it expanded their expressive palettes by giving them a new medium as well as new tools with which to work.

The idea of using music to illustrate the students' mysteries took shape at one of our Monday planning/research meetings. Jan suggested the stories as a way to connect music and language arts. The suggestion proved fertile as one idea led to the next. Claire suggested sound effects and conventional mood setting devices such as minor scale melodies. Jan suggested poetry, which Claire noted can lead to melody writing. Claire suggested creating short musical dramas and recalled the use of storyboards, the cinematic compositional frameworks that combine narration and scene descriptions on one page. The discussion flowed freely as Jan and Claire played with the ideas and found more connections. It was at this point that the two threads, one from reading and writing, the other from music, came together for the first time. From this point on music would regularly augment the children's literacy activities across several content areas. The presentations at the end of the unit were memorable rewards in themselves, but the educative value of the project

showed itself in the playful explorations the children made as they adopted this new expressive medium as their own.

### Reading and Writing Thread

To introduce the "mysteries-by-committee," Jan assigned each of the six seating clusters an aspect of fiction writing: character, setting, opening situations, problem (the mystery) , complications, and solutions. She asked the groups to generate six possibilities within their given category which she collected and plotted onto a grid (Figure 3-1). She listed the six categories down the left side and the six options for each across the page. These formed the columns A through F. She duplicated a grid for each group who then made choices from the options in each category. They were to follow one rule: that a letter could be used only once. Thus, as the grid shows, if the column A choice (kidnapping) were made for "Opening Situations," then column A could not be considered for any of the other categories.

Jan reported lively discussions as the groups negotiated their ways to story plots. Once the groups had selected their story elements, they had several days in which to collaborate and write the mystery story suggested by their choices. Jan later told me that this project was as much an exercise in group process as it was a language arts activity. Coming at the beginning of the school year, it plunged the children into a community that was built on cooperation. A further observation, though, reveals the way Jan had incorporated a game-like playfulness into her academic instruction, a key quality that recurred throughout the project and served to



promote continued engagement from her students.

Figure 3-1 Mystery Story Grid

	A	B	C	D	E	F
<del>Green Berets</del> Characters	Victor Bellington	Fred	<del>Franky</del> Detective	Frank Nicols	Abe Ceiling	<del>Jack</del> Smith
Settings	Miami Beach	Grave yard	After school playground	Club House	<del>Woods</del>	At a concert
Opening Situations	<del>Kidnap- ing</del>	Murder	Burglary	Drugs	Fraud	Arson
Problems/ Mystery	A man threatens to kill an FBI agent if he testifies	<del>A woman is found dead. Her car is found 30 miles away</del>	A man is going to shoot some one. Police shoots the man.	Yacht sails into the Bermuda Δ and disappears	A spy is discovered	The man with the most important information is missing
Complications	Murder of policeman	Another kidnapping	Theft from museum	Fire at the Police Station	Clue is missing at 7:00 A.M.	<del>Drugs under floor board</del>
Solutions	Police find good clue	Police find dead body	Someone came forward and told what happened	<del>Police find suspect</del>	Police find weapon	Police find blood

### Music Thread

Just as writers learn to use the tools of verbal literacy to express their thoughts and ideas in print, musicians learn to use the tools of music literacy to express thoughts and ideas in sound. As a starting point, Claire introduced the children to the instruments of her classroom. She sought to

familiarize them with playing techniques and to feature the different qualities of sounds the instruments produced. Once introduced, the instruments became tools for play as well as tools for expression.

Tuned Instruments. Claire makes a broad distinction between tuned and untuned instruments. All instruments produce sounds of some pitch. With some instruments pitch can only be described very generally as 'high' or 'low.' The terms 'tuned' or 'untuned' refer to the accuracy with which these high or low pitches can be identified and whether that accuracy is important to the instrument's use. Tuned instruments produce tones that can be named with the standard musical pitch names (*i.e.* A, A#, B, . . . ) and can be used when melodies or harmonies are desired. Examples in the music room included the keyboard instruments, the Orff instruments, recorders, autoharps, and the roto-tom, a set of two tympani-like drums whose pitches change with a rotation of the drum heads.

After demonstrating the proper grip for holding mallets and improvising a few note patterns on one of the Orff xylophones, Claire invited the students who wanted turns to play to gather around the outside of the circle of instruments for a "round robin" game. She directed them to remove the F and B bars from the tone bar instruments to make a "C pentatonic scale." All but four quickly went to the instruments.

I watched John who walked to the roto-tom. John had a very serious expression on his face as he calmly approached the roto-toms. Once he picked up the mallets for playing them his whole demeanor changed. The serious expression gave way to an impish grin as he wound up to strike the

drum, more like a pitcher than a drummer. Satisfied, he wound up and struck again. His animated movements and joyous expression spoke of his enjoyment as loudly as his drumming. This playful engagement spread throughout the group. Their eagerness filled the air with talk and instrumental sounds, loud/soft, high/low, fast/slow, legato/staccato, rhythmic/random, as they showed their friends what they could do.

Claire then capitalized on the socially organizing power of rhythm. Standing in the center of the circle, she began, "When you are at an instrument, play it the way I tell you to. When you hear me improvise on the recorder, move clockwise to the next instrument. If someone is there, wait until the next recorder bridge." She sang a pattern on pitch, "C--G--C--G--C--G--," and then said, "Play along as I sing--"

The pattern gradually caught on with the players around the circle as they came to a common beat with alternating C's and G's. Order emerged from the seemingly random play. The simple musical pattern of rhythm, pitch, and speech refined and coordinated the energy of this group so that their movements and attention were in concert with Claire's direction.

After several successful repetitions of the C-G pattern, Claire reached for the recorder she wore on a piece of yarn as a necklace. She improvised a simple melody as a signal for the students to stop playing and move on to the next instrument. The students rested the mallets, and shifted one space clockwise. The new players picked up the mallets, and the pattern resumed. Once everyone had a new spot and the pattern

stabilized, Claire stopped her improvisation to give new directions, this time a scale with a specified number of repetitions on each pitch. This alternation between Claire's improvised bridge and a new instrumental pattern continued through several repetitions. The patterns she chose illustrated various musical features such as improvisation, loud and soft sounds, echoes, and faster and slower tempo. Occasionally Claire stopped to demonstrate a more complex pattern or to remind them about mallet technique, but the activity kept its coherence and flow.

Her last direction, "music that would be like climbing a tree," elicited all sorts of undifferentiated poundings and glissandi that reminded me more of the explorative play the students had done at the beginning of the instrument time than a musical expression of movement. This open-ended suggestion brought the students full circle to play mode. Meanwhile, Claire had achieved her main goals: to give the students experience on the instruments and practice mallet technique.

Untuned Instruments. Untuned instruments produce pitches which are either indistinct or irrelevant to the melody or harmony. They may have a reasonably identifiable pitch, as with the temple blocks, but their main feature is the quality of sound, or *timbre*, not the pitch. In other words, they do not sound like wrong notes when played in a piece of composed music. Instead, these instruments are most often used for adding special effects to compositions, rather like seasoning a broth. Each instrument has a more limited application than the melodic instruments, so their representation in the intrumentarium reflects variety rather than

a large quantity of any certain one. Claire had organized the instruments into boxes according to the way their sound is produced: "click," "rattle," "ring," "scrape," and "jingle." Prominent, colorful labels made resorting an easy task after they had been used.

Claire geared this introduction toward the unique sound produced by each instrument. To do this she handed an instrument to a student, described how to produce the sound if needed, and then allowed time for the class members to make free associations for what the sounds made them think of. She began with the "click" box.

Patty chose the "whip," a wooden device with a spring loaded hinge that claps two flat blades of wood together when swung sharply. Movement associations were very strong for Patty. She wound up and gave a loud "Heeee-yah!" as she snapped her arm downward. The satisfying "crack" brought numerous imitations from the class, as well as associations with fire crackers, a slap across the face, and gunshots--useful sounds for mystery stories. The box also contained woodblocks, spoons, wooden cups for "horse sounds," among others that brought associations with clocks, whips, blacksmith sounds, a woodpecker, and more. After the "click" demonstrations, the instruments were put away and another box brought out.

Claire followed this procedure through the rest of the labelled boxes. "Jingle" instruments brought images of sleigh bells as well as a specific visual association of the jingles on the tambourine to the "high hat" cymbal in a drum set. From "rattle" someone associated the crushing sound of the

puli with the sound of cicadas; the vibraslap suggested several specific associations such as bees, a wind up toy, an electric saw, a frog, a machine gun, and one scenario: "like when someone goes crazy." "Scrape" associations included sandpaper against wood, metal rakes against cement and "one of those saws for two people with one on each end" for the afuche, and Donald Duck's voice for the guiro.

All through these demonstrations, Claire watched how the students handled the instruments. The ways to produce sounds were obvious for many of the instruments, either from the design itself, as with the maracas, or from past experience, as with the jingle bells. A few, such as the vibraslap or flexitone, were not so clearly interpretable. For these, Claire gave a brief demonstration, but then put the instrument back into the hands of the student demonstrator.

While the demonstrations aimed at the traditional way of playing the instruments, ten year olds can invent countless non-traditional ways. A maraca can be spun between the hands as well as shaken; wood blocks can be hit on any of the six sides; the guiro can be struck as well as scraped; the Hawaiian puli is long enough to mimic sword play as well as make the soft crushing sound they were designed to make. Claire allowed these explorations, but her watchful eye intervened when the instruments, or the students, might be in danger of abuse.

As with Jan's introduction to writing the mysteries, an undercurrent of playful exploration tapped a well of creativity which engaged the students and insured their re-engagement. John and Patty's

physical joy in exploration spread infectiously to others. Although some associations with the instrument sounds pushed the boundaries of good taste, they all related in some way to the quality of sound produced by the instruments. Each new instrument's sound elicited numerous visual images and situations. The stage was set now for the reverse process, that is, using the images and situations from the writing to suggest instrumentation.



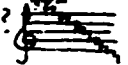


### A Story Demonstration

Claire had typed one of the finished mystery stories into a format she called a storyboard (Figure 3-2), a concept borrowed from drama, particularly the film industry. The storyboard format divides a page into a right and left side, with sketches or pictures of scenes on one side and the accompanying text opposite the scene on the other side. Claire's adaptation placed the students' text on the left side of the page. The right side was blank and provided ample space for noting instruments and directions, double spacing between the lines of text left room for pinpointing when the sound was to be made.

Claire projected a transparency of the storyboard she had made onto the wall. She said, "As I read the story I thought of several ideas for music and sounds that would enrich the meaning of the story. In this box, I wrote down all the instruments that I would need to add what I wanted to the story." She then read through the story, stopping to translate her instrument markings at the indicated spots in the story.

Claire next asked for volunteers to perform the story. Jan suggested that the writers of the story might be the ones to do it. They were eager, and so Colin, Katy, Nicole, and Patrick collected the instruments indicated in the storyboard script and rehearsed for a short time. Kaitlin, a volunteer

**Figure 3-2 Claire's Storyboard**

STORY	SOUND
Robbery He Wrote by _____ Committee, Mrs. Roberts' Class	<div style="border: 1px solid black; padding: 5px;">             hand drum              tambourine              whip              synthesizer?              cymbal - big soft              1-4 Off inst.           </div>
Morgan Gaits man notices the same type of robbery going on at Miami Beach as had been going on in New York a while ago.	fingernails on hand drum  tambourine (knuckles)
The type of robbery was the was a robber (named Fred) cuts a hole in a window next to a door. reaches in with his hand and unlocks the door.	repeat hand drum
Gaits wrote this down and gave it to the police officer.	repeat hand drum SILENCE 15 SECONDS
At approximately 7:00 the next day, the clues were stolen from the police station in the same sort of hole-cutting manner.	whip  fff
Two days later, the police found a piece of metal from an airplane, with blood on it in the Bermuda Triangle. Extensive search showed a man who had shot himself three times in the chest found in an airplane.	synthesizer? 
He was identified as Fred, the New York robber.	cymbal  SILENCE 15 SECONDS
The reason they think he shot himself is when he saw the fuel gauge read empty, he decided that he couldn't make it to the mainland when he saw he was out of fuel. He shot himself so he would die quickly and not slowly drown.	off instruments "Dragnet" Music 

from the audience, read the story as the four authors played the instruments at the indicated moments. After a stumbling beginning and a restart, the performance went as smoothly as an impromptu performance



can. When they finished, Claire asked the class if they had any comments or questions. Responses were quick:

"I liked where the airplane went down; you could have . . . ;"

"Instead of the cymbal for the crash, you could have taken the things off the snare drum and . . . ;"

"This may not work, but instead of the hand drum . . . ;"

and Patrick, one of the authors, said, "I was thinking that we could have a synthesizer beat all the way through the reading."

These responses showed a flexible reversal of the strategy used during the instrument introductions. Instead of having sounds suggest images or situations for writing, the writing prompted the selection of sounds and instruments to express the desired effect. Here was a link from previous exploratory play to literacy in a new medium. These simple suggestions showed purposeful selection to express a desired meaning. Several went concretely from the image to its representation, but Patrick's response showed a different level of abstraction. Instead of a tangible referent, his synthesizer beat would represent the overall mood of the story. He was searching for a way to illustrate 'suspense' rather than an airplane crash. His repetitive synthesizer beat mirrored a technique used in a recent movie thriller which featured an accelerating, pulse-like background beat whenever the next shark victim was about to be devoured. Drama critics might call his work "derivative," but no matter; Patrick was proud of his idea.

### The Power of Parallel Instructional Practice

This part of the lesson, from the overhead transparency presentation to the comments and questions at the end, paralleled instructional practices I had seen Jan use during reading and writing times. This proved to be a powerful way to extend the learning of the students. First of all, these familiar structures in a new environment provided a secure and predictable platform on which the students could practice their new art. They could play, learn limits and conventions, and extend their learning from the safety of the familiar.

Secondly, the overlap of instructional procedures in this activity blurred the boundary between the classroom and the music room, bringing the arts closer to their academic lives. The children responded to the demonstration story with sounds as naturally as they talked about stories in their writing class.

Finally, the musical aspect gave a playful quality to the process of revision. Story events suggested as many musical ideas as there were responders--none perfectly right, none dreadfully wrong. All were offered sincerely, without threat, and stimulated discussion through which the authors could revise or reject.

The teachers had started to weave the language arts and music threads. The task that lay ahead was to braid them with the time and space dimensions that the school day and calendar presented so that the experience would cohere and be educative for the children, yet fit within Jan and Claire's larger curriculum plan. They estimated that the children's interest in the project would allow about a month's time for the

project and chose the end of October as a performance target. They also determined that the groups would need four rehearsals, one to select instruments, one geared more toward coordinating sound with text and to refine the selections, one "technical" rehearsal to make sure the scripts reflected all the sounds and staging needed, and one dress rehearsal for performing the stories start to finish.

### The Meaning of Play Across Three Arts

In the past two and a half decades, many researchers have investigated the role of play in children's language, cognitive, and social development. Weininger and Daniels tell us that play bridges the inner, imaginative and emotional reality to outer reality in what they call "cognitive map making" (60), an essential part of making sense of the world. They also describe how the social nature of much children's play is essential for learning language. Language becomes a way for the child to conceptualize her constructed world. Klugman and Smilansky (*Children's Play*) edited a volume in which many writers attempted "to understand the major reasons for growing pressure on young children to learn through formalized academic approaches such as reading, worksheets, writing, and workbooks rather than through play, the young child's natural and efficient learning mode" (xiii). As with Weininger and Daniels, Klugman and Smilansky see essential connections between play and learning and hope to incline policies both in education and teacher training toward the inclusion of play in their curricula. Dimidjian (*Play's Place*) voices support, too. Authors in her edited volume advocate play in the education of

young children to address the "need for thorough integration of child development research with daily classroom practice" (17).

Eisner identifies four ways to understand the term *play* (*Role of Art and Play* 43). The first is in the sense of 'playing around,' that is, to explore the possibilities of an object or an experience. The second sense is that of playing a game, that is, manipulating game pieces or concepts within shared rules. He also describes a social sense of play, or playing with someone, that might include simply sharing the same space as in parallel play, or playing interactively. And finally, he describes the sense of performance. Whether it be a quarterback sneak or Hamlet in a theater, there are shared routines that underlie the execution of these plays. These four senses of play are neither sequential nor hierarchical, but merely describe the essence of particular play situations.

To these I would add the sense of playing a musical instrument. Although there may be easy associations to Eisner's four senses, to play an instrument is a unique distinction that fuses knowledge of the instrument's mechanics with the performer's technical/physical skill and intent. Pianos are usually *played*, not played *with*, nor are they played like Monopoly. When I say "I play the piano" I imply neither a social nor performance context. I simply mean that I know how to make the sounds of the instrument and have a desire or purpose for doing so.

