

Measurement and Evaluation

Music Educators National Conference March 1990: Recent Advances in the State of Assessment: Arts Propel in Pittsburgh

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Too often we test too little, too narrowly - or we don't test at all

*by Lyle Davidson, Harvard Project
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How we assess learning in education is a hot topic. The style of tests (norm-referenced, criterion reference), the purpose of tests (to evaluate students, teachers, curriculum or school systems), the place of tests in curriculum development and in learning are all topics of national debate. The outcome of these debates will frame the attitudes about learning and the approach to education for a whole new generation of policy makers, parents, teachers, and students. Our understanding of the foundations of a domain, field, or discipline are also effected by the style of evaluation used to judge the outcomes of education in that field.

Typically, if asked for evidence of learning in music, we turn to the attendance record, the sound of the concert, the range and variety of music presented, or the frequency with which students perform. This assessment method focuses almost exclusively on students' behavior. It ignores other necessary aspects of music activity.

If examinations are required, they are modelled on typical academic practice -- a period of instruction followed by a break in learning while we

test what we hope students have learned. Typically, evaluation occurs outside the context of learning, freezes or shortens the period of activity to a relatively brief moment. Not only do we construct isolated occasions for evaluation, but we also tailor our evaluation process to meet the confined dimensions of that occasion. During that moment students are expected to provide, find, and use answers to problems which were selected by someone else. In addition, the sharp distinction between moments of learning and assessment creates an artificial distinction between learning and reflection about what is learned.

Consequently, too little of what is learned is being tested and too little of the context of learning is taken into account.

*Why we test too little, too narrowly:
the constraints of the three "E's" of assessment*

We test with a sharp focus because it is easy, efficient, and economical. There are certainly advantages to using sharply focused questions, pre selected problems, and brief moments of engagement. The ease of reducing the richness of classroom learning -- with all the interpersonal and social changes which occur there during a year, to say nothing of the changes in skill and critical thinking -- to an easily manipulated number makes it difficult to argue for other models of assessment.

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The *efficiency* made possible by cutting out the inevitable distractions intrinsic to learning in the classroom -- students interrupting to ask questions about concepts, about working style, about areas of uncertainty, as well as not hearing explanations -- makes it difficult to argue for other models of assessment.

The *economics* of evaluation taking place within a highly regulated context -- however removed from classroom or "real life" contexts -- makes it difficult to argue for any other model of assessment.

Basing evaluation on the limited sample of student's abilities available within the context of the three E's creates serious problems. It misrepresents the complexity of education and learning. It sacrifices analytical ability in-use for a simulation of how critical thinking actually occurs. It places some students at clear disadvantages to others. For example, minority students often do less well when evaluated in these styles; and students who deviate at all from the norm may also appear to be less capable than they actually are. For example, the standardized test of reading comprehension which so many of Boston's twelfth grade students failed cheated them because a follow up interview of the same students' reading achievement easily demonstrated that they could read perfectly well. They were just slower. Finally, the advantages of the three E's approach bear little, if any, relation to how we use our knowledge.

Developing new models of assessment in the arts

Four years ago, the Rockefeller Foundation asked Harvard Project Zero, Educational Testing Services, and the Pittsburgh Public School System to put their heads together and see if it were possible to design new and more effective ways to document and evaluate learning in the arts. They chose the groups carefully, ensuring

that Project Zero's developmental research in the arts would be combined with the expertise in test development at Educational Testing Services and placed in the real world of classrooms under the watchful eyes of master teachers. For the first year of the project the researchers watched the teachers at work in their classrooms. These three groups of experts began work by comparing notes about what everyone thought were the examples of "best teaching."

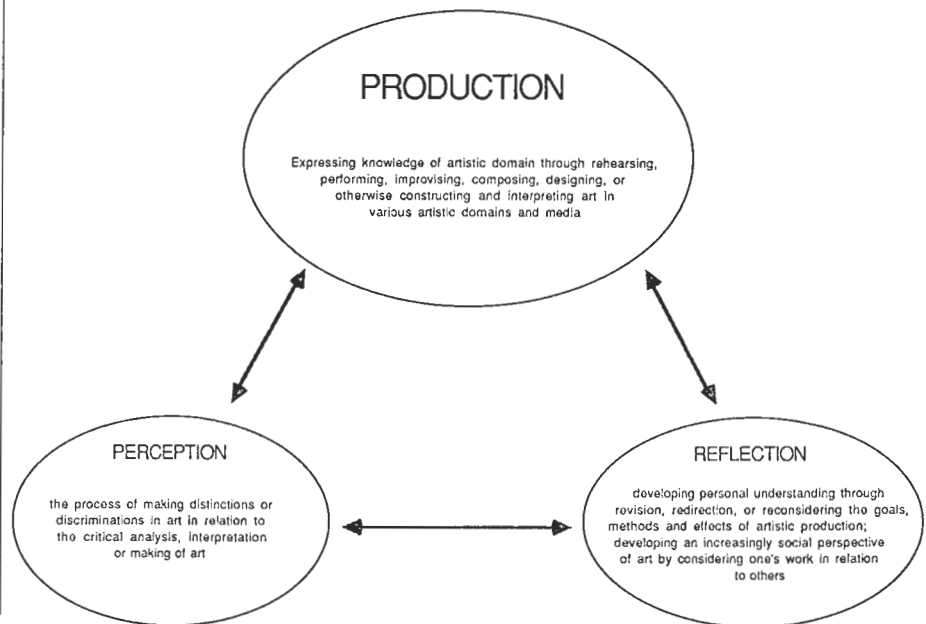
Mentor/apprenticeship as model of learning

When first observing music classes and rehearsal studios in Pittsburgh, we asked ourselves the question "What do the students see in this classroom? in this rehearsal?" What we saw when we really looked at the excellent teaching made us rethink the educational model of music education.

Watching an academic class, one rarely sees the teacher acting as a participant or practitioner. Teachers are normally engaged in teaching the entry level skills of a domain -- in English, teaching sentence structure, punctuation; in math, the skills of computation, and other sub skills which contribute to the standard expected of the specific grade level. When evaluating work, 80 to 90 percent accuracy is high enough.

In the music classes we saw a very different picture. We saw professional musicians in action, doing what they do in every musical situation. In every context -- general music, private lessons, ensembles of all kinds -- we witnessed teachers thinking and working as practicing musicians, with the same standards as those of the profession -- complete accuracy, good taste, performance with style and elegance were the standards upheld in these classes. And everywhere, we saw fine examples of the teacher as a coach.

THE ARTS PROPEL APPROACH TO ASSESSMENT IN THE ARTS



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In every ensemble, we saw teachers making critiques and comparisons, coaching, and directing students. In every classroom, we saw teachers making sketches of music on the board, discriminating among musical styles, writing out fragments or portions of pieces. We sometimes saw a teacher playing an instrument.

As a result of this, we expanded our concept of what is being taught to include these specific issues. In addition to the conventional notational questions (what is the note, when is it played, what articulation and dynamic level is indicated) and instrumental concerns (what fingering, how to make a smooth line, when to breathe) we focused on issues of critiques, comparisons, coaching, and directing; sketching aspects while listening, discriminating among musical forms, and writing melodies and arrangements.

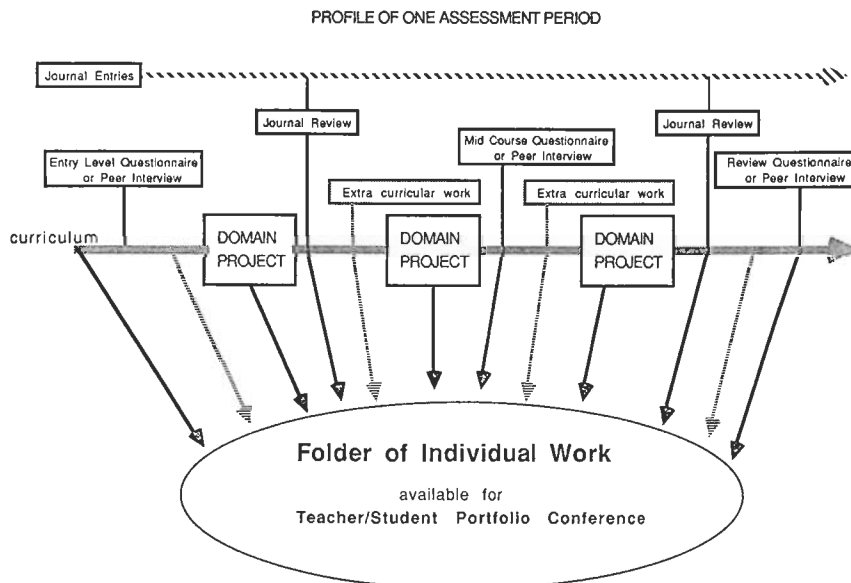
Arts Propel: Evaluation grounded in production, perception, and reflection

We were also concerned that the assessment model we were building be based on the values shared by musicians engaged at every level or type of musical activity. We did not want to artificially restrict the activities which normally take place in a rehearsal or music class for the sake of some experimental or theoretical construct. It was important to us to preserve the focus on music making and letting music appreciation and discrimination follow from that initial activity.

The Arts Propel approach to assessment is guided by three concepts which are central to the arts: Production, Perception, and Reflection (PPR). By Production we mean the activity of composing, performing, and listening

Domain Projects provide a structured way to maintain a focus on central issues of music. Domain Projects also provide a way of engaging students in their own evaluation. Because they are repeated over a long span of time, Domain Projects provide a barometer for the teacher to read the highs and lows of students' achievement. Finally, a Domain Project provides a long range view of the curriculum, because it is used in middle school classes as well as high school classes. This means that we have a tool for assessment which is modeled on developmental theory. It is made by using the same form, the same or similar issues, which, linked with

THE ARTS PROPEL PORTFOLIO PROCESS



with pencil in hand. By perception, we mean the necessary process of making distinctions and discriminations necessary in any art form. By reflection we mean the process of stepping away from one's own work and trying to understand what goals were being met, what methods were used, and what effects were achieved.

By the end of the first year we had developed a framework provided by our Production - Perception - Reflection model and selected many examples of excellent classroom teaching. These helped us structure the two basic tools of Arts Propel assessment, Domain Projects and Portfolios.

Domain Projects: a response to testing too little

the appropriate materials, can be used several times throughout the school years.

Portfolios: a response to testing too narrowly

For us, the Portfolio is a means of preserving the footprints of a student's development as she learns and matures. With the Portfolio, the teacher and student, working together, can reflect on the process of performing, composing, or critiquing a piece. In making a portfolio, everything a student does in the class or rehearsal is kept and gathered into a folder. A folder includes finished works, drafts, tapes of practice sessions, written notes and descriptions, critiques by the student, teacher, or other students, to mention a few of the items.

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When forming a portfolio, the student reviews her work and selects examples which best show a profile of her work. In this way, a teacher has a range of ways of determining what and how her students are learning.

In an Arts Propel Portfolio, one expects to find many types of documentation including domain projects, questionnaires, peer interviews, journals, and reports of teacher interviews.

Summary: The Arts Propel view of music education

Through the combination of Domain Projects and Portfolios, Arts Propel provides a way to combine studio and connoisseurship models of education. It supports the development of critical thinking and perceptual skills, but always in the context of student production. Also we assume students are introduced to thinking skills in the domain only by individuals involved directly in it. Teachers, role models, or masters with whom students apprentice - engaged in producing, analyzing, their own work - are aware of the cultural context and the underlying processes of the art they create and perform.

Summing up, Arts Propel perspective arts education will be based on

-an education in which production activities are central, with support for reflection and perception related to production. In other words, it is an education in which historical and critical references and perceptual activities are closely related to student's own creations.

-an education in which the lessons are conducted in the language of the domain. A music teacher must be able to model musical behavior, whether in performance or composition. An art teacher must be able to expressively yield the materials of art. And -- let me

push a bit -- the teacher of English classes must be a writer as well.

-an education in which learning is organized around meaningful projects and deep problems - i.e. lessons designed to take longer spans of time, not forty minutes, but weeks, lessons in which the notion of a right and wrong answer is not the center of focus, but which focus on students' ability to identify problems, think creatively and critically, and develop awareness of the learning process.

-an education in which learning is organized around core concepts or dimensions, e.g., showing pitch relations and rhythmic accuracy, and ability to handle compositional design, and to develop a personal voice in writing. These meaningful problems based on central concepts within the domain should be present throughout the curriculum, not focused in a specific nine-week period and then rarely mentioned again.

-an education in which the skills students acquire are linked to expression and presentation, so that technical or critical thinking skills are used in the service of interpretation, improvisation, or original composition.

-Finally, an education in which assessment supports and contributes to the learning process by taking place directly in the language of the domain, not through the filter of words and language.

In the papers that follow, you will learn more about the outcomes of an Arts Propel approach to assessment in music. Teachers will speak about production as a central focus of learning in the arts, production buttressed by reflection and perception. Domain Projects will be discussed as structured

tasks closely related to the music curriculum, in ways that allow the teacher and student to make continual evaluation a part of the learning process. Portfolios, the result of sequenced periods of review, will be presented as a means of stimulating students' commitment to their work as well as a means of keeping track of students' working process and products.

Profiling Individual Learning Through Arts Propel High School Ensemble Portfolios

by Linda Ross-Broadus, Westinghouse High School, Pittsburgh, PA

As I begin, I would like you to take a moment to think about rehearsals or ensembles you performed in during your high school, middle school, or college days.

Here are three questions to help you focus on those experiences:

1) Did you first sight-read through the piece and then begin working on individual dimensions such as pitch, rhythmic clarity, intonation, etc., -- all that's necessary to contribute to a top-notch instrumental or vocal ensemble?

2) During the rehearsals did the teacher or conductor do most or all of the talking in identifying the areas that needed improvement?

3) Did the teacher alone evaluate the students' progress based on performances and objective type tests?

If you answered "yes" to the questions, then you were taught the way I taught my classes before using the Arts Propel Model. I now go beyond conventional ways of teaching. With Arts

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Propel, a wealth of information is gathered showing the students' growth and development through the use of multiple assessment tools.

Ingredients of the ensemble portfolio

At this point I would like to share examples of work from my performance groups. This work illustrates how my teaching now extends beyond my past practice and now includes elements of musical Production - Perception - Reflection that previously were not on my rehearsal or assessment agenda. Figure 3 is a list of assessment tools that make up the performance ensemble portfolio: 1) Domain Projects (Ensemble Rehearsal Critique, Ensemble Comparison, etc.), Error Detection Scores; 2) Questionnaires - Entry and Middle Level; 3) Peer Interviews; and 4) Journals.

The Rehearsal Critique

The Ensemble Rehearsal Critique is based on the Arts Propel Production - Perception - Reflection model. An excerpt of a song, often sixteen bars in length, is performed by the students and tape recorded three different times during a grading period. This is the production component. Perception

and reflection follow immediately. After each taping the students critique their individual performances or their section's performance specifying location and using music vocabulary to describe their perceptions. Lastly, they reflect on what they have performed and heard; they then suggest revisions. This completes the top portion of the Ensemble Rehearsal Critique.

One student writes in her critique form:

"P" pg. 3, m 15-16. "My section was flat on the words 'we' and 'this'. We could project more and work on going from the word 'this' to 'song'."

A sample from another student critiquing her own performance:

"Tempo at letter A: I played too fast at the tempo change because the drums didn't slow down enough."

Rehearsal strategy suggested:

"Maybe I should watch for tempo changes more from the conductor rather than always listening to others."

After the students complete the self-critique and revisions strategy portion of the Critique, the tape is played back for the class. This time the students assess the Ensemble's performances and suggest rehearsal strategies. It is very important for the class to discuss their evaluations.