All of these senses of play occurred during the project, and all five helped the children "make sense" as they dealt with conventions and inventions in the different expressive media. But, watching and listening

to a visual artist at work with the children gave an additional perspective to the "playing-around" play Jan, Claire, and I saw as they worked with music and language arts.

### Insights from a Visual Artist

A special visual arts program, in progress at the time of my research, provided an unexpected interpretive lens that helped me see significant aspects of the children's play in three arts--visual, language, and musical. Under the sponsorship of the New Hampshire State Council of Arts an author/illustrator came into Jan's class twice weekly during the fall as an artist-in-residence. The long term goal of this program was for each student to produce an illustrated story in book form using mixed media and water colors.

In the lesson I observed, the artist first reviewed the techniques that she had demonstrated in previous sessions: wash, water color on dry paper, on wet paper, crayon resist, sprinkling salt or sand, dabbing, splatter painting, sponge dabbing, sponge printing, water color and ink, and several more.

The artist then read a picture book illustrated by Brian Wildsmith. Before reading, she said, "Wildsmith uses a lot of mixed-media. He uses what he needs to make his pictures say what he wants them to say," a direct reference to the selective use of media for expression. As she read the book, she pointed out Wildsmith's use of various techniques that the students had been taught. She then shared some of her own watercolor experiments using the various techniques.

After this introduction, the students were to use watercolor materials (brushes, paints, water, paper), plus any of the other materials they had learned about (salt, sand, sponges) and practice the techniques that interested them. These would then be bound into individual sample books. This experimentation/ play time was a quiet and very focused half hour. When it was finished, the artist read two more Wildsmith books with which she developed the idea that artistic representations can be meaningful and attractive and not be exact copies of the real life object. In other words, Wildsmith's python in *Python's Party* did not look like a real snake, but the idea was clear and pleasing to the eye. Finally, the artist suggested that the children play around with the techniques further whenever they had time until her next visit.

#### Instructional Parallels Extended

What struck me about this art project with the class was the similarity to what Jan and Claire had in mind for the mystery and music project. As the artist-in-residence used watercolor media as a means of illustrating stories, Jan and Claire planned to use music in some form as a means of illustrating stories. In other words, the children would translate the *instrumental techniques* they had explored into *sound* illustrations for their stories.

The artist's instructional approach paralleled the approaches I had seen in the classroom and the music room. All three women presented new techniques within the context of a larger expression. For the artist, the children practiced mixed media techniques to make sample books, which,

in turn, fit within the publishing of some story books they were writing. In language arts, Jan had presented the grid approach to writing a story within the context of ways to deal with a seeming writer's block. And, in music, Claire had introduced the instruments to display possibilities for story illustration with sound.

All three women also encouraged the children to explore on their own, or play, when they had a grasp of the techniques involved with the art. The artist simply told the children in the art lesson to try out any of the watercolor techniques they wished to make samples for their book. There was no expectation that they all use salt because she had spoken about it specifically. Jan encouraged the mystery story groups to play around with their story components after they had selected them from the grid. Her problem solving approach made the grid activity a springboard to diversity rather than a confining form. Claire allowed experimentation during both the tuned and untuned instrument introductions, and responded positively to traditional and nontraditional uses, so long as nothing was in danger.

### Playfulness and Literate Events

However, it was beyond these contextual parallels, and perhaps because of them, that I gained insight into the children's playful approaches to the mystery and music project. I saw a qualitative difference between the play that occurred when they combined music with literature and the play when they combined painting with literature. When the children painted, the classroom was quiet. The students focused on paint, paper, and techniques for applying one to the other. When using the

instruments, especially in the earlier phases of the project, it was like opening the door to the henhouse, much cackling and flapping. The sound level soared as impulse control deteriorated. Initially, the focus seemed to be on putting the instruments through their paces. Later in the project, it shifted to more conventional use of the instruments.

It is important for collaborators with music to understand this initial phase. The behaviors can easily be misinterpreted as "goofing off" which could lead to premature judgments about the value of the time spent. To help with this understanding, I present three vignettes, one each in writing, painting, and music that illustrate different ways children in this class interacted playfully, but literately, with the tools of the respective arts.

#### At Play with the Tools of Writing

During a writing workshop in early October, I asked Duncan and Molly if I could be with their group as they worked on the ending of their mystery story. They both said "sure" as they went out to the hallway to work. Beth, another group member, caught up to us on the way out; Larisa would be a few minutes late because she had a commitment in a first grade class. I sat, leaned up against the shiny hallway wall, as the three began work.

The grid they worked from [Figure 3-1] called for a kidnapping, a dead woman, police finding a suspect, drugs, a detective named Frank, all set in a woods. They were free to weave those plot pieces together in their own way. Their process was one of negotiation. They composed line by line with each sentence suggesting the direction for the next. They talked,



disagreed, compromised, and then Duncan wrote what they had agreed on. The following excerpt from my field notes captures the flavor of how they worked.

02 October

"The chainsaw cuts off her neck."

"She could die of loss of blood."

"It sawed off both legs."

"We need the name of the town."

Molly goes into the classroom to get a map. By the time she gets back, Duncan and Beth have decided on Appleton as the name of the town. Larisa joins the group at this point.

"This is a cop talking--"The man is soaked up to the waist with water."

"With what?"

"With water. Here, "The man is soaked up to the waist with water."

"and, Megan had no legs; deep cuts all over her body."

"No, how about, 'deep gashes on her face'?"

"OK"

\*\*\*\*\*

"Why did they want to kill her?"

"They were afraid she'd find where their hideout was."

\*\*\*\*\*

"OK. How about 'He was fly fishing for salmon.'?"

"Sure, it was the Salmon River. That'd make sense."

For twenty minutes the group explored and played with the language that would tell their story. They accepted some ideas, modified or rejected others. They generated their text flexibly by externalizing a thought, playing around verbally with the idea, and then coming to the words that would express it within the context that already existed. They were experienced enough with the tools of composition for their playfulness to manifest in the manipulation of ideas rather than the tools themselves. It's a subtle but significant point that Duncan could write without first exploring the limits of what a paper and pencil can do, as the children had done when introduced to the musical instruments.

#### At Play with the Tools for Painting

I visited another writing workshop in mid-October. After a short lesson on plot development, Jan told the class that they could work on projects of their own choosing. This included any mystery stories that needed completion, painting illustrations, or other stories they might have in progress. Jan then circulated among the children, clipboard in hand, writing notes as the students told her their plans for the period.

This time I followed Tara, Patty, Christina, and Kaitlin to the painting table. It was spread with newspapers to soak up drips. The familiar, oblong tin paint boxes lay on a nearby shelf. The girls each took one, found a paintbrush, filled a plastic margarine tub with water, and placed them at the table. They put on old, oversized dress shirts backwards as paint smocks and then settled into chairs to begin painting.

Christina painted random squiggles, lines, and shapes. She used various colors of water paints on dry paper, one of the techniques that the artist-in-residence had demonstrated. When she had finished a design that she seemed to like, she then soaked the brush with water and dipped it into one of the paint reservoirs. When it was saturated she snapped the brush toward the paper spattering droplets of paint across the design. This, too, was an effect from the art sessions. The other girls tried out other techniques that they knew how to do.

I asked if these paintings would be the illustrations for the books they had worked on with the artist-in-residence.

Tara: "No, these aren't the actual illustrations."

Patty: "I'm trying to decide how I want to do the pictures. This one is pen and ink that I colored in. This one is a wash on wet paper. This one didn't work so well."

Tara: "I'm doing some pencil drawings for my 'dummy' book."

Patty [pointing to one of her pictures]: "This is Water Country. I'm doing the paintings on this paper over here. Then I'll cut them out and stick them into the book. I got the ideas from this book, 'Our Snowman.'"

These girls sustained their experiments independently and quietly for the balance of the writing period. This reflected what I had seen the whole class do during the art sessions. From years of experience with the tools of art in both formal and informal settings, their actions were guided by the purpose for the practice more than by the immediate satisfaction of

using the tools themselves. They played with techniques, not the paintbrushes. They discussed, admired, and suggested to one another, but the overall tone of their activity was playful experimentation and quiet engagement.

### At Play with the Tools of Music

During a third workshop, Jan and I each took small groups of mystery story writers to the music room for their first rehearsals. Jan took one group into the small office at the back of the music room. I had Duncan and Molly's group again in the main part of the music room. The children each had their storyboard scripts. We planned for one of them to read the story through, while they all listened for places to add instrumental sounds or music. When someone had an idea the reader stopped for the group to discuss it.

Not long after we had begun, the door to the small office opened. Jennie, from Jan's group, walked over to the instrument shelf and picked up an instrument. Molly's eyes followed her all the way as she returned to the little office. Jennie carried a very seductive musical instrument. It was a long plastic, corrugated tube, yellow, flexible, and open at both ends. To play it, a performer simply held on to one end and swung the free end around and around with enough speed to produce a rather mournful, whistling sound. With more speed, higher pitches came out, and conversely, with slower speed, lower tones. It was not what most people would consider a traditional musical instrument, but Molly's riveted gaze underscored its value in the music room.

Her attention returned to the group's work after the door closed. She, Larisa, Beth, and I then listened as Duncan read "Chainsaw Massacre II":

Late that evening, I was driving my car on River Falls Road. It was 6:30. Once I had parked my car, I decided to take my dog on a walk.

I took my usual routine walking through Pine Wood Forest . . .

As Duncan reread the words, ". . . Pine Wood Forest . . .," Molly said, "I know what would be good to make the sound of the forest. That thing that Jennie took in their room." She went to ask if she could use it.

Larisa and Beth went to the instrument shelves and tried out several of the small percussion instruments from the "Scrape" box. The raspy sandpaper blocks had potential to sound "like the wind;" the wind chimes sounded gentle and clear. Duncan played around with the "Dragnet" theme on the piano.

When Molly returned, instrument in hand, she held a private jam session. She spun the tube over her head, on her side, then the other side; in front, then behind. She spun it as fast as she could producing the highest pitch she could possibly make. Next she spun it as slowly as she could and still produce a whistle. She held it close to her chest with both hands and jerked her whole body around and around to make sound. She tried holding it from either end as she listened for differences in the sound produced. She improvised with her whole repertoire of body movements that would keep the tube spinning and making sound. Her facial expression mingled the joy of movement with the seriousness of work. She engaged totally in her sensori-motor exploration of sound production.

After just a few minutes, I called the group back together so they could share their ideas about the sounds of "Pine Wood Forest." As Larisa, Beth, and Duncan reassembled on the floor, Molly continued to whirl the tube. Her pace slowed, probably as much from exhaustion as my request, and shortly she sat down with us, too.

Each told about the instruments they had tried and which ones they thought might work for the story. Comments and suggestions piled on top of one another. But despite her virtuosic performance, Molly's voice did not dominate the discussion. Nor did the animated conversation lead quickly to a decision about instrumentation. I suggested we move on to another part of the story and return to the "Pine Woods" later.

When we returned, Molly, still holding the musical tube, said, "I don't think this would be so good after all," and took the tube back to the group in the other room. Satisfied from her free exploration, she made a literate decision; literate in the sense that the sound produced by this musical tube failed to represent her image of "Pine Wood Forest" in this context. The group then decided that the wind chimes created best the tentative eeriness that they were after at that point in their dramatization.

### Aural Scribbles

These three vignettes show children playfully engaged in three expressive arts. In each, they used the tools that are unique to each art for crafting the expression of ideas. The ways in which they engaged the tools, however, were very different owing largely to different levels of familiarity. The writing and painting descriptions share some similarities. In each,

the children used instruments that were very familiar to them from many contexts, both in school and out. One could assume that, given the socioeconomic and educational levels of the community, their homes provided books, paper, pencils, crayons, markers, and paints as 'toys' to play with and explore. Also, school classrooms are usually supplied well with the materials and tools for expression in the visual and language arts. It is also likely that they had parents who appreciated their youthful explorations and posted them proudly on their refrigerators. Over the years, Duncan and Christina had probably pulled out the pencil leads or brush bristles, chewed on erasers, pretended that they were daggers or cigars, and scribbled many miles as they refined their skill at the instruments' primary uses. Thus, when writing stories or painting, their play with the tools themselves is behind them and their attention focuses on the translation of their ideas into verbal or pictorial forms. They play around with ideas or techniques more than the physical objects themselves.

Music play has a more restricted place in our society. As a consequence, children are less familiar with its tools. Music play is largely unrecognized for what it is. It is easy to dismiss the cacophonous sounds of music play as something very different from the 'cute' drawings and stories children produce on paper, but they are equivalent. Robert Walker ("In Search . . . ") has written about where to look for children's musical imagination. He says that our society's prevalent view of musical imagination links it to performances of music in an adult sense, that is, practiced performances of standard repertoire from classical composers.

This recalls Dewey's chasm between art and the experience of art.

Further, we believe that special training or genius, is necessary to take part in musical activity, either performance or composition. This gives rise to a division between 'musician' and 'non-musician' which exists less stringently in the fields of writing or the visual arts. Under these circumstances, parents and teachers are apt to look for musical play in a child's attempt to make recognizable melodies and miss the significance of Molly's unbridled explorations.

Walker, however, believes the evidence of children's musical imagination lies in their explorations of musical textures, that is, how they themselves manipulate the sound variables of "loudness, duration, timbre, and pitch" (217). This is what we had seen in the music room. But play in these musical parameters is risky in homes and schools that endorse society's value of quiet industry. Sound play can be loud, repetitive, and intrusive. Parents and teachers are less tolerant of what amounts to 'aural scribbling' as children familiarize themselves with the tools of making music. Adults then tend to inhibit noisy pursuits in favor of quieter ones such as drawing, reading, writing, or even practicing Mozart. The net result is that children have had more limited experience with the tools of music making than they have with writing or painting. They simply haven't had as much time or space to 'mess around' with the instruments of sound production.

This music room contained many instruments with far more complexities than a pencil or paintbrush, but general music met only once



a week and had other curricular expectations than instrument exploration. It's understandable that Molly showed an irrepressible urge to explore the possibilities of one instrument.

Jan, Claire, and I had witnessed the same phenomenon, but not fully comprehended it, when the children played around with instrumental sounds as they waited for the round robin game during the instrument introductions. We learned that this explorative activity was a way for children to get their aural scribbles behind them, too. As this happened, their instrument selections became more purposeful as they acquired a new medium for their expressive palettes, a rich new source of associations for representing and communicating thought.

#### Revisions: At Play with a New Literacy

Revision springs from evaluation. When writers compose texts, they alternately write words and then stand back to judge their effect. Revision occurs when the writer "re-sees" the text in light of the intended thought and judges that the writing somehow misses the mark. The writer then chooses to add, delete, or rearrange parts of the text in order for it to represent concepts as accurately as language can.

Graves (*Fresh Look*) finds the seeds of revision in play. He says, "'Play writing' [of young children] is preparation for revision. It allows children freedom to explore, to practice sound/symbol correspondences, and to experiment with words," and hopes that "this *sense* of play will last a lifetime and encourage flexibility in thinking as in writing" (237-238). In the following section, I show how this sense of play characterized the

revisions that the children made in their mystery story projects.

Jan spoke regularly of revision during her writing classes. As a way into revision, she often planned for students to read pieces of writing to the whole class. The pieces were in various states of completion from beginning drafts to nearly finalized works. After reading, the writers asked the class if there were any comments or question about the writing. An unstructured discussion followed that centered on features of the writing that worked well for the audience as well as questions or confusions that the writing created for them. This time to share provided feedback to the writers on the general effectiveness of what they had written. Jan left the responsibility for the discussion's content primarily up to the children. She offered her own comments and questions, but mostly steered overly general responses into more focused ones so the writer could receive as specific information as possible about how the writing met the audience. The writers could then make changes in their texts to address the issues brought up in the discussion.

In a planning session with Jan, Claire suggested that she use some music class time for a similar whole-class share of how the sound illustration for the mystery stories were going. This was yet another way to blend instructional concepts from two fields and to use a familiar format as a springboard into new territory.

In a subsequent music class Claire asked for an update on the mystery stories. Hands shot into the air. Patrick said that his group knew what instruments they would play and when to play them. Molly and

Adam each said that their groups had background rhythms worked out. Tamsyn said her group was "almost done." Asked for a clarification, she said that they had chosen instruments and coordinated them with the text on their storyboards. Kaitlin said that Alisha had been absent and that they needed more practice.

Tara asked if each group could share its piece-in-progress with the whole class. Claire did not pass up this instructional felicity. It had been her intent anyway. But to have the idea come from one of the children underscored a shared sense of connectedness between the classroom and the music class.