Critiquing ensemble performances:

"The diction on page 2 & 3, the Ensemble didn't pronounce the syllable 'Glo' right and didn't elongate the work 'ria'. Work on pronouncing and elongating vowels. The piece sounded like it was rushed, because it sounded like everyone was running out of breath. The song musically speaking was destroyed."

Suggested revision:

"To practice breathing properly and to make the choir as a whole blend better - To sound as one, and not have people singing out louder than the choir. Choir to me means beautiful voice sounding as one."

When the teacher begins the Domain Project, it's best that she limit the number of musical dimensions that the students listen for to one or two, e.g., "Intonation and Diction." In the begin-

PORTFOLIO EVALUATION PROFILE

		EVIDENCE OF LEARNING BASED ON:		
		DOMAIN PROJECTS	INTERVIEWS, JOURNALS	EVALUATIVE COMMENTS
INTRAPERSONAL/INTERPERSONAL ISSUES	LEVEL OF ENGAGEMENT			
	RANGE OF ENGAGEMENT			
	ABILITY TO ARTICULATE AND FORMULATE PERSONAL GOALS			
	AWARENESS OF SOCIAL RESPONSIBILITY/ROLES.			
ISSUES CONCERNING MUSICAL DEVELOPMENT	DEMONSTRATE GRASP OF MUSICAL ELEMENTS IN RELATION TO MUSICAL DIMENSIONS			
	TRACK/DEMONSTRATE MUSICAL PROCESSES			
	ABILITY TO FORMULATE PRACTICE PLANS			
	ABILITY TO FORMULATE MUSICAL GOALS			
	ABILITY TO TAKE ADVANTAGE OF MUSICAL RESOURCES			
	ABILITY TO ARTICULATE AESTHETIC RESPONSES/ISSUES			
	ABILITY TO ESTABLISH INCREASINGLY RICH CRITICAL PERSPECTIVE			
	ABILITY TO WORK WITH NOTATION SYSTEM			
	ABILITY TO ASSUME INCREASING AUTHORSHIP IN MUSICAL PRODUCTION			
	ABILITY TO CHRONICLE THE DEVELOPMENT OF A SINGLE WORK OR PERFORMANCE			
ACHIEVEMENT	PRESENTATIONS, AWARDS, HONORS, ETC.			
	OVERALL COMMENTS OR RECOMMENDATIONS BASED ON PORTFOLIO INTERVIEWS			

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ning, student responses were very limited, both verbally and in written form, e.g., "We did well on this part of the song. Practice more." However, as they became familiar with the musical dimensions and the procedure, they listened more to other sections, and critiqued everything with a greater degree of specificity. Finally, the structure of the Domain Project helps students structure their discussions of taped excerpts, if teachers use the format of Ensemble Rehearsal Critique.

Identifying and Commenting of Errors

Error detection is an extension of the Ensemble Rehearsal Critique and another way of getting a view of the student's knowledge of the music. The student, using a xeroxed copy of the song, critiques the taped excerpt by circling errors and making comments directly on the score.

Comparing Performances

With the Ensemble Comparison Domain Project, students critique and compare one of the previously rehearsed excerpts with another taping of the same song.

One student, Raymont, says

"We need to think in terms of keeping on top of the notes. Also if we elongate the words it may come out clearer."

On a later comparison, he says,

"Tape A wasn't as bad as we thought, but it wasn't as good as Tape B."

and went on to say,

"Tape B: we didn't break off the phrase, which made it sound fairly professional, and we didn't breathe where we weren't supposed to."

My students' portfolios also contain a tape of performance exams. The students perform excerpts from selected repertoire during the semester in small groups, usually as S-A-T-B quartets. These performances may also be critiqued individually by the student.

Ongoing Student Questionnaires

The entry-level questionnaire focuses on the student's background, personal goals, and past musical experiences. Raymont stated as a goal that he wanted to learn to project more. His goal is interesting because for three years he sang soft and flat.

The mid-course questionnaire focuses on class activities and responses

to assignments. With Raymont, a progression can be seen from the entry questionnaire through the mid-course questionnaire. In his entry questionnaire he wrote about his need to project more; four months later in the mid-course questionnaire he said that each time he sings, he feels that his voice is getting stronger. I too have noted how his voice and confidence have developed.

In addition, once the mid-level questionnaire is completed, it is possible to look for new connections between initial goals and present work. Looking back to the entry-level questionnaire, one goal Ray mentions is the desire to "learn what it is we are really singing." Ambiguously stated at first, his thinking is considerably clarified later. Re-

Annotations on the score include:

- Phrases were flat
- Took quickly was harsh
- Tone a problem
- Both things destroyed the phrasing
- Alto section wasn't as hard as rest of the group, but they can work on intonation at the top of the page
- Supra section had poor articulation as well as intonation problems
- Tone stayed on note started to sound flat

Bottom annotation: "The choir as a whole didn't give the song life. As far as giving the song feeling, it just wasn't there which destroyed the song."

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Name: Jennifer B ; Nail Rock Date: _____
 Class: _____ Period: _____

BIOGRAPHY OF A CLASSMATE: _____

1. Does anyone in your family play an instrument? Yes No

If so, please tell which relative(s), which instruments and/or kinds of singing, and in what capacity (e.g. professional, amateur).

_____ piano; grandmother
 _____ uncle; piano, guitar

1. Some family members do play an instrument instrument such as grandmother playing the piano and uncle playing the guitar and piano.

2. How did you first become interested in music?
 Friend? _____ Relative? Teacher? _____
 Classmate? _____ Other? _____

2. Interest in piano is due to her grandmother.

3. Did you learned about music from your parents? _____ brothers? _____ sisters? _____
parents

Has anyone in your family made you interested in music? If so, whom? mother, grandmother

3. Music was acquired through parents. Interest was gotten from mother and grandmother.

4. What instrument(s) do you play? (include how long you've been playing your instrument.)
1 year; 1/2 piano
3 mths voice

4. The instruments she played were the piano for one year and voice for three months.

sponding to 'what have you been doing in this class so far?' Ray answers

"learning notated, musical phrases, conducting...learning more about my notes, because I can pick up music and sing it more independently..."

Students Interviewing Students

In the Peer Interviews, the students work in pairs. Using a set of questions about musical background, individual interests and working styles, students take the time to find out more about their classmates. The interviewer writes down key words or phrases in the left column, afterwards reviews his notes and writes complete sentences. The final step is to write a summary of

the interview. There was a kind of excitement in the room that I never saw before.

The interviews as well as other assessment tools have provided evidence of the students developing independence and self motivation. Have you ever had students beg you for homework? Well, these students continually asked to take their interviews home to complete the summary because there was not enough time in class.

Personal Reflection through Journal Entries

Lastly the journal contains reflections and class notes on music theory. Students are asked to make entries about once every two weeks. During

the last ten minutes of class, I respond in prose to each journal entry.

December 5, 1989

Mrs. Ross,

I haven't been pleased with my performance in 6th period as well as concert choir because sometimes I come to class and think, 'Well Ray, you can't hit that note,' and when it comes time to sing that note, I really can't hit it. But if I think, 'Ray, you can do it', then I'll do it, and when I'm thinking that way you will know because I will sing much louder.

Raymont,

Your comments are very impressive. It's obvious you are looking at your overall performance and that's good! You realize that you can do better, and you have accurately described what you

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need to do to improve, particularly in the area of intonation. Actually, I can already see marked improvement since you wrote this entry two weeks ago! Keep it up!

Arts Propel Portfolio process clearly enhances students' self esteem; it enables students to take ownership of their work. The success they experience is shared by academically low achievers as well as the more gifted students.

In conclusion, for me, as well as my colleagues in Pittsburgh, Arts Propel differs considerably from the teaching we have done in the past in several ways.

1) With Arts Propel, students strive toward intrinsic goals of excellence instead of being primarily interested in better grades.

2) Students are challenged to think and solve problems instead of waiting to be told what to do by the teacher.

3) Arts Propel promotes a powerful way of thinking -- students are more aware of what's going on around them.

4) Lastly, Arts Propel helps the teacher create a classroom atmosphere conducive to feedback. Students are more verbal. They critique and question the teacher, but not in an undermining way. They show that they understand the concepts and have internalized the elements of Production-Perception-Reflection.

Arts Propel Domain Projects in Middle School Music Classes

by James Charlton, Langley High School, Pittsburgh, PA

Examining the middle school in the context of the overall developmental perspective of Arts Propel brings to light some interesting variations in the themes expressed in the portfolio pro-

files we've just seen in the previous paper. Due to the Arts Propel emphasis on a Production-Perception-Reflection process, students' middle school experiences provide the foundations for skills and concepts needed to promote increasingly sophisticated work and practice habits in high school.

The adaptability and portability of the developmental perspective built into Domain Projects, and construction of an ongoing portfolio for students, have been primary areas of focus in the project in Pittsburgh. Since Domain Projects are designed to tap central skills in music and provide a window on students' development, it is possible to look at a student's accuracy, expansivity, recovery time, degree and breadth of transfer, as well as the student's grasp of a particular musical element. The Domain Project represents, in a manner of speaking, a juncture of skills and concepts. Consequently, the general music classroom takes on a structure more similar to production classes, since by its structure the Domain Project repeatedly provides activities that support a climate for learning much like that of the rehearsal studio or workshop.

Domain Projects include built-in assessment measures which are broader in scope than traditional tests. Domain Projects monitor growth over time, enabling student and teacher to observe the processes by which the completed work comes into final form. This makes it possible to identify thresholds of creative and/or critical perspective and activity. By comparing and contrasting the results, students and teachers can begin to see characteristics emerging consistently across the domain from middle school into high school. Additionally, the Domain Project can include effective as well as cognitive concerns. In Domain Projects, the teacher plays an active role in adapting and structuring activities to fit

the particular needs of the students within their particular environment.

Invented Notation: A Domain Project case study

One of the core Domain Projects for general music classes has been the Invented Notation Domain Project. It represents the entry point for Domain Projects in the non-performing classes. Through this Project, students who have no experience with standard musical notation are expected to develop their own ways of representing the contour of melodies.

One of the broad curricular goals established for students in secondary school Understanding Music classes is a knowledge of the standard notational system. That portion of the course of study generally is addressed by some fairly familiar class activities, i.e. teacher presentation of basic notation elements reinforced through drills and exercises of an increasing degree of sophistication, often relying on contrived samples out of context. In looking at this set of class activities, an opportunity to expand by way of the Production-Reflection-Perception (PRP) model presented itself. Traditional class activity tends to encourage the idea of notation as a fixed rather than an evolving system, responsive to changing compositional demands. It may reduce the students' learning about musical notation to mere memorization of symbols outside of the context of the musical considerations that generated those symbols. Students were not addressing the fundamental musical concepts that notation reflects. In discussing this portion of the curriculum, it became clear that some strategy was needed to shift focus away from the symbols as an end in themselves and toward using the study of symbols as a tool to describe fundamental musical issues (contour, pitch, tex-

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ture, time, etc.), and also to provide an opportunity to improve the students' ability to organize those perceptions.

A simple class procedure that had previously been used as a perceptual activity, asking students to listen to melodic fragments and to identify pitches moving up or down, was slightly altered. The students were asked to indicate in writing by a method of their own design whether pitches moved up or down. By putting these observations in writing, a record of students' perceptual growth became available. During this time, students' work was shared and discussed within the class in terms of how well an individual's method reflected the contours of the fragments. Methods gradually increased in sophistication

and a consensus was reached regarding which method of notation would be uniformly used by the class. With this particular group of students, a line graph strategy was agreed upon. Then another dimension was introduced; asking the students to modify their graphs to show increasingly accurate pitch differences. Through discussion, the class arrived at the conclusion that some kind of grid system helped show accurate pitch relations; a staff of sorts.

Later, strategies showing time values were debated. Phrase structure and symmetry were introduced and discussed with greater ease since the students could see, as well as hear, things like internal repetition. Each time a new element was introduced, the class

refined their notational methods to reflect that new element. At various points along the way the students invented notations that very closely resembled particular historical models, and at those points those models were introduced as a reinforcement of the direction the students were moving in. Gradually, with some suggestions by the teacher, students' invented notations took on the appearance of traditional notation, at which point it was reinforced by teacher input and conventional drills and activities.

So the curricular goal, learning about standard notation, was achieved. Some bonuses appeared, the students' understanding of notation was more meaningful due to authentic experience with the musical qualities that notation reflects. The activities were generative (i.e. students had to be creative to accomplish the tasks), and emphasized and documented perceptual and reflective skills along with traditional knowledge recall skills. Student activities were elevated to a level of reflection and generativity that otherwise might not occur, and if it does occur, little evidence of such higher-order process is shown through traditional assessment techniques. Here, the activity is also the assessment.

As the students' notational activities proceeded, the team of researchers and teacher followed the student-generated products, analyzing them for conclusions that could be drawn about student progress. Suggestions were made regarding what dimensions to introduce next, how long the samples should be, and so forth. Over a period of time when some consistent procedures were decided upon in one situation (i.e. the secondary situation where the project was tried out first) those procedures became formalized into the first draft of the Invented Notation Domain Project. Then the project was tried out again in another situation (middle school gen-

MUSIC CLASS

5. How are music classes and non-music classes the same? you know everyone, music

5. Music classes are the same to non-music classes because you get to know everyone.

6. How are they different? music - hands on

6. The classes are different because the music courses offer hands on learning.

7. What is the group (band, piano class, orchestra) working on? Messiah

7. The piano student is presently working on the piece, Messiah.

8. How is the group (band, piano class, orchestra) doing? good

8. The student is doing good.

9. How do you think you will do in this group/class? pretty well working hard

9. She thinks she will do well in this class because she is working hard.

10. Why are you taking this class?

develop voice skilled piano

10. The classes are being taken to develop the voice and become a skilled pianist

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eral music) with a similar collaborative period of development and experimentation.

What emerged from this gestation period was the Invented Notation Domain Project: a coupling of activities and assessments (the students' invented notations) that focuses on accomplishing particular curricular issues (learning the standard notation system) but further expanding the students' encounter with these curricular goals by structuring the teaching of them in a way that encourages generative interaction with and 'ownership' of subject matter, while making perception and reflection activities a more vital component of the overall course of study.

In an indirect sense, also emerging from this growth process was a sense of what some of the defining characteristics of Domain Projects ought to be. The Domain Project ought to be transportable from one context to another, but in emphasis and organizational priorities, not necessarily in literal surface features. Differing teaching styles, student entry levels, and experiences, environments, or cultural influences mean that implementation will vary as per application; what remains constant is the framework and its processes and goals.

Assessment in a Domain Project is closely integrated with instruction and learning. Its purpose is to document and guide student learning and development. Because the activities in a Domain Project are cumulative, reportable assessment information becomes available gradually, as students progress through the activities.

As interesting as the students' productions can become, Domain Projects also bear the look and substance of research tasks. Teachers ought to be as interested in transformations of students' thinking as they are in students' achievement of production goals. Do-

main Project activities cast a net designed to discover these transformations so teachers are more likely to become engaged in structuring opportunities for development.

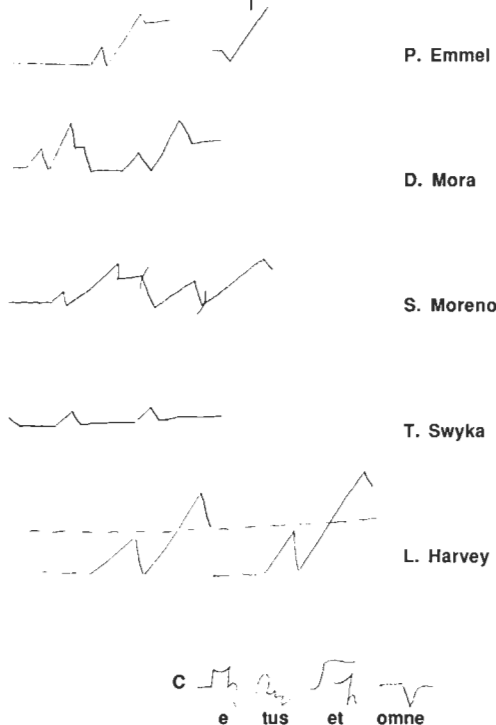
Activities in a Domain Project support a climate for learning much like that of the studio or workshop. The teacher plays an active role in adapting and structuring the activities to fit the particular needs of the students and in guiding students' musical development. The teacher provides instructional support as needed until students are capable of assuming increased responsibility for their own learning.