Tara's group performed first. The girls collected the small instruments they needed and began. Tara read with a clear, articulate voice. She paused briefly at designated places to strike the drum as the main character blacks out, for Patty to scrape the sand blocks to symbolize walking, for Alison to represent the eeriness of a graveyard with the serpentine ringing of the flexitone, or for Tamsyn to accelerate the pulse of the bass bar rhythm for the "cold hands grabbing me from behind." There were other pauses too, as someone, either caught up in the narrative or distracted by the audience, missed her cue. At these times communication intensified with anxious eye contacts and stage-whispered shouts of "now, Patty, [or Tamsyn, or Alison . . .]" At one point, when the fire station catches fire and the chief suspect escapes, the girls all suddenly sang the popular song "We Didn't Start the Fire." The performance cohered loosely, and the group "forgot" to use two of the instruments they had scored in

their scripts, but when viewed as an emerging draft, it conveyed the story adequately to the class.

After they had finished, Claire opened the time for comments and questions:

Alisha: Why did you have her walk into the graveyard?

Tara: Because it was her dad that had died and was buried in the graveyard. She wanted to bring him some flowers.

Nicole: Did you think why the kidnappers kidnapped her?

Tara: Ransom. Her dad was into drugs and stuff and her mother had to pay everything.

Patrick: I was confused by the fire in the police station when [you said] 'She escaped and went to the police station.'

Tara: She was being kept in a different building.

Claire: Anyone else? Anything about the sounds?

Adam: I really like the round blocks for describing walking.

Larisa: I liked the wind chime. It made the sound come alive.

The students responded first to the story itself. They showed their interest through their questions that asked for more information or for clarification. The questions that came up prompted Tara to provide enough more information for the story to make sense. Tara and her group could then choose to expand their story with more information related to their listeners' questions or leave it as it was.

Claire's question about the sounds served as a timely reminder of the new territory they were in. They had read, written, and performed short

plays before in reading and writing classes, but this project was the first time they had included sounds or music. Some of this newness is reflected in Adam's somewhat awkward comment about the "round blocks *describing* walking." It's a subtle semantic distinction that words 'describe' and sounds 'represent'. It was as if Adam's vocabulary for representing what he knew lagged slightly behind the newly unfolded experience. The new dramatic form offered new relationships which required new vocabulary to conceptualize it fully.

The other performances proceeded as deliberately as the first group's performance. The discussions that each prompted were marked with a more even balance between comments about the story and comments about the sounds. Tamsyn liked the sound John made on the soprano xylophone [high pitched, rapidly repeated single tone] because it "sounded like when the news starts." She registered surprise, in response to another group's story, over the main character's confession not only of guilt for the crime in the story, but also for planning one not yet committed. Patrick liked "the thing [Molly] used for the chainsaw sound [vibraslap]. It sounded realistic." Patty liked the way "Christina used the tube [the whirling one] when they found the clues." The animated discussions playfully illustrated Larisa's observation that the addition of sound made these short, simple stories "come alive."

When Tara, Tamsyn, Patty, and Alison next rehearsed, they launched immediately into a lively discussion about changes. This rehearsal alternated between intense negotiations and instrument trials as

the girls decided who would play what and when. No one suggested any revisions in the written text, despite the questions their listeners had asked, but the sound and music talks sparked animated experimentations for instrument revisions.

The revisions originated from various sources. Several suggestions came from what the girls heard other groups do. Tara felt that they needed to "have a beat clear through," recalling Patrick's rhythmic background pulse for his group's story. Patty felt they should find a use for an autoharp in the way another group had because she liked its sound. Tamsyn simply said that she "wanted more instruments. It makes it more interesting."

Other revisions sprang from personal performance desires or fears. Tara noted that they had "hardly anything [scored] on page two of our story." She also suggested, as she walked to the piano, that they needed something musical at the very beginning. She said she was learning the song "Bali Hai" from the musical, *South Pacific*, and could play it for the story. Tara played the introduction to the song. The group liked it and decided to use it at various points throughout the performance.

Patty expressed reluctance at singing the song "We Didn't Start the Fire." She said that it hadn't worked well for her and suggested that they take it out of the script. Tamsyn, who had originally conceived of the idea, disagreed. She said, "But I liked that part. It was fun. We need something fun." I sensed a significant division of opinion among the group, but the strength of Tamsyn's conviction prevailed. The group decided, without enthusiasm, to keep it.

Other groups in other rehearsals also made only minor revisions to their written texts. It was as if the novelty of the aural expression subordinated text revisions to sound considerations. At nearly every rehearsal, the children found some time to explore and play with other instruments. These explorations, plus the responses and modeling from the music class sharing session, led to spontaneous changes in instrumentation. As more selections were agreed upon, discussions shifted toward how many instruments each member would play during the story. Fairness in choice of instruments and equitable distribution of playing opportunities were the main criteria for settling disputes. The sense of play continued, but the aural scribbling also led to literate choices as instrumentation was refined so the result would sound just right.

### The Performance

Jan scheduled the public performance of the mystery stories for the end of October. The third, fourth, and fifth grades, a kindergarten class, and many parents attended. Instruments arrayed across the stage and "choreography" worked out to facilitate quick changes and avoid collisions, the performance began at one o'clock. Tara, Alisha, and Larisa had written an introduction that explained the process behind the stories and sound illustrations. They each read portions in rotation.

The first group was Tara's group. She took her place near the keyboard as Tamsyn, Patty, and Alison joined her. When all were in place they glanced around at one another a little nervously, as Tamsyn began Beverly Hills Cop. Their reading of the play went as it had in rehearsal

until they reached the passage about the fire in the police station.

Tara read, "Meanwhile, at the police station, they caught a suspect. Just as they started questioning him, a fire broke out." There was a brief silence, hardly noticed. Patty shot a fleeting, anxious glance at Tamsyn, then Tara. Alison glanced around the group expectantly. And then Tara segued on to the next line of the script. The audience remained unaware that the girls had edited out an entire song on the spot and had communicated the change nonverbally in an instant.

The remainder of the performance ran smoothly though not without other tense moments. John had not written on his script which xylophone--soprano or alto--he had used for the news break sound and drew a blank when he prepared to perform; Patrick was surprised by the fast tempo of the automatic rhythm on the electronic keyboard and didn't know how to reset it so he left the samba background out; Larisa's group started before she had finished preparing the tone bars on the glockenspiel, so she ended up playing one instrument while still arranging bars on another; but these incidents remained for the most part in the performers' stage discourse and did not detract from the overall presentation. The audience responded with warm, supportive applause.

### Reflection

Immediately after the performance, Jan, Claire, and I gathered the children together on the stage to ask their reactions to the performance, and the project in general. The children's comments indicated that they enjoyed the project. Children from every group said that they had fun or



that the results were "neat." In the discussion, several categories of evaluation emerged which I relate in the next four sections: performance issues, theories about the interplay of music and writing, specific writing and composing issues, and extensions and connections for the project.

### Comments about the Performance

The children told of surprises and near disasters. Tamsyn sounded a bit upset when she complained "We just cut the part out," meaning the song. Patrick wanted to know, "Why did the keyboard do that to me?" as if there were an electronic plot. I explained that it was a simple oversight. When someone in another group had used the keyboard they needed a faster tempo for the rhythm section. The slide switch had been left in that position, and neither Patrick nor I had thought to check it or note the need to check it in our scripts.

Jan asked Duncan what comment he had on the performance. He had been drafted by his group to be the reader for the performance because his voice carried better than the others. He had reluctantly agreed and now shared his thoughts, "I thought it came out OK. I didn't really want to do it, but I guess it was fun." Later, he wrote more: "I remember standing in front of what seemed a thousand people and reading Chainsaw Massacre II." The writing had been essentially his, and he accepted the risk of reading it in public. His reflections sound understated but satisfied and hint at the terror an author feels when the text goes public and there is no place to hide.

Patty explained what went through her mind when her group spontaneously edited out "We Didn't Start the Fire." She said:

Well, I was, like, whispering when it came to the part where we had to sing. I was like, 'Oh, no, we have to sing!' [said under her breath]. I just didn't really feel like singing and that's why I wanted to [leave it out]. I knew that it was going to happen and I was afraid I was going to start to laugh. Every time I'm in front of a group of people I start laughing.

Tamsyn, who had lobbied to keep it in, added, "It was so embarrassing . . ." The strength of her commitment to the song melted in the heat of public performance. On stage, the girls shared enough unspoken embarrassment that Patty's pleading looks communicated effectively, also without words. What probably seemed an eternity to the performers lasted only a few seconds for the audience.

### Theories about the Interplay of Music and Writing

Tamsyn asked, "When did you get the idea to put music with the stories?" Jan described the regular planning meetings and how the idea came from one of the discussions. Claire told of other classes she'd had who had set little musical dramas. She then noted that this project was an expanded version of that same idea.

Tamsyn's question was deeper than that, however. It opened an issue that recurred throughout the discussion and sparked speculations about writing possibilities. It was a complex issue for which she struggled to express. At the end of the discussion she said:

When we were writing our stories, we forgot--In the beginning I never knew that we had to put music to it and no one ever said anything about it, so we never knew-- So we just sat and thought about it, and we just cut the part out. But when we realized we were going to put music to it--we forgot all about the music, cause we had to --we thought, "Oh, my god we have to put music into it." We just wrote the story without thinking about the music.

Her thought traces, sounding like an indignant apology, indicate that her real issue was what the effect on the story writing would have been had the children known from the beginning that they would illustrate the stories with sounds or music. Others speculated on this issue, too. Kaitlin said:

I think we shouldn't have wrote as good a stories if we knew we were gonna put sound to them. I think that, when we write our stories we should-- just thought about the stories and not about putting music to them. It would probably be better for the music but it wouldn't be as good writing.

Larisa echoed this in her way:

There's two things I was gonna say. You know how we had music and we had writing. Some people would go too much into music and forget about their writing, and some people would go too much into the writing and forget about the music. But I think we, like, balanced it, so it was really neat.

One implied a slight sense of betrayal for not knowing they would set music to the writing; one thought it necessary to separate the two for the benefit of the writing; and one worked to strike a balance. All three generated personal theories to help them make sense of the new experience they had just completed.

### Comments about Composition

A few children shared feelings and observations about the specific processes of composition they used in the project. Some commented on the original mystery-by-committee activity itself; others talked more about the integration of music.

Nicole said that the use of the grid was a "good idea for kids who are really stuck." She and Alisha compared the strategy to moving pieces on a game board and commented about how much fun they had had. This confirmed Jan's goal to develop an array of writing strategies to help children move ahead with their texts.

Jan asked the group about any changes they had made over the weeks they had worked on the stories. The children talked mostly about the changes they made in their instrumentations.

Kaitlin said that their group:

didn't really change the writing, but the first time we came down here, I remember you [Jan] were with us, and for every place where we wanted to choose sounds, we listed three or four instruments, and then it took us a couple of more times to figure out what instruments we were going to use.

From another group, Larisa identified an important criterion that the groups used to "figure out" their instruments. First she commented on the significance of their revisions: "We've made lots of changes there in the writing and it's kind of funny to think about what we had before and now, what we came up with." Jan asked her why they had made so many instrumental changes. Larisa went on, "Because lots of times we didn't think it went right with the story. We were trying to make it as scary as it could be."

Adam articulated his process for deciding on the bass xylophone for the recurring rhythm in his group's story:

I thought the bass xylophone had, like, an eerie sound to it and it went real well with the finger cymbals. It was big and it had a little kind of moaning sound to it. To me it was, like . . . It's hard to explain, but had a real neat sound to me and so that's why I thought it would work.

It was important to Adam that he find just the right sound. He took the time he needed to refine his selection until he found it. His choice did not respond to the instrument's ability to imitate a particular sound, but rather to the quality of the sound that enhanced the setting for their story. Katy also touched this influence on revision in her written response: "When we put music in our mysteries I learned that music can really set the mood in stories."

The addition of sounds and music to the stories moved the concept of composition into a different dimension, one where the right sound was as

important as the right word. One would not substitute for the other, but rather each contributed its share to the overall meaning of the literacy event. This not only validated the aural thinkers in the class, but gave them a chance to make their unique contributions.

### Comments about Connections and Extensions

In parts of the discussion the children wove their current experience with their own lives in two directions. One direction led to their own background and experience, the other to potentials the children saw for extending the idea to future events.

When Adam finished telling us about his reasons for the bass xylophone, he connected his idea for the rhythmic punctuation to a story that Briana had written the previous school year. She had used an instrument at a strategic place in a story she had written and read to the class. The current project extended that idea manyfold.

When the children began to talk about other possible applications of sounds to literature, it seemed that the sky was the limit. Larisa and Briana recalled an evening of mimed skits at the environmental camp the class had attended in the fall: "We could do something kind of like that." Briana went on, "We could act out our *own* stories that we have written." Kaitlin connected with that idea, and said "That's what we were talking about when we were coming back from the [UNH] play." And Molly suggested writing two class plays so that one half the class could act in one play with the other half in the background for "music and stuff, like the chainsaw." The groups would then switch for the second play.

The discussion flowed easily and pointed toward the significance of the project to the children. They engaged willingly from the outset and wanted to extend it well beyond the time we had set for it. The overall positive and natural ways the children talked about the combination of music and literature led Jan, Claire, and me to believe that the project had laid important groundwork for blurring the boundaries between the "academic" classroom and the music classroom. Music and its tools were truly available to them as a resource for making meanings.

The significance of the parallels between Jan and Claire's two classrooms lies below any surface similarities. It lies in the literate manipulations of musical concepts and language that these children began to play with. In our culture, this takes work. Jan hinted at this in a yellow notebook entry:

While drawing/writing and then reading are things kids and our society use naturally, music for expression of ideas is not. I think back to Ruth Hubbard's work with Pat McLure's kids and her discoveries of the relationship to extension of words with that well known mode--drawing.

Kids draw before they write so when they come to be in need of expressing an abstraction, they returned to their "familiar" [drawing]. Music, on the other hand, for most of the kids in Rm. 16, has the opposite relationship to words. Music to express ideas is the new, the less familiar language.

The parallel structures started the move from the familiar into the less familiar content of music. The acceptance of the role of play continued the motion from random exploration of the tools to deliberate, literate choice. Revisions responded to the children's growing familiarity with the instruments stimulated by playful encounters both in music class and out. These children added the role of composer to that of writer and, thereby, enlarged the concept of composition. "Musician" flowed from within them as they conceptualized the effects they wanted, explored instruments for loudness, timbre, pitch, and durations, and selected the right musical sounds to illustrate their stories. They did not have to cross any boundary to *become* a musician, they *were* musicians in the same sense that they were "readers," "writers," or "painters." Their creations represented the "refrigerator artwork" of a new genre. Beth captured the feeling of this process when she wrote "by doing the mysteries I learned playing with music could be fun."



## CHAPTER 4

### STUDENTS CHOOSE MUSIC TO DEMONSTRATE THE PROPERTIES OF SOUND

The study of sound ran concurrently with the mystery story project. The story of its evolution shows Jan responding to her deepening involvement in the collaboration with Claire. As a result she changed some of her traditional ways of teaching and assessing student progress and came to know her students more fully as well. Jan mentioned the study of sound to me as one of several possible thematic focuses when she and I first met at the beginning of September. Two others she considered included an environmental theme and another that focused on the American Colonies.

Jan took part with the children in Claire's introductions to the tuned and untuned instruments. Afterward she wrote in our research journal:

Yes, it's true that I find my tentacles stretched toward a heightened awareness of sound and sound weavings throughout the curriculum. I find myself thinking in terms of including music in the planning webs, of matching moods of a story or picture with music, and of wanting to record the sounds of a place as well as the appearance and other sensory impressions.

My intern and I had a chat today about upcoming themes, and we decided to move into the sound science unit at this time instead of doing the research projects on environments. There are several reasons for this, but the two main ones are that we simply do not

have time to do environments, sound, and the colonial studies to the degree that we want to and not be moving at such a rapid pace that the kids get lost in the shuffle, and we seem to be involved with sounds organically in our mysteries and sound activity.

Three significant points emerge from this entry. The first traces a bit of Jan's personal development. As one who had considered herself a "non-musician," she now acknowledged an awakened aural sense, like a new perceptual window. This led her to think of music possibilities in her lesson plans and curriculum decisions.

The second point shows Jan dealing pragmatically with the tension between time and curriculum. The three alternatives held equal importance in the fourth/fifth grade curriculum, but she decided they could not all run concurrently without sacrificing the children's learning. By choosing only one, she could enhance the depth of involvement for the children.