Through such generative activities as Domain Projects, as well as through structured opportunities for perception and reflection, a sense of participation on higher cognitive, effective, and social levels with a sense of working toward musical goals with the teacher as a partner and guide is encouraged in the student. In addition, a sense of self-determination and literate inde-

pendence rather than rote dependence on modeling or coaching may be fostered.

In this Domain Project, invented notation was introduced and explored, and later used as an analytical tool in studying other musical elements. As a richer combination of musical dimensions was introduced and combined, the graphs became more fleshed out, taking on the characteristics of a notational system. This manner of utilizing the Invented Notation Domain Project implies a strategy of this nature (in the previous example), where a key skill is introduced that is applicable to a variety of contexts or elements that don't exist in a particular developmental order (i.e., is not a threshold skill).

The same Domain Project as used in the Middle School takes on a somewhat different purpose. When the middle school students completed the Invented Notation Domain Project, a particular curricular goal had been achieved with some sense of closure.



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The students had a new tool. Through the Domain Project, they learned the standard notation system and developed sufficient skill with it that they were able to take dictation. This, however provides a different model for utilizing the Domain Project in which the Domain Project is repeated over a short period of time within one context.

In this case, the dimension was accuracy of contour limited to the same tunes repeated several times throughout the activity in order to measure the competence within a particular skill. Used in this way, the Domain Project provides a way of measuring the readiness to proceed across a threshold to the next level skill or concept. This way of using the Domain Project lends itself to supporting a broader, ongoing strategy of specifically ordered and linked developmental skills in which the continuing curriculum is interspersed with Domain Projects, each addressing a particular skill or concept.

That in effect is what has been developing in Pittsburgh. We now have several general music domain projects -- focusing on musical form, rhythm, composition, melodic composition -- with more in the works.

Middle School Portfolios

The potential of the Middle School as a Portfolio environment is gradually coming into sharper focus. Some teachers have been keeping 'folders' containing a variety of products: a sequence of questionnaires which focus on students' background, the social context of music class, and examples of their own work; teacher scoring sheets of Domain Project work; student reflections; revisions of work; assorted non-Domain Project work; journal entries; and interviews with classmates and teachers. The actual look and feel of the Middle School portfolio at present varies. Some are ensemble class

folders that closely resemble the Secondary School Model previously described, others are packages of the materials generated during a marketing period.

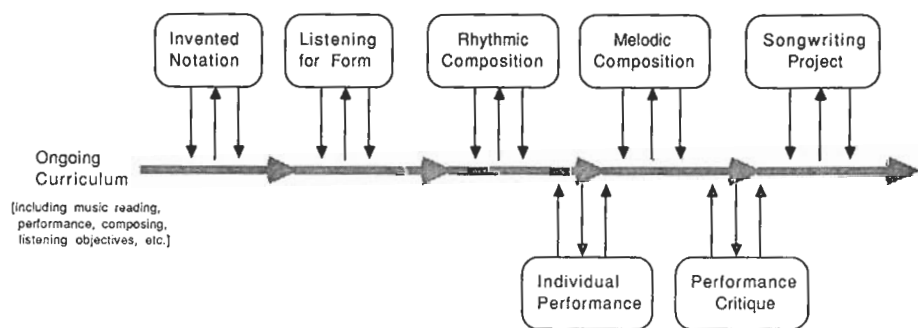
In addition to the general music class environment, we must not forget the Middle School instrumental class. Using the Ensemble Comparison/Critique formats described for the Secondary School, Middle School instrumentalists have also been documenting and reflecting upon their progress in ways that have often been rather surprising. For the middle school student, more structure is necessary than for the high school student. Following a schedule that uses reflection sessions three times during a grading period, the middle school teachers expect their students to respond to one specified dimension at first, gradually

increasing with experience to three (two specified, one open).

Although our teachers have observed that the younger student's reflections are often largely one-dimensional and quite broad, and subjective, one discovers that with more experience, increasing maturity, and supportive feedback from the teacher, students readily begin commenting on performance with surprising specificity and breadth of perspective. This kind of reflection dispels the image of the silent, passive, rote learner and, when coupled with the performance activities (as documented by the repeated tapings) provides a far clearer portrait of a young, developing musician.

The portfolio-rich environment stresses a balance of production, perception, and reflection. This commit-

Possible Sequence of Domain Projects for Middle School General Music



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ment to the generative nature of teaching and learning as well as the commitment to documentation and the expandable nature of Arts Propel activities make this project an exciting one for Pittsburgh middle school and high school teachers.

Establishing a Portfolio Culture in Music Education: Future directions for Arts Propel

by Larry Scripp, Harvard Project Zero and New England Conservatory of Music

What is the future for music portfolios in music education? We see a model of music education featuring portfolios beginning to take shape in Pittsburgh public schools. By now it should be clear that Domain Projects - the primary ingredient of portfolios - function neither to provide new curriculum, standardized measures of achievement, nor to prescribe ways of teaching music. Adapted by experienced musicians who teach, Domain Projects provide a wider range of evidence -- often previously invisible to the instructor -- of student Production, Perception and Reflection that goes on in -- and outside of -- the classroom or ensemble. Potentially, all this information -- along with the questionnaires, peer interviews, and journal entries described earlier -- is kept for later review in individual student portfolios.

In a portfolio culture, music educators can view a larger landscape of learning processes. Seeing how students invent notation systems, compose their first melodies, conduct peer interviews, and practice writing rehearsal critiques from rehearsal tapes affects the whole teaching agenda. Concerned more with the student's evolving view of what musical dimensions are and

how they could be represented, the general music teacher is less apt to force a shallow adaptation of the conventional symbol system. Making the process of learning to rehearse, critique, and interpret music as important as achieving a faultless final performance, ensemble directors may cover less repertoire but are rewarded with a great deal more musical understanding.

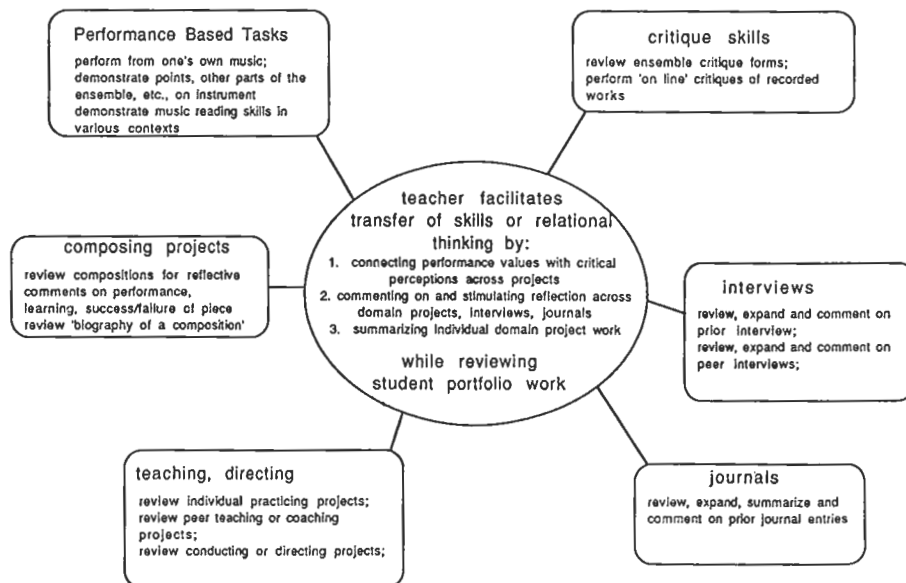
Another way of envisioning a portfolio culture in music education is to consider how portfolios can be used for individual assessment. For every element of documentation, there exists a potential for assessing one kind of work in relation to another. Our portfolio conference structure suggests an interplay of events possible when students participate in a portfolio rich class. Teachers, in this case, function less as arbiters of final examinations than as facilitators assuring that connections are made between various Domain Project work accomplished over time. Reviewing past projects, asking for reconsideration of past critiques, or ob-

serving students clarify and demonstrate their musical thinking is now possible given the availability of portfolio materials. Portfolio assessment can be an occasion for summarizing past work, identifying critical moments in the past, re-exploring a rich evolution of a single work, or preparing the student for future presentation of work.

Doing portfolios implies considerably more than copying forms or scoring and storing student responses in folders. This primarily involves heightened responsibility for assessment. In a portfolio culture students' work tends to be more individual and subjective, and the teacher's feedback must represent a similar response. Consequently, less time is spent on grading 'objective answer' tests [e.g. vocabulary quizzes, or the learning of a particular passage] and more time is spent responding to particular student critiques, reviewing journals, trying out practice plans.

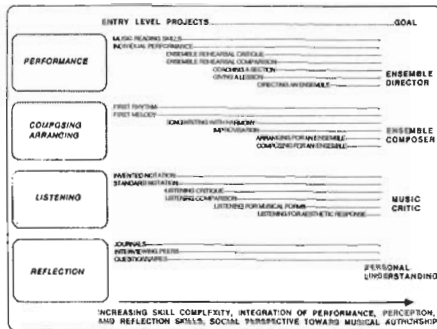
The potential for rich, diverse means of evaluation is the hallmark of the portfolio culture. This differs from

ARTS PROPEL MUSIC PORTFOLIO CONFERENCE STRUCTURE



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ARTS PROPEL MUSIC DOMAIN PROJECTS OVERVIEW



is that this conversation be reflective in nature as well as in function. Critiques and personal practice strategies are recorded, commented on, and put to use in class as a measure of reflective thinking applied to the rehearsal or general music task. Rather than settling for highly directed ensembles where students follow the conductor and adapt to this vision of how the music should go, students participate actively in the critical judgments [perception] and re-direction [revision] of the work at hand. Although many music classes do feature class discussion occasionally, a portfolio allows every student the opportunity to offer written [and private] evidence of growing critical thinking.

Second, a portfolio going beyond the one semester allows teachers and students to review a much larger landscape of musical development. Taken together, a rich set of Domain Projects can map an entire 'constellation' of activities that guide students toward the central skills and experience necessary to perform, perceive, and think musically. Directing an interpretation of literature inevitably reveals proficiency in performance, music reading, improvisation, conducting, and arranging skills, not to mention the critical perceptions and reflective thinking necessary simply to devise effective practice plans or cope with scheduling problems. As we see in the next figure, our set of domain

more traditional and expedient forms of music education in several ways. First, an ongoing conversation between student and mentor is documented in the class setting. In terms of performance, Propel teachers document the process of technical or interpretive growth through personal tapes, peer and self-assessment sessions, and teacher comments which students or teachers can later review. What is especially important

POSSIBLE MATERIALS FOR A FUTURE ARTS PROPEL MUSIC PORTFOLIO

Possible Examples of Individual Work Showing:

	Development	Process	Range of Work
Documenting Interest and Engagement Through Entry Level Tasks (grades K-8)	Portfolio of invented notations showing increasingly sophisticated grasp of musical features in well known and original melodies	Songwriting with computer : understanding music by creating multiple versions of melodies for an original poem	General music interviews: looking for music interests outside of the classroom; project notebook comparing musical forms across various styles of music
Documenting Work In Progress in Ensemble Studios (grades 6-12)	Individual Performance teacher and peer critiques showing increasing command of musical dimensions and interpretive skills	Ensemble Rehearsal Critiques: written critiques tracing growth of critical thinking applied to the ensemble rehearsal process	Tracing self reflection and self direction through journals and interviews
Presenting Work For Future Opportunities	Selecting best work or pivotal pieces profiling self selected critical moments in artistic development	Reveal commitment to to process behind arts through a rich biography of an original work or directed performance	Documenting range of achievement through diverse projects and increased responsibility in the ensemble

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projects map a possible trajectory into these areas.

Taken as a portfolio, these activities range from entry level tasks to projects which involve considerable responsibility and issues of authorship. Projects may begin with first lessons on an instrument and, after some time, span toward composing for or directing an ensemble rehearsal. Most important is that the process of developing musical skills is informed by continual review guided by personal reflection [e.g., journals], and peer interaction as well as appropriate comments by the teacher. As a whole, this constellation of projects formalizes what was going on collectively. Making these structures explicit, yet adaptable by most teachers, portfolios enfranchise students' role in the educational process.

Portfolios in the future

I would like to indulge in an Arts Propel fantasy. This is a fantasy about what a portfolio tradition in music education might look like in the future. We in Arts Propel are particularly fanciful about what materials might be included in an individual portfolio over time, what profile of learning a portfolio could highlight and what purposes these portfolios might serve.

This figure suggests three broad applications for music portfolio: entry

level tasks, extended work in progress, and presenting work for future opportunities. By entry level tasks we mean a range of activities central to music understanding that can be undertaken with no previous experience. Extended work refers to products of class, individual lesson, or ensemble participation. Presenting work for prospective advancement in music -- e.g., the transition from middle school to high school

ensemble, or applying for college as a music or non-music major -- is our third possible application. In the following examples gathered from various outposts of the Propel project we see evidence that suggests musical development, reflections on musical process, and range of musical interests in all three scenarios.

The fantasy begins with a high school band director

who is charged with recommending a fictitious student [Arthur L. Propp, 'alias Art Propel'] who has taken music through K-12 in public school systems. Reviewing Art's rather extensive portfolio tells a story that spans from the earliest general music classes to rather detailed accounts of his work in the high school chorus.

Age 5

Age 6

Age 7

L A L A L A Row Row Row Your boat gets Down the Stream. Moppy m m m life is but a dream

At the entry level, portfolio materials show a surprising range of activities. Before learning anything about music notation, Art, like many five to seven year olds, shows ingenuity inventing

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Student Copy
Teacher Copy
Permanent Record
(circle one)

Student's Name James Date 4/2/89 Homeroom

During this project: The student will compose three melodies. The first melody should display the student's grasp of the fundamentals of musical notation and tonality. The second melody should demonstrate the student's familiarity with the question/answer structure of musical phrases. The third melody will be a 16 measure elaboration of the student's previous experience in composition and represents the culmination of his/her classroom work. In addition to compositional techniques, students will perform their compositions on the bells.

Composition one Not completed

Composition two Not available to display

Composition three

Evaluation: Incomplete/Student eyes not part of this

The student

- has no prior musical experience
- has some prior musical experience
- is musically active outside of class

This student's melodies

- show good comprehension of musical concepts
- demonstrate partial understanding of musical concepts
- are weak in construction due to poor comprehension of musical concepts

notations over a three-year period. His music development over this time is impressive, as he invents increasingly sophisticated notations of well-known and invented songs.

His teacher at the time notes how Art is able to keep track of more complex interactions between musical dimensions although they accomplish it in different ways. His teacher, in no rush to teach standard notation, notes in a summary that he sings readily in class, works well with peers, and appears ready and eager for recorder lessons.

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Unfortunately, Art's first music classes in grades 3-5 were not a roaring success. Unhappy with having to sing in front of his peers, he writes in his journal how hard music has become. In his general music class in sixth grade, things are still a bit rocky. Not completing assignments contributes to a rather lackluster portfolio assessment in his first semester. Art, at this point, declares in his peer interview that 'composing was fun until he saw the grade he got for his first melody for the bells.'