And finally, the entry shows that Jan's curriculum choice was influenced by the signals she read in her students. Jan often said that she looked for what was "coming up through" when deciding which way to go next with her curriculum. This was her way of building from one idea to the next as well as maintaining coherence for the students' educational experiences. The performances of the mystery stories were still a few weeks away and were generating high levels of enthusiasm and play. This provided a receptive context for three content areas: music, language arts, and now, science. Of the three thematic alternatives before her, the sound

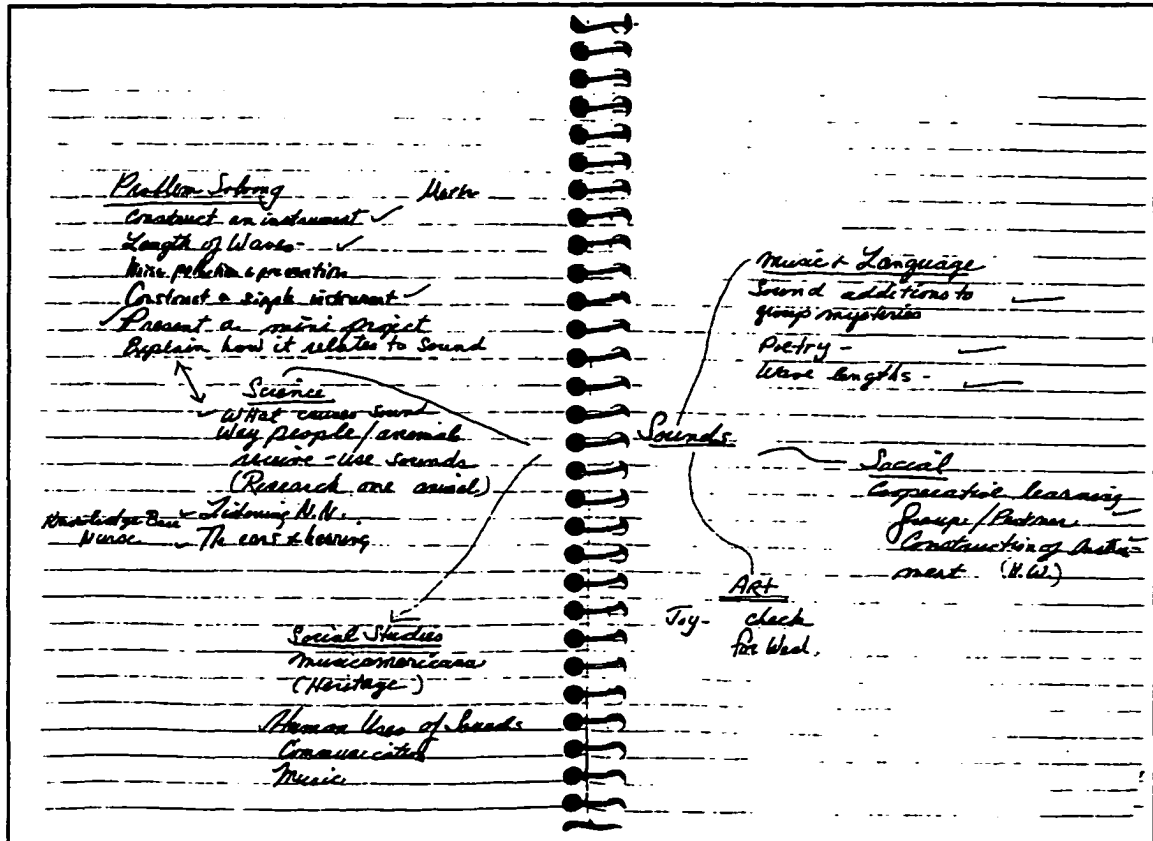
study held the most potential to build on the musical engagement she had seen in her students and extend their learning organically into another part of the curriculum. Jan recognized the curricular efficacy and seized it. With this decision, Jan merged her own perceptual awakenings with her students' enthusiasm, addressed her instructional preference for depth of learning over coverage of content, and gave music curricular parity with other subjects.

Jan sketched a planning web (Figure 4-1) on the same day as the yellow notebook entry I quoted above. The web suggested a reconceptualization of the relationship Jan made between music and the rest of the curriculum. She paired music with language on this web which implied a shared ownership between her and Claire.

Jan's conceptual theme no longer treated music as a distinctly separate class period even though the class still attended it on a schedule. Instead, she tucked the music room activities into "Problem Solving" and "Science" strands rather than the "music and Language" strand. And conversely, some of the classroom activities described in the following section could just as easily have occurred in the music room. As the boundaries blurred further, music was no longer simply another subject that the children attended; it was a resource and an expression as well.

The merging of these ideas plus the open collaboration with Claire bred a need for new ways of assessing learning. Traditional tests and reports were no longer adequate.

Figure 4-1 Sound Study Planning Web



A growing body of research supports assessments that call on students to demonstrate their knowledge in personally structured ways. In *Multiple Intelligences*, Howard Gardner recommends "performances of understanding" (190), wherein students show what they know in practical, problem solving demonstrations that fit a given intelligence. And Eisner, in *Cognition and Curriculum Reconsidered*, argues that broadening the opportunities and modes for students to express what they know (forms of representation) "increases educational equity for students by increasing the probability that they will be able to play to their strengths" (89).

The Sound Projects show how the experiences in both the classroom and the music room encouraged the students to truly "play to their strengths." I have divided this chapter into three sections. The first two, the Music Thread and the Classroom Thread, are closely connected and show further developments in Jan's and Claire's collaboration. They not only show the flexible boundaries that Jan and Claire kept between the music room and classroom curricula, but also how this flexibility helped move the students' expressivity from awareness of the usefulness of the instruments to purposeful communication of what they were learning in science. The third section, Weaving the Threads Together, shows the fullness of the combination of music, science, and literacy. Through descriptions of several students' presentations, a picture emerges of children who are comfortable with the expression of their knowledge via music.

### Music Thread

#### Environmental Listening

An environmental listening activity focused on aural observation. The children brought their "Nature Notebooks" to music class. In them they would record data as they listened to their environment. Claire introduced the activity: "Today's class might seem more like a science class than music class . . . Scientists do a lot of observing, don't they? Today the main tools for observing are right on the sides of your heads--your ears." After a few more comments about listening and observing, Claire read Byrd Baylor's poem "The Other Way to Listen."

When finished, Claire instructed the group, "I want you to listen in a way you haven't done before. Listen for sounds from inside you, breathing, swallowing . . . Also listen for other sounds coming from things you can see, and sounds coming from sources you can't see. Just listen and list." She dismissed groups of children to Jan, Jan's intern, and me.

We left the music room and found places to sit, listen, and record. After ten to fifteen minutes, we reconvened in the classroom, and the group members read their lists to one another. We adults circulated and listened in on various groups. They noted door openings, voices from classrooms, giggles, footsteps on the stairway, the "be-beep" of someone's watch alarm, the muted crunch of a stapler on a bulletin board, and many more. Larisa and Kaitlin, who had been in the same group, had each listed only two identical items out of fifteen to twenty. On the other hand, Briana and John, who had been in different groups, had several identical items.

I thought back to the beginning of class when Claire had said the class period might seem more like science than music and asked the group what they thought this listening had to do with music class. Tamsyn said, "To make us more aware of the sounds in our environment?" The rise in the pitch of her voice turned her answer into a question as if to say, "Is this what you wanted?" I realized the inadequacy of my question, but several girls followed with a brief conversation that indicated that reflective listening had gone on, too, which connected with their lives out of school.

Patty: My dad starts to sing when he hears sounds around him.

Like, if he heard this [thumps her desk with her hand], he makes it

into a song somehow. It's kind of hard to explain. This would have been a good lesson for him.

Tara: It makes me think about my cat making hunting sounds.

Me: Hunting sounds?

Tara: It's kind of a purr and meow at the same time.

Molly: Isn't it weird how cats make that sound where you can hear their breath?

This listening activity had primed the students to look into their lives for connections and therefore, meanings. The elegance of its simplicity led the students from immediate observations into memories, which then transformed into additional observations. This paved the way for further inquiry and reflection.

### Musical Sound Stations

Jan and Claire had learned from observing the spontaneous play during the mystery project and from Robert Walker ("In Search of") that when given the chance with instruments children would explore the parameters of pitch, duration, loudness, and timbre. Three of these: pitch, duration, and loudness, formed the content of the next music class. Claire organized four stations around the music room, each with instruments or other materials chosen to illustrate some aspect of the three selected parameters. The class was divided into four groups which would rotate through the stations (Table 4-1). The lesson provided more playful opportunities for instrument exploration, but it also sharpened the focus of the explorations on the physical properties of sound production rather than

on the instruments themselves.

**Table 4-1 Music Class Stations and Activities**

Station A Duration	Time the length that a student sustains a singing tone.
Station B Duration	Time the length that various tone-bar and percussion instruments sustain tones.
Station C Physics of Pitch	Listen to tuning fork pitches and explore relationships between string length and pitch on 'cello, violin, and guitar.
Station D Volume and notation	Examine songs in songbooks for written notations of pitch, duration, and loudness.

To prepare for the rotation, Claire distributed a single-sheet handout, adapted from John Forster's *Music Lab* on which she listed the "three dimensions" of duration, pitch, and volume as well as iconic representations and conventional notation symbols. She introduced the stations from the worksheet by asking questions and responding to comments.

Duration. In the first station the children would time the sustained singing tones they were to make. In the second they would also time sustained tones, but of tone-bar instruments rather than their own voices.

Someone asked about the tuning forks in the third station. Claire said they were mostly for the pitches that each one produced, but they could be timed for duration as well.



Physics of Pitch. Claire directed attention to the "number two" on the handout and gave a brief non-technical talk about sound wave frequencies and the conventional letter names that go with them (*e.g.* A = 440 waves per second). She then picked up the 'cello and plucked a string. The deep, resonant sound filled the room. The children's spontaneous comments spoke of the physical qualities of the instrument. "It's so big." "It's bigger than I am!" "Whoa!"

'Cello in hand, Claire asked the children to sing a major scale using *solfege* syllables with her. She asked what they noticed about "*do*" [sings lower one] and "*do*" [sings higher one].

Kaitlin said, "They're opposites."

Claire agreed, "Yes, they are at the ends of the scale. For the low one there are a certain number of waves per second. On the high "*do*" the waves happen twice as fast." She then demonstrated this spatially on the 'cello. She placed a finger on the half-way point of a string and said, "Visually, on the string, your finger has moved half way down the string for the higher '*do*'."

Volume. Claire did not say much about volume, "number three" on the handout, nor did she need to. The children were very familiar with the concepts of loud and soft, and so Claire merely pointed out the conventional symbols that are associated with them.

Notation and Range. With the "three dimensions" of sound now in the children's minds, Claire connected these parameters with musical notation via a sea chantey from Newfoundland. She sang "We'll Rant and

We'll Roar" [Appendix Figure A-1], and invited all of us to join her the second time through. She explained the historical context of sea chanteys as relief for sailors from the monotony of repetitive tasks. After the singing she directed the students' attention to the musical score itself. She differentiated between 'steps' [a notehead with a line through it followed by a notehead in the space immediately above or below; or from a space to a line position] and 'leaps' [movement greater than a step]. The children were then to "read" through the notes and find where the biggest leaps occurred. At one point in the musical score there was a leap of an octave which recalled the 'cello work Claire had just finished. Finally, Claire asked the children to find the highest pitch and lowest pitch in the whole song, or "range" of the song. In this song that distance was an octave.

The Multisensory Octave. The children had now vocalized octaves as pitches, talked about octaves as "opposite" ends of a scale, considered an octave as a mathematical relationship, seen an octave on the fingerboard of the 'cello, felt an octave in a song context, and read an octave in musical notation, all within the span of a few minutes. Octaves were just a small part of this lesson on the physical properties of sound, but the varied contexts in which they were presented appealed to many sensory systems. Elliot Eisner (*Cognition/Curriculum*) has written about the key interrelationships of the sensory systems in concept formation:

A rose is not just its aroma, but also its color and texture and the relationship of these qualities to each other. A person is not simply his physical appearance, but his voice, the distinctive character of his

personal traits, the sound of his walk . . . We have a conception of roundness not only because we know what a circle or a sphere looks like but because we know how it feels. (40-41)

'Octave' had now become a more versatile label for organizing musical content.

The children spent the remainder of the period rotating through the music stations. Jan assisted with the timings in the "duration" stations. Claire moved from group to group and made suggestion or asked questions. I helped hold the 'cello or violin as children searched for octaves both aurally and visually. The sound level rose dramatically as they explored, looked, listened, compared, and recorded their findings, but the sounds produced were far different from the randomness of their first introductions to the instruments. They were the sounds of children engaged in learning about the physical properties of sound. They were, at once, musicians and scientists.

### Classroom Thread

#### Environmental Listening Revisited

The environmental listening activity described above had originally been conceived as an outdoor experience. Weather had forced it inside, yet Jan still wanted to have the outdoor experience. She rescheduled it for a week later, and the weather cooperated. Once outside, she asked one pair of children who sat near the school building to tape record the span of time they listened. This served a twofold purpose. First, it would serve as a point of discussion for the children to compare their own experience with

the recorded version. Secondly, Jan was unable to be with the class during the activity because of a district meeting, so her intern teacher would lead it. The tape would give Jan a sense of presence for her own part in the follow up discussion the next day.

The tape recording had an unexpected, yet significant effect on that discussion. When the tape began, the children mostly listed the sounds they heard, very much as they had after the indoor listening. As the tape continued to play, however, the discussion changed from one of concrete enumeration to one of possibilities. In addition to the mechanical clunks, clatters, and persistent background hum, the tape recorder had recorded unselectively all sounds within its range and now played them back equally unselectively. The children responded to this undifferentiated texture of sound:

"It's too noisy."

"I can't hear anything."

"It's too loud."

The intern asked if what they heard on the tape was what it really sounded like. One of the children said, "No. It [the tape] was a lot louder. You could hear more voices."

Jan asked, "How's your own hearing without the tape?"

Child, "A lot clearer."

Jan led on, "I wonder if we hear noises all the time but not notice them, almost exactly like being outside?"

Several children speculated:

". . . something masks it."

"You get a lot of noise from the tape . . ."

". . . even when it's quiet, you hear some sounds."

Jan asked how covering their ears might affect what they hear; would they hear as clearly as without covering them or more like the confusion of the taped sounds; or hear even more sounds from within their bodies. Many covered their ears to try it. Some cupped their hands over their ears, some pressed their fingers tightly against their ears to block as much sound as they could. They faced a challenging task as they tried to share their perceptive experience. They had to translate the sensation into some form of descriptive language for which words were poor substitutes. To solve the problem, they turned to metaphor:

Misa : "It's like holding a shell to your ear and you hear the ocean."

Nicole: "It sounds like a mountain falling--like rocks sliding onto me."

Duncan: "It's hard to explain. It's like trembling."

Adam: ". . . I heard my heartbeat. It felt like the rumbling before a Roman candle goes off."

Janet Emig (*Web of Meaning*) says that, for children, metaphor is a "necessary, not optional, feature of discourse" with which they bring past experience to bear on current phenomena. She connects it with C. S. Lewis's "Pupil's metaphor," the complement to his "Master's metaphor." The "Master's metaphor" is the knower's explanation through analogy of

his or her own accumulated knowledge. The "Pupil's metaphor," on the other hand, connects the learner's past experience with the new phenomenon as a first strategy in making sense out of it. The "Master's metaphor" distills from a deep pool of knowledge, while the "Pupil's metaphor" stands on the edge and tugs the limits of the learner's understanding. It seemed a suitable complement to Claire's reading of Baylor's poem during the first environmental listening time that this experience ended with the poetic words of children.

The consistent parallels between the music room and the classroom showed the children that the two spaces were more alike than different for learning. They could explore a topic in either location and create meanings that reflected both content areas. The traditional distance between the two rooms continued to shrink as children began to see the science in music and the music in science.

#### "How We Hear What We Do"

Jan included an assessment exercise in her classroom that combined the notions of choice and the use of alternatives. As a precursor to the broad choices they would have for presenting their final sound projects, Jan gave them a very open-ended, on-the-spot assessment that produced the variation she wanted.

The assessment followed a study of the sense of hearing. Jan invited the school nurse to bring a model of the human ear to class and explain the hearing process. The parts of the model ear were labeled and removable so they could be examined closely. The model remained in the classroom for

the duration of the unit and provided opportunities for exploration and talk. On the day following the outdoor environmental listening experience, Jan asked the class to read the handouts that accompanied the model, so they could discuss the information as a large group.

Toward the end of the period, Jan abruptly stopped moving around the room and slammed a ruler down onto the round table that stood in the center of the room. All eyes riveted on her to see what would happen next. Jan went on, "Using what you know so far from our study of sound, write about what just happened."

Jan did not specify a mode or genre of writing. She simply asked them to "write about" what they had just experienced. These were not to be graded essays, but rather a chance for the children to think on paper. Don Graves (1983) talks of the "swirl" of memories and telegraphic word symbols that a writer takes through a series of reductions that eventually become words on a page. In these reductions writers continually select what is relevant and arrange words to make their meaning understandable to others. Through this process, Jan reasoned, knowledge and thought would braid with language and deepen the children's connections with what they knew about the process of hearing. This would also generate data with which she could assess individual knowledge. In this sense the activity was somewhat like a test. To specify a mode or genre would have diverted the children's attention prematurely toward more formal aspects of expression perhaps at the expense of their own knowledge construction.

The children did in fact write in many genres. Kaitlin wrote a short expository paragraph with a title:

#### How We Hear What We Do

First the sound goes through the outer ear. It's like a funnel that traps sound. At the end of the tunnel is the eardrum. It is sort of like a piece of Saran Wrap. From there, the sound goes through the hammer, anvil, and stirrup. Then it goes through the cochlea. From there it goes to the part of the brain where sound is "heard."  
[Corrected for spelling, punctuation, and capitalization.]

She told "what happens" in the present tense with the generalized voice of the third person, squarely in James Moffett's (1968) discourse category of exposition. Beth told a story:

Mrs. Roberts banged a ruler, and the sound waves went all around and found someone's ear and decided to go in to say hello. It hit the eardrum and made it vibrate which hit the thing behind the drum, and then the sound waves went through the stirrup and hit the nerve which made [me] hear the sound.

She reported "what happened" in a fictionalized narrative that even gave the sound waves intentionality.

Alison also wrote an essay, but in the first person:

I could hear it because the sound waves went in my ear. It hit my eardrum then my eardrum hit the hammer which hit the *a-word thing* which hit the stirrup . . .



Four children illustrated their responses. Three drew the ear, and one drew a table with a hand snapping a ruler down onto it. Tara and Amanda's ear drawings represented only the outer ear with few details. Nicholas drew a complex diagram of the outer, middle, and inner ears complete with labels. Amanda also added an equation as a quasi-mathematical representation of her understanding:

$$\begin{array}{c} \text{hammer+Anvil+staple+Brain} \\ = \\ \text{SOUND!} \end{array}$$

This simple classroom activity generated a considerable amount of data for Jan, in a relatively short amount of time. She knew who needed more vocabulary; she knew who needed to clarify concepts; she knew who could move ahead. The responses were as individualized as the children in the class. There was no reason for Jan to give another more formal test with a more standardized form of response. By not specifying a particular mode or genre for response, she tacitly encouraged her students to explore what they knew on their own terms, and to express that knowledge in personally effective ways.

Several significant changes are discernible through these four classroom descriptions (the environmental sounds and stations as explored in the music room and the environmental sounds and the ruler activity in the classroom). First of all, both Jan and Claire reconceptualized the role of the music curriculum in relation to the rest of the school curriculum. They saw it increasingly as an integral piece of the larger educational experience of the children. When planning units and lessons, they fitted music into

the scheme organically, rather than as an add-on. Secondly, the boundaries between the two classrooms blurred considerably. The environmental sound activities, for example, occurred in both classrooms. Third, Jan encouraged her students to express the knowledge they were creating in diverse ways, as they were to do in their sound projects. As the students moved ahead they needed different ways to show what they learned. And, as Jan became more comfortable with her new relationship to music and curriculum, she broadened the possibilities for her students. She freed herself from the traditional tests for assessing what her students knew and away from reports as their way to culminate a unit of study. In their places she asked her students to show what they were learning about sound in their way. Through this, she came to know her students more clearly as the rich and complex human beings they were.

#### Sound Projects: Weaving Together the Two Classrooms' Threads

I had shared a copy of Elliot Eisner's *Cognition and Curriculum* with both Jan and Claire during the summer before their collaboration began. They found his theory, which links all of the senses, to be consistent with their intention to integrate music and sound into the curriculum. Eisner piqued Jan's interest further with his extension of the senses into forms for representing knowledge to others. Jan had allowed the children choices of genre in their written responses about the ruler, but the responses had all been written. Eisner suggested even more. Of the forms of representation he says:

They are the vehicles through which concepts that are visual,

auditory, kinesthetic, olfactory, gustatory and tactile are given public status. This public status might take the form of words, pictures, music, mathematics, dance, and the like. (47)

Jan paired these thoughts with Vera John-Steiner's (1985) theory that humans develop preferred modes for the "externalization of thought" (81) through early experiences and social influences. In view of this Jan wanted the sound study presentations to do two things. Through them she wanted the children to present the learning they had accomplished in a chosen topic, and to present it in a form that honored their preferred mode to represent that learning. She therefore departed from her previous requirement of formal written reports in science toward more personally directed demonstrations.

Choice was not new to these children. They regularly chose their own books to read and topics to write about in language arts classes. Therefore, it seemed natural for them to choose their own topics within a science theme, with the further extension to choose the forms of representation that best fit their knowledge and ways of expressing or teaching it to others.

There were twenty-four presentations over a two week period. A few presentations took five minutes or less, others took longer than half an hour, but most were in the ten to twenty minute range. Jan paced them at two to four per day, clustered often just after the morning recess, which was writing time, and just after lunch, which was reading time. In this way she acknowledged the strong language arts content that the

presentations held and underscored the comprehensive scope of her collaboration with Claire. What began as playful explorations in the music class transformed into explorative investigations in the science class. The knowledge gained was then expressed through language and other arts.

Table 4-2 summarizes the projects by type and topic. The number of projects related to music is notable, more than would usually be the case in Jan's classroom science theme on sound.

**Table 4-2 Categories and Distributions of Self-Selected Sound Projects**

<b><u>Lecture Demonstrations</u></b>	
harp	harmonica
maracas	trumpet
violin	trombone
saxophone	electronic keyboard
piano (5 presenters*)	flute*
<b><u>Lecture</u></b>	<b><u>Dance</u></b>
human ear and sound waves*	tap dance demonstration
radar navigation of bats	
human vocal cords	
<b><u>Poetry</u></b>	<b><u>Homemade Instruments</u></b>
"Practicing My Flute"	drinking glass "xylophone"
"The Piano"*	soda bottle "flute"
<b><u>Other</u></b>	
board game	
sounds from found items**	
"joystick" from home video game	

\*One of the pianists and the other three starred items represent two students whose presentation fit two categories. "Human ear and sound waves" included a flute demonstration. "The Piano" included a piano demonstration.

\*\*drinking straw, lid from wok, cereal box, rubber bands

Of the various types of presentations, lecture demonstration led the list with fourteen, five of whom were pianists. The formats of these lecture

demonstrations were similar and included performing a piece from the presenter's current repertoire with an explanation of how the instrument produces the sound. Each presenter provided the audience with a "visual" which graphically showed the route of sound production. The following four descriptions show how Jan's nudge to choose topics that interested the children themselves resulted in a bouquet of diversity that revealed each child's unique connection to the main topic of sound.

### A Medley of Pianists

The five piano demonstrations overlapped surprisingly little. It was not planned this way, but each of the presenters approached a different aspect of the instrument for their main focus. Of the children who did them, Duncan and Briana had studied the longest, Patty had taken lessons for around two years, Tara for one year, and Tamsyn had no private instruction.

Patty focused on the keyboard. She described the meanings of 'sharp' and 'flat' signs and related them very spatially to the keyboard:

. . . the way you can get a flat is by this. Put your finger on any white key and . . . go to the black key up on your left. Do the same to get a sharp, but instead of going up to your left, go to the right.

She included a hand-drawn diagram of a keyboard on which she had written the note names associated with each key. She included the alternate names for the black keys, for example the black key between G and A could be named G sharp or A flat. Under her self evaluation of A+, she wrote in large, heavy letters "love my piano project" and drew a box

around it.

Tamsyn's presentation came just a few days after her group's stormy rehearsal of their mystery story (Chapter 3), and so, her self-styled Beverly Hills Cop theme served her in yet another capacity. Her main interest lay with the mechanisms between key and string, what is known as the piano's 'action.' On her proposal she said she would "show how it works and how it makes the noise." I was unable to get her source, but she shared that the action for each note has forty to seventy moving parts, depending on whether the piano is an upright or grand model. In response to "What I learned . . ." on her self-evaluation she wrote "that the piano is a complicated instrument."

Duncan, whose sources were encyclopedias, told how the pedal mechanisms work, particularly the one that operates the "dampers," also known popularly as the sustaining pedal.

Tara shared the books that she uses for lessons. Her presentation offered much of the music vocabulary that musicians use. She translated *allegro* ("fast"), *con moto* ("with motion"), *crescendo* ("gradually louder"), explained what the accent symbol (>) means, and pointed out the G-clef ("treble") and the F-clef ("bass") on the musical staves.

Finally, Briana connected herself with the emotional and expressive aspects of the piano. She stood before the group and said, "I'm going to play a piece by Muzio Clementi, the 'Sonata in C.' Then I'm going to read a poem. I-- I'm really nervous."

She played with just a few hesitations. After the class's enthusiastic applause she read the poem she had written.

### THE PIANO

The piano's keys ring like a bird singing,  
when you hit them.

You can make beautiful music.  
Sometimes soft,  
Sometimes LOUD,  
sometimes short,  
sometimes l o n g,  
in any way you play the piano it's beautiful.

You can step on the pedal and play a note,  
And it comes out long and drifty  
like a person singing a high note for a very long time.  
It is inspiring.

The music of the piano goes up into your brain.  
It can make you feel happy,  
it can make you feel sad,  
it can make you feel depressed,  
it can make you feel strong.  
You have mixed emotions.

The piano is a MYSTERY!

In his book, *Emotion and Meaning in Music*, Leonard Meyer (1956) quotes Ernst Cassirer, who writes about this "mystery." In a philosophical discussion of the relationship of art to life, he says:

Art gives us the motions of the human soul in all their depth and variety. But the form, the measure and rhythm, of these motions is not comparable to any single state of emotion. What we feel in art is not a simple or single emotional quality. It is the dynamic process of life itself. (18)

Should Briana continue her involvement with music, she may one day understand the motions of the soul.

These five complementary presentations show five different approaches to a common topic. However, the significance lies in what these focused explorations represent for the learners. Whole fields of study are devoted to the aspects that these children explored. Volumes have been written on the technical and mechanical aspects of pianos, on notation and performance practices, as well as the meaning and emotional contents of music. Thanks to Jan's and Claire's validation of their choices and modes of expression, these children were taking their first steps into those fields.

#### Technological Output: An Electronic Keyboard

Tallest in the class, slender, sandy-haired and freckled, Patrick was known for his interest and expertise in technology. His hand usually shot up first up whenever Jan or Claire asked for volunteers to operate anything audio, visual, or computer related. Precision, efficiency and an economy of words characterized Patrick's contributions to class. When responding in a group proofreading exercise he said quickly and succinctly, "Speech mark after 'girl' and a comma after 'in' and a period after 'something'." At the same time he was friendly and often shared a ready smile.

Curiosity constantly replenished his supply of questions, and the answers that he looked for dealt with measurements and mathematical definitions. He asked Nathan, who presented a project about his trumpet, "If you took the trumpet apart and straightened it out, how long do you think it would be?" For his first answer, Nathan walked from the table he



was sitting at to a table at the far end of the room, indicating the length he thought it would be. Patrick probed, "How many feet?" Nathan said, "Twenty-four." Of Adam, who later demonstrated his saxophone, Patrick asked how much it cost.

With a world defined so mathematically and precisely, Patrick sounded somewhat betrayed and victimized by technology in his response during the follow up discussion of the mystery story presentations (Chapter 3). He asked, "Why did the keyboard do that to me?"

It was no surprise to Jan or Claire when Patrick chose the electronic keyboard as the topic for his science of sound investigation. He had to find out what went wrong. He wanted to show others "How the keyboard works," and "How amps [amplifiers] work."

Patrick's presentation consisted of two parts: an explanation and a demonstration of an electronic keyboard. For his explanation he had prepared a chart with four octaves of note names and their corresponding wave frequencies at the left and a colored, schematic drawing of the circuitry of an electronic keyboard on the right. He began:

This is, sort of obviously, an electronic keyboard. And this is the chart I made to show how it works. The way it makes sound is when you press a key this thing under it senses it. It sends an electric signal to an amplifier where it gets mixed up. And it gets amplified and then it goes back this way . . .

After a few questions he went on:

This is another power supply if you are using batteries [points to

chart]. You see, all the keys are in electric circuits like this [demonstrates circle with thumbs and forefingers]. When you press a key it completes the circuit. The electricity flows and it goes through all those things [points to chart again]. This gets the electric signal in codes and makes it into a vibration in the speaker. The speaker vibrates about 760,000 (sic) times a second to get high A. And that's about it. The speaker is about the size of a quarter.

Adding an engineer's precision to Claire's earlier introduction, he then explained how the frequencies of the pitches related to octaves. "If I take this E at 164.810 vibrations per second and multiply it by two, I get the E in the next octave higher. I tried one, and it was off by a hundred because they used different rounding."

Several students asked questions about sizes of keyboards, where he found his information, whether he could connect pedals, and so on. Finally Duncan asked if he would play something. Adam hoped it would be "Mozart!"

Someone suggested he set the keyboard on the "jet engine" sound which Patrick vetoed. Adam suggested "vibraphone." Patrick agreed and played the theme of an aria from Mozart's *Marriage of Figaro* which was in a book he had brought along. He located all of the pitch relationships, but the rhythms of the piece were beyond his skill level. He played laboriously to the end and asked if anyone else had a request. Tamsyn suggested "Mary had a Little Lamb" and Patrick obliged; first, inadvertently in a minor key, but then self corrected.

When asked how long he had been playing the keyboard, Patrick told the class "One or two years" and added that he had taught himself to play without taking lessons from anyone. He finished with an answer to a question about what computer program he used at home for making music. He said, "It's really easy. You type in the frequency and it plays the note. Type a sound and it gives the frequency and duration. For those who don't know, duration is how long the sound lasts."

Patrick's presentation was uniquely his own expression. Prompted by his self-perceived disaster in public performance, he sought to dispel the mystery of the electronic keyboard by learning more about it. For Patrick this meant the certainty of numbers, diagrams, definitions, and relationships. It also meant using the technical language of the field to the best of his ability in verbal explanations; no poetry about tones being "long and drifty" here. When presenting, he was in control of his audience as much as he was in control of his data.

Patrick's square-cornered world found expression and acceptance through his project. Choice of topic and type of presentation paid off handsomely for him. The electronic keyboard was a special interest of Patrick's that had now been validated in school. He immersed himself with learning its technical properties perhaps more thoroughly than he would have in previous years. His appreciation showed in his self evaluation wherein he ends with "Thank you for letting me do my presentation on the keyboard."

### A Listener Expresses with a Board Game

With Larisa I continue to see the benefits of encouraging students to express their learning in modes that are natural for them. In an interview, she confessed a great love for listening to classical music. She had consistently shown particular sensitivity to sounds in both the environmental listening activities and the mystery story projects. It was she who said that the wind chimes in "Chainsaw Massacre II" "made the sound come alive." Aural phenomena seemed an automatic resource on which Larisa pinned understanding and expression.

Her earliest appreciation for music came from ballet study. She said, "I guess you could say I first loved music because I'm a ballerina, and we listen to music--classical--so I developed a liking for music." As she prepared for her class presentation, "A Musical Game," she told me that listening to music is one of her great loves, "especially classical, like Vivaldi." She then showed me her favorite tape which was a collection of J.S. Bach compositions. Classical music was clearly an integral part of Larisa's life.

Larisa did not consider herself a musician, however. She did admit to often having music in her head, sometimes missing instructional directions because of it and having to "go up and say, 'I wasn't listening.'" She laughed when she told me this. Being a musician, however, involved more, and she struggled with just what that was:

. . . a musician can be anyone. I won't consider myself a musician, but I would consider someone who--who, um-- Let's see-- Who-- Who

really knows their instrument and can name the songs. I mean-- I can-- I know most of my instruments and I can name some songs, but someone who, um-- It's someone who-- I-- You could play an instrument, but I wouldn't really consider myself one.

So where did she place herself? She went on,

"I've never been the greatest at playing instruments. So it's kind of funny for someone like me. You don't have to have a love for instruments and play an instrument to really love music. It can be anyone . . . [I'm] just a person who thinks about music. A writer, I think, who thinks about music."

As a student, Larisa was very purposeful and conscientious by Jan's report. She was well liked by close friends as well as those outside her circle. She put forth good effort in her studies, although challenged by organizational and sequential aspects. Despite these challenges, Larisa did not shy from planning large scale activities. When studying the sensory systems in science class, she chose Helen Keller as the subject of an independent study. As a culmination, she involved the whole class in a simulation of what it would be like to be blind.