Art's interest in music is revived when he begins middle school. He finds a friend to play drums with after school and invents notations for his drum pieces. In the seventh grade Art decides to sign up for general music class. Fortunately, his middle school teacher discovers -- through peer interviews conducted in the classroom -- that Art has real interest in writing music at home. This work now belongs in his portfolio. Through Art's 'portable-folio' of compositions with SongSmith, a computer supported songwriting project, his teacher discovers a

body of songs Art wrote for his original poems as well as his drum pieces. These songs were written for his friends and family during special occasions. Written reflections in his songwriting journal not only reveal Art's facility with music notation, but also his sensitivity toward the process of text setting [matching language and meter], creating expressive melodic contour [careful

shaping of melodic cadences], and the ability to revise his work to reflect new aesthetic goals [to make it sound more final, but not boring].

Buoyed by his songwriting, Art decides to take chorus in high school. In his journal entries during that period, he notes how engaging and fulfilling the rehearsals as well as concerts are. After writing many rehearsal critiques, recording his individual performance in quartets as well as documenting his own practice habits, Art decides that he

ance, his journal notes reflect his thinking about continuing to participate in choral groups at the college level as well as plans for a new composition.

Here the fantasy ends. Although this story is fabricated in its scope, its particulars are based on bits and pieces of what we have seen with Propel so far in Pittsburgh, Cambridge, and Boston public schools as well as at New England Conservatory -- where Portfolios now form an increasingly important role in assessment across solfege, theory, and composition

classes. This fantasy is based on the work of a few teachers who have shared in the development of Arts Propel domain projects and the feasibility of student portfolios in the ensemble and general music classroom. Although the portfolio represents a rich story of a single composite student, there is still the task of assessing the portfolio work itself. Who is best qualified to assess the work? Who will select which aspects of the work to be presented for evaluation or future opportunities? What guidelines

can teachers use to assess this range of work over time? How reliable will the interpretation be?

Changing the scope of the assessment

Before Janet Waanders talks more in particular about the development of assessment so far in Domain Projects, I would like to suggest that portfolio as-

Rhythm Template

Line 1
1 (-) (-) / - - / - - / (-) (-)
This dream is a re-a-ll-ty

Line 2
5 (-) (-) / - - / - - / (-) (-)
It's all on your a-bi-li-ty

Line 3
9 (-) (-) / - - / (*) (*) / - - / (*) (*)
With hard work and pa-tience and

Line 4
14 / - - / - - / (-) (-)
de-ter-mi-na-tion you

Line 5
14 / - - / - - / (-) (-)
will be what you want to be

would like to lead his own group. Studying carefully how the seniors led rehearsals and coaching sessions in his early years, Art wants to go one step further, i.e., compose and conduct a singing group. After taking some class piano -- where his sight-reading skills finally blossomed -- and getting some guidance from his teacher, he finally rehearses a madrigal he wrote during his senior year. After the final perform-

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assessment appears to unfold in ways that are surprisingly different, even for very experienced teachers.

Most telling to teachers is the effect of portfolios on individual evaluation. First, while portfolios can include some

always be linked with the subjective response of the director. In cases such as devising rehearsal strategies, students who offer plausible 'not correct' answers can be positively evaluated.

This is not to say that there are no objective measures in portfolio assessment. On the contrary, teachers report that it is easier to 'objectify' failure simply by taking into account the amount of work done for the individual portfolio. Since portfolios reflect varying amounts of class participation and individual effort, they can be easily split into three types -- the empty, relatively lean, and relatively rich. Since individual work in portfolios can-

not be crammed into a short amount of time nor be exactly like anyone else's, the empty portfolio constitutes failure. This criterion is very important for evaluating participation other than noting absences or not taking tests on time. However it is a failure to do the work, not necessarily indicating an inability to do the work. On the other hand, a portfolio, however lean, is extremely difficult to be evaluated as a failure -- if the tasks themselves require a high degree of engagement. Central to the notion of high engagement tasks is valuing task performance along multiple dimensions. The rich portfolio provides many ways of looking at the development that may be overlooked, forgotten, or invisible to the teacher, let alone the parent or student. Perhaps the most distinguishing feature of Arts Propel Domain Projects is the emphasis linking reflective thinking with production tasks. In the case of performance critique reflections or interviews we see multiple dimension assessment correcting for the 'false negative' risk of informal or single attribute evaluation. In the latter case, it is obvious that neither silent participation nor performance accuracy alone describes a very complete picture of musical development in an ensemble or general music class. More important, a negative assessment on either dimension may not capture the development that is going on in another. If, for example, a student writes in his journal reflections about how he is working on 'silently imagining the sound' before he can sing out in chorus, a very different assessment of his participation is in order. In an instrumental ensemble, class discussion may be dominated by the seniors, while written critiques reveal stunningly incisive remarks by some of the first-year members. In general music class, a boy, who writes very few melodies for recorder, reveals in an interview that he has written thirty pieces of music for his drums at home. Rich portfolios simply bring more dimensions of assessment into play. In these cases failure to give the opportunity to document reflection gives a false impression of individual development.

Finally, portfolio assessment requires a different level of interaction between teachers and students. In portfolio classes, teachers report they become more apt to respond to student work through comments than to issue grades. Students, more interested in the comments and advice of the instructor, feverishly await feedback on their portfolio work. Ideally, portfolio conferences between teachers and students

Reality & You # 7

Line 1
1 (-) (-) / - - / - - / (-) (-)
This dream is a re- al- i- ty

Line 2
5 (-) (-) / - - / - - / (-) (-)
It's all on your ab- i- li- ty

Line 3
9 (-) (-) / - - / (+) (+) / - - / (*) (*)
With hard work and pa- tience and de- ter- mi- na- tion you

Line 4
14 / - - / - - / (-) (-)
will be what you want to be

'objective answer tests,' the overall impression is that subjective responses and task performance along multiple dimensions are more valuable for tracking musical development. In Arts Propel, the teacher's interest is in a student's own formulation of musical concepts, individual interpretations, and original compositions. Rather than issuing a content based short answer or multiple choice vocabulary exam, we are more interested, for example, in individual perceptions and reflections on the rehearsing process -- however hypothetical and 'off target' these answers may sometimes seem. In this case the 'not correct' response may be of value to the teacher for tracking the development of musical thinking that will not

not be crammed into a short amount of time nor be exactly like anyone else's, the empty portfolio constitutes failure. This criterion is very important for evaluating participation other than noting absences or not taking tests on time. However it is a failure to do the work, not necessarily indicating an inability to do the work. On the other hand, a portfolio, however lean, is extremely difficult to be evaluated as a failure -- if the tasks themselves require a high degree of engagement.

Central to the notion of high engagement tasks is valuing task performance along multiple dimensions. The rich portfolio provides many ways of looking at the development that may be

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The Odyssey

We're at Tufts and N E C, For a five year double de-

gree, No time for fun and games you see, it's an ad-

Parallel 5ths

Conclusion

What is the future of portfolio culture in music education? Portfolios capturing student work in process, histories of individual works, collecting examples of reflection, production, perception through the lens of a diverse constellation of music Domain Projects, makes the learning going on in music classrooms much more visible to parents, teachers, admin-

provide additional opportunity for students to reveal what they have learned. Resisting pressures to quantify and report semester averages, teachers tend to be more holistic in their approach to portfolios and portfolio conference assessment. The rich, lean, and empty folios may easily translate to A, B, and F. More importantly, Arts Propel teachers see an opportunity for assessment that better reflects the complex signature of an individual profile of learning. The form below reflects a first attempt to capture the various attributes of development that occurs in ensemble and general music classes alike.

These dimensions reflect the learning that is discernible through Domain Projects or interviews that make up the music portfolio. Using the columns to record evidence begins to suggest an individual profile of development.

istrators, and students. Taking stock of the Arts Propel project in Pittsburgh, there is reason to believe that portfolio assessment is the best way to capture the range of learning that occurs in the context of general music classes and ensembles at all grade levels.

Through individual teachers' ability to collect portfolio materials we see that the emergence of a portfolio culture also has broader implications. Mindful, caring collection and evaluation of portfolio materials will more likely capture individual trajectories of musical development, make learning more participatory, easier for teachers to see nonparticipation and harder to ignore good work, and face the challenge of qualitatively assessing individual paths of learning.