For her sound study project, Larisa devised a board game that divided the class into four teams, each to move its game piece gradually toward the finish line. When a team's turn came, their challenge was to identify how many instruments were playing and name them from listening to a short selection that Larisa had previously recorded. If correct, the game piece advanced a given number of spaces. The class

remained attentive for the twenty minutes that Larisa ran the game. They listened, conferred, and gave answers to the best of their knowledge. Each team had only one turn by the time the class period was over. Many asked if they could continue the game on the following day, and Jan agreed.

The game was remarkable in the way it turned Larisa's love of music into an expressive act without putting her on stage as an instrumental performer. Instead, her project made listening, one of the most basic exercises of music, into a fun experience for the rest of the class. It also connected with the science curriculum focus on sensory systems, particularly hearing. Larisa sensed this when she wrote in her self evaluation of what she had learned by doing the project, "hearing is the most important thing in listening to music."

About the project she said, ". . . I really enjoyed it. It was . . . something that I could work on and listen to the music. And I didn't have anything with me to tell me the answer with so I tried to guess the instruments--what they were." When asked if it took her a long time she replied, "No, not really. I enjoyed it. It didn't make me frustrated. I just enjoyed it."

The project, as with the previous student examples, allowed Larisa to investigate sound in a way that was personally meaningful. Her way introduced musicology and analysis. Their validation of music in the curriculum again showed Jan and Claire its importance to many students who may not have shown their interests in previous years.

### Keen Observer, Spare Voice

In preparing to write about Colin, I'm struck by the dearth of quotations from him in my field notes or other data sources. He did not appear to be extraordinarily shy, nor was he ignored by classmates. He was frequently chosen when volunteers were needed for group activities, and he enjoyed friendships in a diverse circle. Nearly equivalent in height to Patrick though more huskily built, Colin was not to be overlooked, and his broad, easy smile ingratiated. Colin's written and verbal communication, however, were both very spare in instructional settings and many times avoided. Jan's grade book showed frequent gaps where written assignments should have been recorded.

On the other hand, Colin was always a willing participant when chosen for activities and watched eagerly when classroom demonstrations occurred. When asked directly, he usually knew what was going on and could comment knowledgeably. His artwork was carefully drawn. A design of his was chosen to cover the first edition of *Young Writers*, a grade level literary magazine published in the school. And finally, he liked to experiment with sounds.

Colin had a scheduled presentation just as the other students had, but he extended it through time in a unique way. His main project demonstrated how a common soda straw could be made into a sound producing instrument. His proposal said that he wanted others to learn "how to play straws," and that he would present by "telling what makes the sound."

The project would have been very ordinary had it ended with the presentation. However, over the next week Colin brought several other "instruments" to class. These included the dome-shaped lid from a Chinese wok, a cereal box, and rubber bands stretched across the curved backrest of his desk chair. With each, he explained to the class what part of the "instrument" vibrated to produce the sound.

Classmates wrote enthusiastic comments after his last presentation:

"Where did you get that unique idea? . . . Thanks for letting us hear that walk (sic) top thing."

"It was awesome when you held it up to my ear."

"Colin, that's neat how it has different pitches."

"I liked your visuals."

Although the initial presentation was sparse and the follow up demonstrations were sporadic, Jan saw past this. She observed:

Colin was probably the only one who really transferred the ideas. He took something really simple, really ordinary, and found sound in it. So he was exploring without something fancy like a musical instrument . . . even that silly cereal box. Now I made him explain how that worked, and he figured it out. So he was taking ideas and transferring it to somewhere else which is higher level thinking . . . it seems like when you think of that versus some of the things the other kids did, it's a pretty sophisticated response.

Again Jan's transfer of what she was learning about the value of diverse and personalized modes of expression pays off. She finds strength



in Colin's unique way of presenting what he had learned about sound. With this validation she also underscored the richness that derived from the specific inclusion of music in the daily life of her classroom.

### Affect and Learning Merge

Five pianists, a mathematician, a listener, and a quiet scholar all explored topics of interest in individual ways. The external assignment, to demonstrate something related to the physics of sound and its production, led each down an individual path toward understanding the physics of sound. Through several classroom and music class experiences and encouragement by two observant teachers, the students all found their own best way to express the knowledge that they had created from their explorations and play. Their presentations were expressions of who they were as learners and where they stood with respect to the topic at hand. The beauty in this lay not in the number of specific facts that each learner could memorize and recount, but in the way music and aesthetic appreciation enhanced the act of learning science and became an integral part of the classroom. Instead of leaving part of their intellectual selves at the doorway of the school as I had, these students found their natural modes of learning and expressing not only validated, but encouraged with powerful results. This was new for the music teacher, the classroom teacher, and the students.

## CHAPTER 5

### STUDENTS SELECT MUSIC TO SATISFY VARIOUS PURPOSES

At the end of the sound study unit, Jan asked the children to write a reflection in their learning journals. She asked them to list the projects that interested them and to tell what they had learned about sound.

Alisha wrote about how the flute and piccolo work, how singing is produced, how she thought it had been "a very entrasting [interesting] unit," and then she went on: "On Saturday I went outside for a walk and I heard a small tapping sound. I looked up and saw a woodpecker. I think it was the endangered kind!" She then finished with a comment about how "everything can make a neat sound" and drew two small faces--one a "smiley," the other with "Laa" written across an open oval in silent, graphic song.

More ebulliently, Adam wrote: "I learned over the past few weeks that music came out all over the place."

One child focused on the particular, the other on his universe in general; each showed Jan and Claire an aural awareness beyond the curricular intent of the unit of study. I was reminded of Dyson's *Multiple Worlds*. Coming in the midst of her reflection on what she'd learned during the unit, Alisha's comment was more than just a digression. The event--seeing the woodpecker--was significant to her in her experienced world; the connecting link that brought the bird into her cognitive

awareness had been "a small tapping sound," from her aural world. Adam wrote further, as an illustration of "all over the place": "I never knew there were so many words included with the piano!!" He told me later that he was thinking of Tara's demonstration on piano performance in which she had explained various tempo, dynamic, and key signature markings and terms. This language was an important personal connection for him, as he liked to perform, particularly jazz, and was very interested in music notation. In Adam's case, the symbolic world of music-related language fused with his experienced world of performance. For both children there was a meaningful crossover negotiated from one world to another.

These meaningful moments are small examples of the "comings-up-through" that Jan, Claire, and I constantly watched for. Once primed to look for these music-tinged occasions, we found them, as Adam observed, "all over the place." They came in all sizes from the two moments described above to group projects that might last several days. Some were simply insights; others were elaborate projects. Some came up in school, some outside. They continued long past my fieldwork time. Jan, Claire, and I continued to write occasionally to one another in the yellow note book until the end of the school year. Every time I received it they had recorded subsequent developments and new musical occasions.

We saw these occasions as signs that the musical seeds planted by this collaboration had taken root in the cognitive lives of the children. As symbols they represented the juncture of past and present, and signaled a

new direction for the children's literacy in the future. Dewey said it this way: "Immediacy and individuality, the traits that mark concrete existence, come from the present; meaning, substance, [and] content [come] from what is embedded in the self from the past" (*Art* 71). And Nelson Goodman, describing how humans create their realities with symbols, offers that "Worldmaking as we know it always starts from worlds already on hand; the making is a remaking" (*Ways* 6). Alisha's and Adam's worlds now held a heightened aural sensibility with which they now fashioned new ones.

These musical occasions and meaningful moments created a continually evolving text wherein Jan and Claire found curricular direction and strategies as well as knowledge about what the children were coming to know. They also yielded insights to me about where the music part of this collaboration had gone: what forms the music took, what meanings were made, and to what ends.

My data analysis yielded five broad categories based on the apparent meanings of the various activities. The categories included recreational uses, instrumental (tool-like) uses for other subjects, compositional uses in writing, experiments with music notation, and expressive uses. The categories are not completely discreet, and some of the occasions could be included in more than one category. The categories, then, serve as multiple lenses which focus on salient features of these music-tinged moments. They help me appreciate the complex connections and relationships among the occasions.

### Musical Recess: Music as Recreation

Jan wrote to me in January that, on an indoor-recess day, Katie, Patty, Beth, Kaitlin, Nathan, and some others came to her and said "Can we play?" Taken aback by that question at a recess time, Jan asked what they meant. "You know," Katie replied, "our instruments!"

Jan agreed. She wrote that the students then proceeded to "mess around" with their clarinets, flutes, trombones, trumpets by making up tunes, trying out each others mouthpieces, switching mouthpieces to see if sound production were possible, and more. Eventually, mouthpieces back home, they hit upon a tune that they all could play together. Jan wrote hopefully: "A Room 16 combo may yet come to fruition."

Jan's classroom contained many options for recreation during recess, even on an indoor day. Her wise decision gave music making parity with all the other options.

For these students it was the option of choice. They had adequate knowledge of how their instruments worked, which turned playfully into experimentation with alternatives. They also found the limits of that experimentation and moved back into more conventional sound making. It was a meaningful act in two ways. First they learned very concretely what worked, what didn't, and how the tone productions differed between brass and woodwind instruments. And secondly, this was the beginning of a "combo" who played together frequently and performed for the class later in the year. Instrument playing continued to be a common occurrence during future recess times.

### Instrumental Music Redefined: Music as a Tool for Memory

Two occasions stand out as illustrations of music being used in a tool-like way for aiding memory, and they show very different manifestations. The first occurred during the Mystery Stories project (Chapter 3). Alisha, Kaitlin, and Jennie pulled the manuscript to their mystery story out of one of their desks. The task for the day was to finish the storyboard that would coordinate the story line with their sound illustrations. Jan helped them assemble the instruments that they had used the day before. When they read through the manuscript they discovered that the last page was missing. They looked in their desks, around the classroom and the music room, but no last page turned up. It was clear they had to recreate it, for they had only vague memories of the page. The key to their recollection came when they started to talk about the instruments and what they had done with them.

Jennie: "I played that--boom-boom--walking pattern on the bass xylophone when the killer went to . . . "

Kaitlin: "Yeah, and then I crashed the cymbal when . . . "

Now the girls had something concrete to work with, and the ending nearly rewrote itself. It wasn't exactly as it had been before, but it was "better! And the instruments helped a lot."

The other occasion occurred during a math class. Four children sat in a corner of the classroom, clapping rhythmically, singing and chanting. Their animated chatter and movements spoke of deep engagement. They were making up songs and chants with the multiplication facts. First one,

then another would state a math fact and try to invent a rhyming phrase that would fit into the rhythm set up by the stated fact. Their hope was that it would help them remember "the hard ones."

These two vignettes show music-related ideas as kinds of tools or signs that helped to accomplish something else. In the first vignette, the instruments and their sounds provided an effective, yet unpremeditated means for reconstructing the ending of the story. The second vignette shows a more intentioned activity. The math students loaded the songs and rhymes with specific meanings they wanted to remember. For Vygotsky, these two occasions stand on either side of a watershed between early childhood and adolescent thinking (50). In describing the transformation of memory between childhood and adolescence, he points out that, for the young child, memory and thought are bound together. To think means to remember concrete instances or examples that are associated through previous experience. As the girls continued to talk about what they did with their instruments, more and more details of the lost ending came back to them. The instruments became convenient tool-like reference points for recall.

When people develop the ability to think abstractly in the adolescent years, they can create signs specifically to represent and help recall thought. This does not necessarily replace the earlier associative memory; it just becomes a more refined tool. The math students show this more intentioned use for the musical ideas. This time, the students wanted to remember something specific. To do this they created a mnemonic device

out of mathematical and musical ideas. Embedded with the words for the needed multiplication facts, these simple, rhythmic melodies acted as carriers or vehicles for the mathematical meanings. In Vygotsky's terms, they were "constructing the process of memorizing by forcing an external object to remind [them] of something" (51). He summarized the difference between early childhood and adolescent thinking: "In the elementary form something is remembered; in the higher form humans remember something" (51). The first is serendipitous, the second intentioned.

#### Writing Connections: Music Informs Written Expression

The students connected sounds and music to written expression in several ways. I saw them use music to help solve writing problems, to motivate writing, as the basis for the humor in a piece of writing, and as the centerpiece for an elaborate collaboration.

#### Music as a Problem Solver

In Chapter 4 I shared Briana's poem which had been created while she listened to her father play music from Broadway musicals on their piano. This music generated images for her which she then expressed in the words of her Sound Project report. The music helped Briana solve a writing problem. Writing the poem while listening to her father's music stimulated her to express her content in a way that satisfied her desire not to sound reportlike.

#### Sound Illustration as a Motivator

Colin put his experience with sound illustrations and his sound



project to use to finish an assigned piece of writing that had languished and lingered beyond the due date. Taking the idea from the mystery stories, he decided to add sound to "The Attack of the School Lunch." He had great fun deciding which burbles, clicks, and boinks would enhance the scene of a school lunch gone bad. After he shared his final draft with the class, Jan noted his "triumphant finish of his story." Her words could be attributed equally to this scene when he read to the class, or to the ending of the piece of writing itself. She went on to describe the scene and circumstance: "He was so excited and anxious to share that he could hardly contain himself. His piece was, as usual, unique, humorous, and included sound effects. Everyone clapped as he finished and offered complimentary comments. It was one of those special moments."

The freedom to explore and implement sound effects motivated Colin to complete this task more effectively than a deadline. Colin knew how to combine sound and story. In doing so he expanded the assignment to capitalize on the curiosity and interest he had awakened in his Sound Project. He created his own context in which the pencil and paper part of writing, the part he historically avoided, seemed less daunting. It now had a practical reason--to set up the sound effects to make his friends laugh.

### Music and Humor

Music became a weapon in a whimsical parody that Katie wrote as a spelling activity. She wanted a creative way to practice her self-selected spelling words. As a research assignment, Katie asked her dad about April Fool's Day, and he shared how newspapers sometimes put fake

covers on their editions for that day. Thus was born "Weirdo World News." In the only article ever written for her tabloid, Katie's Martians invade, with much disruption and mayhem, seeking all the "frozen moose" [two of her spelling words] on Earth. Mission accomplished, they then "went off to music repair shops and stole lots of musical instruments and went around playing awful music all over the world." The intrepid human hero saved the day when he "got a bunch of tulip petals . . . stuffed them down the instruments and clogged them," and thus, "kept Earth from becoming deaf." Katie was at play in this piece. To her spelling and research assignment she added her own journalistic form, plus music cast in a humorously odd, "instrumental" role.

#### "The Musical Family": A Complex Collaboration

Musical instruments formed the basis for an extended collaboration among five girls during the writing workshop time. The instruments that they played became "The Musical Family." This family, which included the quarrelsome flute twins, Flutie and Flutette, their grumpy brother, Teenaged Trombone, Father Oboe, and Mother Clarinet, goes to Orchestra Park for a picnic. The children meet up with Big Bad Bassoon, a friend of Trombone's, and a host of other instrument thugs. They have a time travel chase and escape, and return to their none-the-wiser parents intact.

The remarkable features of this collaboration were the language and social interactions that it elicited. The collaborators attempted to create a fantasy adventure that drew on knowledge and vocabulary from music theory and instrumental practices. As they generated the story plan, there

was a great concern for accuracy. For example, one suggestion for Teenaged Trombone to tell the twins to "close their spit valves" was vetoed, because "flutes don't have spit valves." Similarly, the picnic lunch for the twins had to be PB&J cleaning rods, while TT enjoyed his slide oil. Mother Clarinet needed a cork grease break during the drive, and at one point Father Oboe shouted at the continuously bickering twins, "Calm it down an octave! You're driving me right up the scale!"

The planning sessions were marked by extensive negotiation. The "point of view" discussion serves as an example. At issue was whether to tell the story all from one instrument's point of view, or change to a different character with each new scene or chapter. Though it was never stated, there seemed to be an equality issue amongst the girls whose measure was whether one's own instrument had a turn to narrate. A further issue was how, if they changed, would they note the changes in the written text. Several girls shared how they had seen it handled in books they had read.

Another layer of this discussion related narrator point of view to character development. They agreed that, for practice, it would be interesting for all to write about one incident in the story from their own instrument's point of view. They could then compare how each character viewed the incident and what they thought of the other characters. The girls thought this would help them get to know their characters better. They decided to do this with the first scene of the story. After agreeing on the elements of the scene they each wrote their character's version of it as

homework. The next time they met, these versions stimulated further plot possibilities and character motivations. The final decision on point of view was to keep one storyline, but have each scene narrated by a different instrument.

Despite the fun and vigorous engagement, interest ran its course after four planning sessions. The project was enormous with too many options for five girls to negotiate as fully as they tended to. Their discussion topics ranged across many aspects, such as whether to make it a story or a play, to add music or sound illustrations or not, what kind of car did they travel in, what the characters' voices sounded like . . . Although a single story with five collaborative authors never appeared, two of the girls did write their own versions and polish them into final drafts.

The germinal idea had sprung from five friends who were vitally interested in instrumental music. This interest drew them together powerfully and provided a public space, to borrow a concept from Maxine Greene (3), in which the girls played with and practiced important social, intellectual, and writing acts.

#### Music as Personal Expression

Some of the musical occasions that appeared had a quality of simple, purposeful expression of a thought or an idea. These expressions gave further evidence that music, or music related ideas, had become available to students for their use in cognitive as well as affective situations when they had ideas to express. In addition to being fun and spontaneous, musical expression or music-related ideas came to be used with

intentionality for various purposes.

In a unit on Celebrations following the Sound Projects, the focus was on the ways people around the world observe holidays, religious or secular, or passages such as marriage, births, birthdays, and so on. The students carried out individual research at home to find out more about the traditions, stories, and activities surrounding their own holiday of choice or family celebrations. In addition, for a culminating activity, groups of students planned celebrations to honor some event or nature phenomenon that they chose. They were to plan a special day and create a "traditional" celebration that included a central myth or story for the day, any costuming traditions they wanted to include, and one or more activities (readings, games, dances, plays) that showed the theme of the celebration. The class formed into six groups who chose these titles for their celebrations:

Animal Appreciation Day,  
Celebration of Sports,  
The Cow Celebration,  
Evergreen Tree Celebration,  
First Day of Winter, and  
The Snow Celebration.

In their class time discussions, Jan and Claire had talked about some musical traditions such as songs and carols at Christmas or Hanukkah, marches on the Fourth of July, Irish jigs and reels at St. Patrick's Day, among others. They asked the students to include a music component in these classroom celebrations, but left options open for the

students to choose the manner in which they included it. They wanted to see what would "come up through."

### An Original Composition Symbolizes a Mood

After the children had been working on their celebrations for a few weeks, Duncan and Adam asked Jan if they could go to the music room to try something out. Jan checked the music room schedule and saw that there was no class scheduled; permission was granted. Claire was in the music room on a planning period and welcomed the boys. They asked to use the piano.

Claire described the occasion in the yellow notebook:

The kids are independently competent about many things. The recent example: Duncan and Adam came into the music room and asked to use the piano. Duncan played a short piece, Adam nodded yes; they discussed: "It's short, but just the right length." They prepared to leave. I pursued them with a question: What was that piece? It was a composition of Duncan's, and they decided to use it in their celebration!

The piece (Appendix A-3) came to be called the "First Day of Winter Piece" and was used in the celebration. In the notebook entry, it sounded like length might be the deciding factor for its selection. I asked Adam how the group came to choose Duncan's composition to be part of the celebration. He said that it "sounded just right. Y'know, kind of lonely like a wintery day."

It was the quality of the sound of the piece when performed by Duncan, that the group responded to. The way the musical tones combined with the rhythm and tempo that Duncan chose held the meaning-- loneliness-- that they wanted to express in their First Day of Winter celebration. And, for Duncan, it was his first public performance as a composer.

### An Appropriated Dance Symbolizes the Snow Season

At the beginning of a music class, Patrick walked briskly over to Claire, obviously bubbling over with a question. Before he stopped walking he said: "Mrs. S., what was the name of that sword dance thing that you taught us last week?"

"It was the 'North Skelton Sword Dance' "

"That's what it was! That's the one where they make that snowflake-like thing with the swords, right?"

It was the right one. Claire had taught the dance to the children because it is a mid-winter dance from ancient northern England, danced at solstice time to insure the return of the sun. This particular dance appeals to children because of a unique configuration of the swords near the end of the dance. Six dancers each hold "swords"--in this case, yardsticks covered with aluminum foil. To the music, they step through some intricate dance patterns, and then, in pairs, lay their swords down overlapping the blades and hilts in a certain way. When the last two are in place, they form a six-pointed star, which is stable enough for the lead dancer to lift, by one of its points, high above his head and parade around the circle of dancers. The

star represents the sun in its cyclical journey. The dance ends with the star laid back down, and the dancers retrieving their swords.

Patrick's group was celebrating snow, and he had made a quick association. By rotating the six-pointed star slightly, it became the hexagon of a snowflake. It was just the right symbol, accompanied by a spirited dance and procession with the snowflake held high, to express the excitement these children felt about snow and its potential for fun.

These two stories about the celebrations show a literacy that is beyond pencil and paper. Duncan's "First Day of Winter Piece" and Patrick's sword-laced snowflake were both meaningful symbols within the contexts their groups had created. But the meanings did not stay locked up in the symbols, they had to be acted out in time and space so others could apprehend and share the meanings as well.

#### Symbols on Paper: Probing Musical Literacy

On Claire's suggestion, Jan made music staff paper available on the writing supply table during the unit on celebrations. The children's celebration plans were to include a music component, although what that component should be was not specified. She told the class that if they were writing music for their celebrations, they could use the staff paper to write down musical ideas that they wanted to remember. This gesture added another tool for creating and notating meaning in this classroom. It was quickly put to use in conventional and unconventional ways--even for one student's long division practice. The musical uses reflected the students' levels of knowledge and skill in music notation, as well as their purposes



for writing it.

I have included six samples (Appendix) of ways the students used the staff paper. They all show students attempting to use a symbol system other than words to fasten musical ideas onto paper. All but one of the samples use conventional music notation with some degree of accuracy. Each one tells a different story of its composer's struggle to make sense in a very different language.

Four of the samples were composed for a keyboard instrument. They show a broad range of skill with musical conventions, from Katie's "Zazooskian National Anthem" (Appendix A-2) written for a fictional country, to Tamsyn's three measure piece (Appendix A-5). Three of the pieces were written for celebrations: Katie's "Zazooskian National Anthem" for the fictional country's founding day celebration, Duncan's "First Day of Winter" piece mentioned above (Appendix A-3), and Tamsyn's piece for Animal Day. Christina's (Appendix A-4) was written "for fun." Katie, Duncan, and Christina all took lessons privately which accounts for their close approximation of standard notation. The national anthem and the winter piece could probably be played by someone other than the composers with a fairly accurate rendering of what the composer had in mind. Christina's piece leaves more questions, although its visual representation shows a logical plan. In the first pair of lines the melody is on top with the lower line as an accompaniment; in the second pair, the reverse; in the third pair the hands play together until the final chord.

While Tamsyn's piece can be rendered on a keyboard, upon hearing it, she said it wasn't what she'd meant, a revealing phrase indicating a mismatch between perception and actuality. She had the least experience of the three keyboard composers with any kind of music and composed away from any instruments with only her inner hearing as a guide. Her piece is not random, however. She had a musical image in mind as she set the notes on paper. She selected some music symbols-- a 2/4 time signature, a key signature with two flats, and another symbol representing a clef sign--which she placed conventionally at the beginning of the line, but she did it without knowledge of how those symbols should affect the line of notes. And in the end, the line of notes, apparently didn't match what she was hearing within.

This inner sense of what she wanted to compose is what Eric Bluestine, quoting Edwin Gordon, calls "audiation." He describes it as being roughly equivalent to visualization in graphic arts, or the sculptor's being able to "see" the sculpture within the block of marble. A composer needs to process this inner sound as musical information in order to translate it meaningfully onto paper. This is the part that let Tamsyn down. She could "hear" the piece, but she didn't have the means to capture it.

I asked her how she thought the composing went. She laughed and said, "Not too well. I tried to do another one at home. I asked my mom to try it out, but it didn't really work that well. So, I'm gonna try another one." Of the four keyboard composers Tamsyn may have had the most to

learn, and apparently there was enough reward for her to try again.

Molly's "Jingle Bells Composed" (Appendix A-6) shows a different approach to representing sound. More at home in math than music, she composed a line of numerals that do relate, at least at the beginning, to the chorus of the well known song. She composed it for a mini-xylophone whose bars she had numbered to correspond to the numbers one through ten. The interesting additional feature here is the interpretational key, as on a map, that she provided. She had to interpret the "/" as a rest, "so that people will know when to stop." She was trying out a new notation system. Knowing that it was not conventional, she provided interpretational help.

Alisha composed for her instrument, the harp (Appendix A-7). Her "composition" is more of an experiment with notation than a self-contained piece of music, but there is a composed quality in the way measures with faster notes are interspersed with measures of slower notes. Her knowledge of what harp music looks like is reflected in the wide vertical spacings of notes written as chords. She also invented a symbol. She wanted to indicate places where, instead of plucking strings, she slid her fingers along all the strings that lay between the plucked notes, a harp technique called *glissando*. To do this she drew pointed, wavy lines to connect the plucked notes. In performance she plucked the first note, *glissando*-ed to the next; plucked it and went on in a smooth unbroken texture.

These musical occasions took the forms of music compositions and experimentations. Since these compositions were not required and not

going to be graded or judged by Jan or Claire, the invitation created a safe space for children to explore the notation of musical expression. As they tried out music writing, they applied whatever amount of experience they had to bear on the task. Those students with more experience manipulated the symbols of music with more ease and control than those with less. The patterns, repetitions, and musical structures that were attempted reflected the cadences of the rhymes and songs of everyone's childhood. This freedom to explore fostered interest in the new literacy of music as it validated those who already embraced it.

#### "Gifts from the Heart."

One other way that music surfaced was as an expression of gratitude and good will. Jan frequently had a university graduate student of education in her classroom for a semester long residency as an assistant or intern. At the end of the semester Jan's students usually planned a farewell party. The farewell for this year's first semester intern had a new twist.

Jan had a theme which she called "Gifts from the Heart" that she had coined the previous school year. One of her students that year had written a piece that described in rich detail what her day had been like on the occasion of a beloved older sister's wedding. Jan suggested that she make the piece into a book, with illustrations if she wished, and give it to her sister as a "gift from her heart." The girl decided to do it, and, from Jan's report, derived a deep sense of satisfaction from giving the gift.

As the end of this semester neared, close on the heels of the celebrations, which were still being scheduled, the farewell party had to be planned. Jan formed a committee of her students and gave them the charge to plan this last celebration. She would oversee their plans, but the bulk of the planning decisions were theirs. The committee set busily to task and soon asked Jan if it would be all right to include music in this celebration, and some ballet, too. For the first time, the fine arts were a part of a Room 16 farewell party. Adam played "The Pink Panther" on his saxophone, Alisha and Briana played harp and clarinet duets of some Christmas carols. To a recording, Larisa and Alison danced a bit of the Nutcracker, which they were performing at a local venue, and the party went on.

These expressions were Gifts from the Heart in that they contained much personal investment on the part of the children. They were pieces that the children had put effort into, that they liked, and that they had polished to the point of public performance. This gave the pieces good measures of pride and value to be given as gifts to Jan's intern. This expression was different from the symbolic expression of the sword snowflake and "First Day of Winter Piece." Adam hadn't chosen to play "The Pink Panther" because of some metaphorical quality of a pink feline, but because he could play it well, and he wanted to share. These performances were direct expressions themselves of gratitude and good will--a lived thank you.

As a footnote, Jan wrote to me in the yellow notebook at the end of the second semester, that another farewell celebration "included a couple numbers by the Room 16 Orchestra--Ayshe on drums, Alisha on harp, Kaitlin on clarinet, Jennie on flute, and Patrick on the Casio keyboard." I noticed familiar names on that roster, and felt a kinship with these students for whom music and literacy continued to intertwine as important ways of being in the world, knowing, and expressing themselves.

## CHAPTER 6

### STUDENTS ACQUIRE AN EXPANDED PALETTE FOR EXPLORATIONS, EXPRESSION, AND LEARNING

If these classrooms were a canvas for a pointillist painter, these musical occasions would be like points of color. Individual points create subtle depth; diffuse clusters create shadings; dense clusters create brilliance. The richness of the painting depends to a great extent on the breadth of the palette of colors and the balance of differing densities used to crowd out the white of the canvas. By inviting music into the classroom, Jan and Claire's collaboration added colors to the students' expressive palettes. Individual musical occasions provided points for me to explore to find out what made the occasion meaningful for the students involved-- what the connections were, what they knew, and what they chose to express. Taken as a whole the occasions gave a decidedly musical luster to these students' classroom experiences. Each student could add as much color as they wished; the result was a harmonious, literate environment, enriched by sounds and music.

When I began this research, I asked the question:

**What do grade 4/5 students do when their classroom and music teachers integrate music more deliberately into classroom life?**

In this final chapter, I conclude with my overall, general finding from this research. The integration of music gave these students an expanded palette for expression.

The importance of this expanded palette brings me back to my image of me as a boy listening to the magical sounds of Borodin's *In the Steppes of Central Asia*. In these classrooms I found myself again in a new and dynamic realm that was at once whole, sequenced, and orderly, able to be conceived in an instant, but meaningful only when played out in linear time. The thread that linked the mystery stories, the sound projects, the celebrations, the various meaningful moments came from the music curriculum. That thread wound its way through the language arts, science, social studies, and mathematics curricula in distinctive, yet sometimes subtle ways. The way it wove was determined by Jan's and Claire's observations, analyses, negotiations, and responses to what they saw and heard the children do and attempt to do. The sequence and order of the curriculum derived, therefore, from what was working and what the possibilities were for extending that success in another direction, all the while holding on to the musical thread.

When I compared the school experiences of these fourth and fifth graders to mine I found that theirs were almost opposite mine. Borodin had to wait for me outside on the doorstep, whereas Jan and Claire invited these students' musical selves right into their classrooms. With the invitation extended Jan and Claire opened up new possibilities for creating and expressing meaning through their music-enhanced curriculum. Once invited, the children appreciated the opportunity, and those who wished immersed themselves. The inherence of music in their daily lives gave strong validation to those who favored music as a language of thought



or as a mode of expression. It also raised awareness in those who had little experience with music and gave them safe opportunities to try it out.

Yet, music did not dominate the overall curriculum. This was not a performance classroom. Instead, music moved into a more equal space among the school subjects. Musical activities were available to all students. Some were mandated in that they were presented to the whole class at once, but no one was forced to perform beyond their desire or ability.

### The Role of the Collaboration

The key to the children's learning lay in the unfolding of the collaboration between Jan and Claire. After her initial "sea of uncertainty," Jan, with Claire's help, expanded the role of music in her classroom. As she learned more about music and how she could incorporate it, she expanded her students' opportunities to express their learning. This led to an expansion of the ways that she culminated units of study as well as a need for different ways to assess her students' learning. This gradual expansion awakened the potentialities in her students, and those who were so inclined realized them. The results were personalized and gave both Jan and Claire unique information about their students' learning and their abilities to express it.

This study shows the importance of specialist teachers in school settings. Jan could not have implemented this integrated curriculum on her own. She wanted music included as a co-equal, affective partner (Bresler), but she lacked the experience and training to go very far beyond the entertainment or appreciation level of practice. She turned to Claire for

the needed depth. As a fellow employee, Claire was well acquainted with Jan. As an insider music specialist, she also knew the children, the school's curriculum, and the available materials better than an outside consultant would. This resulted in a collaboration that did not depend on outside sources for curriculum or funding. It was not a special program, nor an add-on. Nor would it end when funding ran out. Instead it was a sustainable relationship between two teachers who wanted to merge and deepen the existing program, and it could continue as long as they desired.

### The Progression of Students' Involvement

There was a progression of involvement shown by the children during the semester. During the Mystery Stories unit, we did see play, or aural scribbling, give way to purposeful implementation of sound as the children created meanings and shared them with others. But play was never very far away and returned often. In the Sound Projects, when given the mandate to learn about the physics of sound, the children fused affect and cognition as they chose music as one language to use to express what they had learned in science. Increasing throughout the semester, and especially as the celebrations were planned, there were musical occasions and meaningful moments, both spontaneous and planned, that showed that the children were at home with this new addition to their literacy palettes. These potentialities for music seemed to lie waiting to be realized when they were validated as legitimate by their inclusion in the school day.

Many researchers and practitioners have written about factors that favor the development of children's literacy (Atwell, Cambourne, Graves,

Hansen, Reif). One common factor, among others, is the element of choice and its relationship to engagement and responsibility. By inviting the musical selves into the classroom, Jan and Claire expanded the choices available to their students for learning and expressing what they learned.

Through the many examples in this dissertation, I see a progression of engagement fostered by this additional choice, shared by musical thinkers and non-musical thinkers alike. This engagement was encouraged by the fact that, in Jan's and Claire's classrooms, groups of friends were encouraged to explore, find meaning, and connect music to their daily school experience. Dyson reminds us of the importance of these friendships; literacy develops not only in the experienced and imaginary worlds, but in the ongoing social world as well. She found in her study that "children's growth as literate people was linked to the social practices that surrounded them, that is, to their discovery of literacy's rich relevance to their present interactions with friends and to their reflection on experiences" (276). Similarly, the students in this dissertation study felt comfortable incorporating music for various purposes into their interactions. They found their multiple ways of knowing validated, but it is not common for teachers to bring various literacies into their classrooms.

In the past few years, however, teachers and researchers have begun to write about other classrooms in which arts are incorporated more deliberately into their students' academic lives. Karen Gallas created a first grade classroom in which drawing, painting, music, movement, dramatic enactment, poetry, and storytelling all became "part of the

students' total repertoire as learners." After a school year of infusing arts into science, social studies, and language activities, she concludes that "For both children and teacher, the arts offer opportunities for reflection on the content and the process of learning, and they foster a deeper level of communication about what knowledge is and who is truly in control of learning" (145).

Similarly, Mary Kenner Glover has created a primary school in Arizona whose curriculum encourages the children to use their various literacies on a daily basis. Recalling her own childhood, she says, "Whether it was the music teacher who pushed aside the desks and chairs to teach us the Virginia reel, or the rare projects we were allowed to create with our own hands, it was the opportunity to use our expressive nature that mattered" (15).

In Glover's school, children create a number of handmade projects to show what they have learned. Their literacies in drawing, music, and drama are the vehicles for both learning and showing what they know. For example, in one project relating to slavery in American history, the children each designed and made quilt squares that illustrated a person or event from history. They also wrote poems or essays about the subject of their quilt square. To express their learning, Glover and the children planned "The Freedom That's Always Been Wanted Quilt Tea," and invited their parents to come to the celebration. After the children each read their pieces, the tea closed with the singing of their favorite civil rights song, "We Shall Overcome." Glover offers that "As we acknowledge [or celebrate] our

own efforts to understand history and the accomplishments of others, we begin to see how we are a part of that history as well" (103).

In *Workshop of the Possible*, Ruth Hubbard describes classrooms in which visual arts are integrated into the daily lives of the children. She describes a range of sources for mental images which can come to expression: memory, imagination, daydreams, and dreams. Some of these reflect on past experiences, others project into the world of possibilities. By allowing children the opportunity to explore their mental images through visual arts as well as writing, they have a chance to "manipulate meanings, take risks with materials and conventions, [and] use the writing as a kind of extension of their usual play" (71).

All three of these writers show classrooms in which children's expressive palettes expand through the addition of arts into their learning. Two of the three speak specifically of music as a partner in meaning making. I contend that music can play an even greater role in learning when it is used honestly and creatively as Jan and Claire did in their collaboration; when it is recognized and affirmed as a form of representation and expression rather than merely as an extension or entertainment. I see several possibilities:

When students respond to books, they might consider a musical response. For example, in my middle school classroom I offered this option to a small group who had read *Robinson Crusoe*. One student's eyes grew large and interested. He played viola and piano, performed solo and in ensemble, and was a member of both an orchestra and a string quartet. He

produced a two page orchestral score that illustrated musically the points of tension in the story.

In a unit on astronomy, students might research popular and classical songs that include stars. They could then examine the different intentions of the songwriters and gain an appreciation for the characteristics of stars that the music portrays. The stars in the jazz classic "Stars Fell on Alabama" have a very different connotation from that in Henry Purcell's eighteenth century "I'll Sail Upon the Dog Star."

In a United States history unit on the Civil War in the school where I teach, a group of musicians who replicate a period military band performed for the students. Their instruments were either restored originals or replicas. Discussions followed on the historical traditions of martial music and the classifications of martial instruments versus symphonic or parlor instruments. Other possible follow ups might include classroom performances by interested students, perhaps from other time periods or countries, or an examination of the uses of music in the military, *e.g.* music to move troops from one place to another, music to mark the hours or signal time for certain activities, music as symbols of the different branches of the military, and so on.

These are just a few examples that specialists, classroom teachers, and students might plan. Each could lead students and teachers to a deeper understanding of the units of study, because each touches the intellect from a different perspective and, therefore, enriches the learning experience uniquely.

### Research Implications

Several research directions are suggested by this dissertation. One possible direction would be to explore the relationship between musical intelligence and written expression. This study could look at ways that musical knowledge appears in written work or in writing processes. A longitudinal study might look for changes in writing development over time. My fourteen weeks in these classrooms gave me some glimpses of topics and genre choices, but it was too short a time to discern developmental patterns or changes. It is a question worth pursuing, though, for, as Vygotsky suggested, when new knowledge is acquired, there is a qualitative transformation of subsequent operations. Dyson echoes this when she says, "Literacy that helps children to articulate their todays and to make ongoing connections with others may be more likely to grow with them into their tomorrows" (276).

Another direction suggested by this dissertation would be to look at changes in educational evaluation. As was seen in the sound studies in Chapter 4, traditional tests were inadequate for Jan and Claire to get a complete picture of what the children knew. Questions might center around whether performances demonstrating content knowledge reveal what the children know more comprehensively than traditional tests. Arguing that our current educational curricula and evaluation methods are unbalanced in favor of quantitative and verbal literacies, Eisner suggests a change to a method that combines qualitative and quantitative procedures. Drawing from the artistic world, he coined the term

"educational connoisseurship" as a method of evaluating that brings professional, artistic judgment (what is seen) together with quantifiable data (what can be counted) in order to critique performance rather than simply measure it (Art 130). Jan and Claire took steps in this direction. A study that probes a connoisseur's approach to evaluation and any changes in instruction that follow would be very valuable.

A third direction for future research lies in this instructional area. How do teachers create more art-tinged experiences for their students? What does it take? Is it "doable" on a continuing basis? The roles and relationships of music specialists and classroom teachers could be explored in light of a more even balance of arts within the curriculum. Also, the role that time plays is significant when looking at the feasibility of integration, interdisciplinary work, collaboration, or consultation.

All of these research directions could yield relevant data for furthering the inclusion of music, and other arts as well, in the daily lives of students. The clearer the picture of how it can happen, the more likely other teachers are going to find value in a more art-filled curriculum.

### Literacy and Musical Intelligence

When reviewing my fieldnotes for this dissertation, I noticed that certain students' names came up with regularity. I looked closely at the list and found that it held both gregarious and shy students, as well as some who took music lessons and performed, and others who did not. These, I believe, were the students who, like me, were attracted early by the seductive pulses and rhythmic sounds of music, the children for whom



music makes sense, the ones with musical intelligence (Gardner). Unlike my story, these students learned in a classroom atmosphere that accommodated their language of thought. Here they could play, and play to their strengths, in both the music room and the classroom. They were now encouraged to incorporate their musical selves into a literacy that was like playing in a new key, one that was enriched with the nuances of sounds and music.

## **APPENDIX**

# Figure A-1 "We'll Rant and We'll Roar"

*Newfoundland Folk Song*

The musical score consists of four staves of music in a single system. Each staff begins with a treble clef, a key signature of one flat (B-flat), and a 3/4 time signature. The melody is written with quarter and eighth notes, often beamed together. The lyrics are printed below the notes, with hyphens indicating syllables that span across multiple notes. The lyrics are: "We'll rant and we'll roar— like true New-found - land - ers, We'll rant and we'll roar— on deck and be - low, Un - til we see bot - tom in - side the two sunk - ers, When - straight through the chan - nel to Tos - low we'll go." The score ends with a double bar line.

We'll rant and we'll roar— like true New-found - land - ers, We'll  
 rant and we'll roar— on deck and be - low, Un -  
 til we see bot - tom in - side the two sunk - ers, When -  
 straight through the chan - nel to Tos - low we'll go.

Figure A-2 Katie's "Zazooskian National Anthem"

key board <sup>by N.T.</sup>  
Zazooskian National Anthem

Handwritten musical score for "Zazooskian National Anthem" for keyboard. The score consists of five systems of two staves each (treble and bass clef). The music is in 4/4 time and B-flat major. The melody is primarily in the treble clef, while the bass clef provides a simple harmonic accompaniment. The notation includes various note values, rests, and dynamic markings like 'f' and 'ff'.

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Figure A-3 Duncan's "First Day of Winter Piece"

Duncan 12 Dec



Figure A-4 "Christina's Piece"

13 Dec

Christina

The image shows a handwritten musical score on a page numbered 141. The title "Christina" is written in the center, with a date "13 Dec" in the top right corner. The score consists of eight staves of music. The first staff is in treble clef with a 4/4 time signature. The second staff is in bass clef. The third staff is in treble clef. The fourth staff is in bass clef. The fifth staff is in treble clef. The sixth staff is in bass clef. The seventh staff is in treble clef. The eighth staff is in bass clef. The notation includes various note values, rests, and slurs, all written in black ink.

Figure A-5 "Tamsyn's Piece"

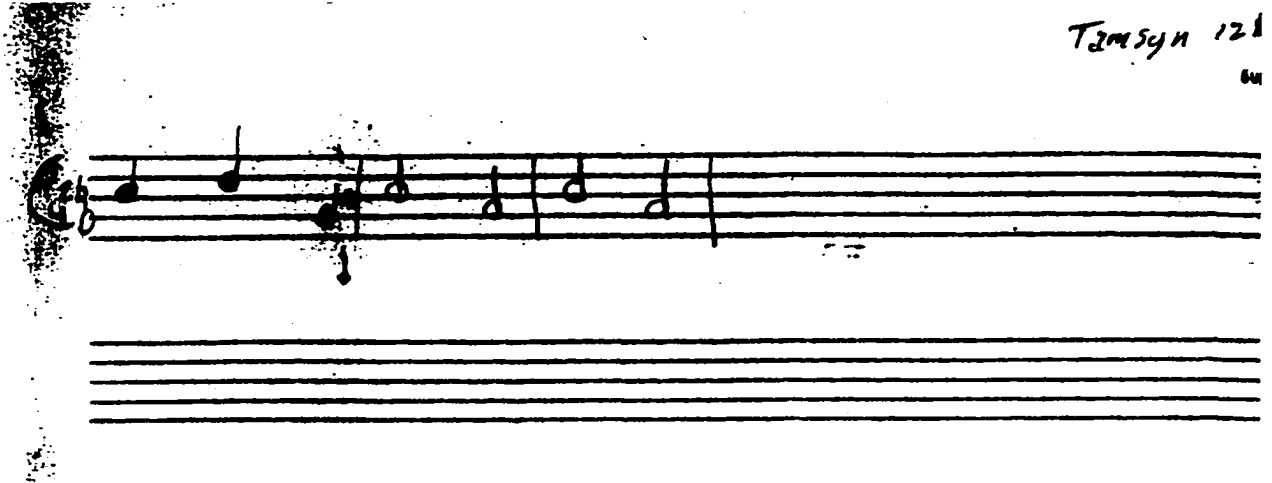


Figure A-6 Molly's "Jingle Bells Composed"

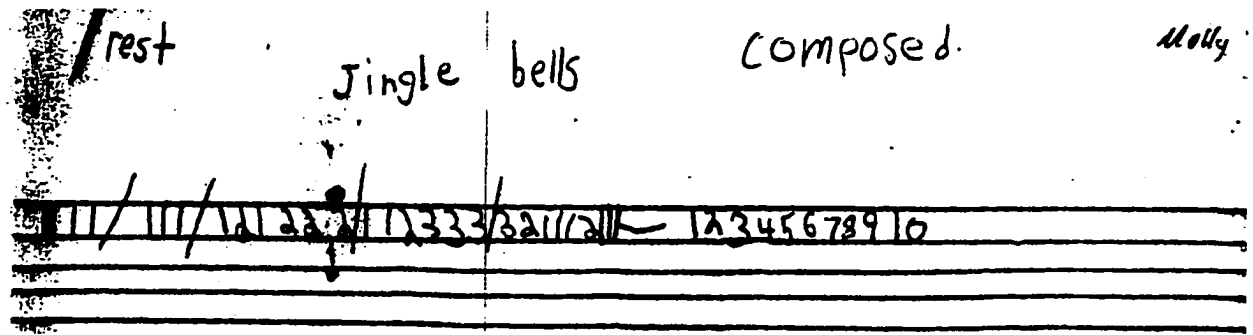


Figure A-7 "Alisha's Piece"

Handwritten musical score for "Alisha's Piece". The score is written on four staves. The top staff begins with a treble clef and a key signature of one flat (B-flat). The notation is heavily scribbled over with dark ink, particularly in the first two staves. The third staff shows a more legible melodic line with notes and stems. The fourth staff contains several measures of music, including a large, dark scribble on the left side. The overall appearance is that of a rough, handwritten draft.



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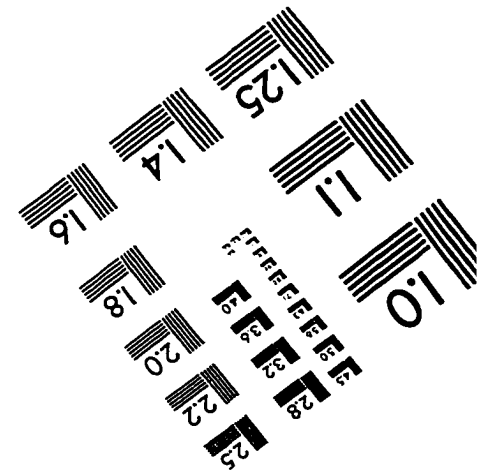
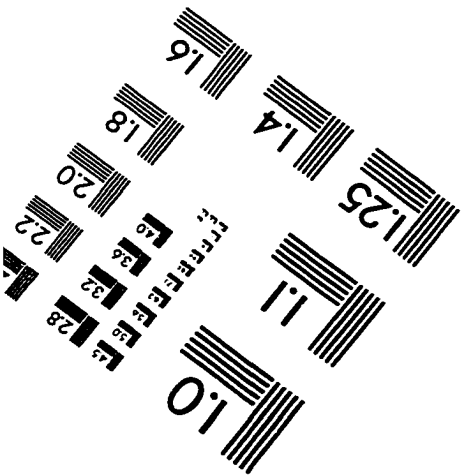
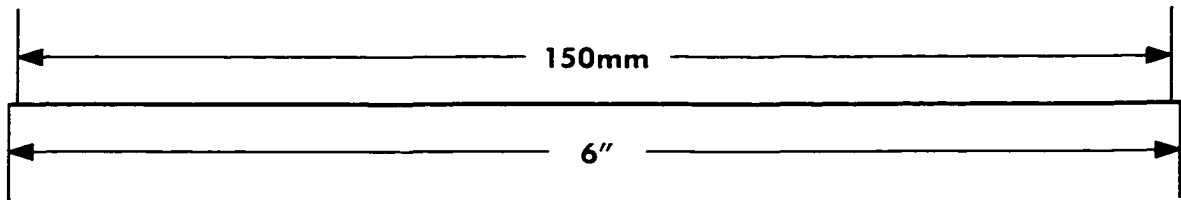
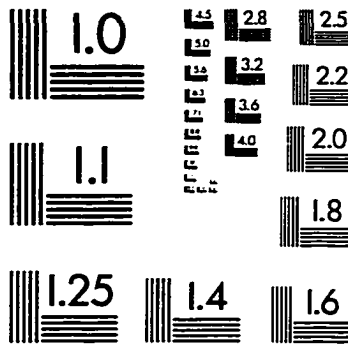
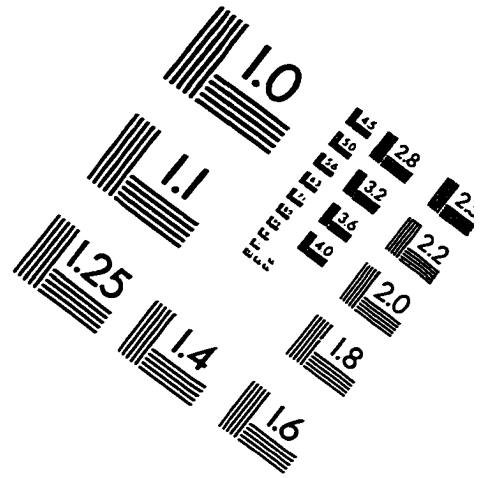
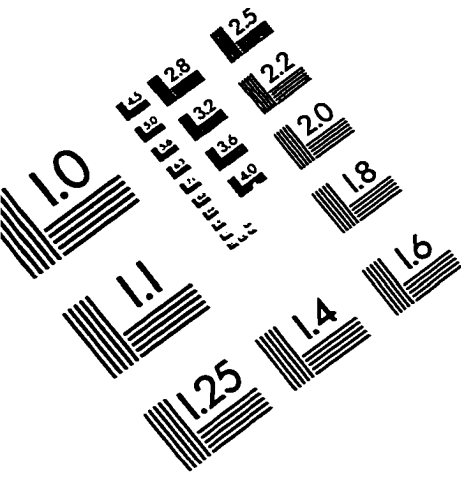
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