Establishing a portfolio culture in the ensemble or general music class

represents a haunting yet exciting challenge to music education. Daunting because of the sheer effort and commitments that it takes to design, collect and work with portfolios; exciting because of the transformation that have occurred in the classroom and with individual students in Pittsburgh. One high school band director, for example, reports the tremendously positive effect of playing tapes of a beginning rehearsal to parents and administrators at a holiday concert -- before performing a fully rehearsed version of the piece. A middle school general music teacher -- who sends invented notations as well as compositions in standard notation back home to parents -- reports her deep commitment to her musical life by sharing her feelings about her instrumental practice through her journal entries and interviews with her teacher and peers:

"...the last piece I play at night, I choose a tune that uses the sustain pedal, and when I've finished it I hold the pedal down so that I can lock into the piano some of the music and some of the love I put into it, so it will always be there."

Envisioning the possibility of system- or schoolwide dissemination where portfolio records are shared by many teachers over many years -- shared with students, parents and other teachers across classrooms and across various disciplines -- suggests how a portfolio culture may infuse music education in the future.

DOMAIN PROJECT: INDIVIDUAL PERFORMANCE		TEACHER SCORING				
GRADE LEVEL	GRADE AND STRINGS VERSION	1	2	3	4	5
TEACHER						
STUDENT						
PERFORMANCE						
TECHNICAL						
MUSICALITY						
DYNAMICS						
HAND AND/OR FINGER CONTROL						
TONGUE/TONGUE CONTROL						

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Arts Propel and Assessment: Developing Models for Students, Teachers, and Audiences Outside the Classroom

by Janet Waanders, Educational Testing Services

The portfolio culture Larry has described as a fantasy, is fantasy only in that it combines disparate occasions and people into a unified culture. I'm talking more directly now about Propel assessment as it is being rethought and practiced in Pittsburgh.

Think again for a moment about more traditional assessment. The description that you have heard of elements of Arts Propel Music -- of Domain Projects, of portfolios with their supporting questionnaires and interview -- clearly have to do with instruction and learning. But we also understand each of them as an assessment tool.

Traditional formal assessment in music has often aimed at discriminating among the talented or at least very able students, and has been used for ranking or occasionally placing students. In addition, formal classroom assessments have normally sampled the knowledge of students in relation to highly discrete outcomes. Arts Propel is trying to describe through assessment the various kinds of learning, individual processes of learning and outcomes of learning by all students, not only the very able. We are trying to bring the assessment as close as possible to what students are doing and learning; we are trying to make the assessment itself have instructional value. We are trying to capture substantive information about the students, and *for* them, no matter how early their stage of development.

Propel acknowledges that the close link we are trying to forge between instruction and assessment is there al-

ready in the informal assessments that able teachers in the arts make as they are working with students. We know that these teachers are constantly evaluating their students' work and that their judgments are astute and valid. Those judgments, however, are often not articulated, even to the students, unless it is in the bits and pieces of a running commentary that may be difficult for the students to put together into a coherent whole. These judgments are usually not conveyed to anyone outside the classroom.

Linking assessment and instruction in the classroom

Assessment within the classroom is the first focus of Propel projects. As each Domain Project has been developed, the specific musical dimensions and cognitive dimensions that teachers count as important are assessed. The Individual Performance Domain Project may serve as illustration.

The dimensions of performance that are the focus of instruction and assessment include such areas as pitch, tempo, rhythm, tone control, hand and finger control, but also higher order dimensions such as phrasing, sense of structure, and balance. Through a process of repeated evaluations of these elements, students gain a sense of their own growth patterns, a better understanding of what these elements mean musically, and help in devising and understanding practice plans. Through a process of applying the scoring guides themselves, first with their peers and then with themselves, students gain, in relation to both basic and higher order musical phenomena, the listening and reflective skill needed to critique themselves and act on their critiques, more and more independently and internally. A production-focused

project makes note of challenges in the areas of perception and reflection and teases out evidence of change in these areas even though the formal scoring is of production.

Assessment forms and tapes generated in a Domain Project become part of a record that can be shared with parents, supervisors, and principals. Teachers involved in Arts Propel think about ways of communicating with these other audiences. The Portfolio is the vehicle that can contain the partial profile that each Domain Project provides and integrates it with other evidence of learning to create a fuller, long-term profile. The capstone of the portfolio process may be the students' presentation of his or her work: pointing out a satisfying or dissatisfying project, describing the process undergone in a project, pointing out a moment of insight or mastery that marks a turning point, an observation about change in attitude revealed by questionnaires; noting evidence of helping someone else to learn through peer critique -- in sum, reflection that reveals learning and understanding of that learning. Criteria for assessing portfolios and portfolio interviews will be as lean or plump as the class conditions allow the learning to be. They should include those musical elements central to the curriculum and those elements of active learning fostered by all Propel activities: level of awareness of and responsibility for one's own learning (transferring knowledge about one piece or performance to interpretation or practice plan for the next, for instance); level of engagement in music making and listening, as well as in the social role of member of an ensemble. Arts Propel promotes, in class assessment, classes where students help other students learn; where students have the ability to make sustained efforts, and to

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help define what effort will be of most value for assessment purposes. Portfolio assessment makes it possible to include a wider than usual range of issues for consideration than is usual in middle and high school assessment. During these important school years, students develop significantly in important interpersonal, and intrapersonal areas, as well as usual content areas.

Evaluating student work outside the classroom

What we call cross-classroom assessment is an effort to integrate and evaluate students across the district, to compile information for audiences outside the classroom. The chief value of cross-classroom assessment may actually be in the bringing together of teachers to discuss the dimensions of music they are trying to foster and determine how those dimensions might be named as the criteria for evaluating a Domain Project, to discuss also their expectations of students in relation to their sense of how development happens along these dimensions and how those expectations might become descriptors for score points on a scoring guide. On four occasions, Propel teachers have participated in scoring sessions where they attempted to come to consensus in their evaluations of student work in Domain Projects. With the help of scoring leaders who had selected samples of student work to serve as benchmarks in the training process, this process of building consensus led to actual scoring of a fair amount of student work.

These scoring sessions have so far been experimental, a chance to discover if teachers have the same understanding of the criteria and levels of accomplishment and can actually agree on scores when they are making those

judgments independently. We have taken this rather rigorous course in the hope of demonstrating that dependable information about student achievement and development can be obtained for a fuller complex of learning than is typically sought. Information about achievement of groups of students in relation to critical aspects of curriculum and in relation to development as it is understood through production, perception, and reflection will convey a fuller, more relevant documentation of music education to parents, supervisors, district administrators, school boards -- audiences who currently may learn only the short story that can be told in winter and spring concerts.

That story will be still more profound when we have a means of doing cross-classroom assessment of portfolios. Perhaps a supervisor and teacher might review a sample of portfolios together; perhaps a group of teachers might evaluate a sample of portfolios together. In any case portfolios with their evaluations could serve as full descriptions of the serious and joyful business of learning in music. And finally, seriousness and joyfulness should characterize the Arts Propel approach:

- It should capture evidence of the learning of all students;
- It should capture the full complex of learning (production, perception, and reflection);
- The approach should capture the variety of ways learning is revealed by the individual path each learner follows (in process and products; at sudden moments and over long periods of time);
- It should challenge students in developing a sense of themselves as developing musicians.

Editor's Desk

The Measurement and Evaluation SRIG is alive and well, having survived the move from Colorado to Boston. We will have one, possibly two, newsletters this year. Judy Dawson of the Illinois Department of Education is authoring a newsletter on the Illinois evaluation plan and we have an accumulation of other items pertinent to the profession. Plans are underway for the New Orleans meeting. I have suggested that we may wish to take advantage of the authors who have written articles in the evaluation section of the forthcoming Handbook of Research in Music Teaching and Learning. David Boyle was section editor and not only do we have Boyle's latest thinking on evaluation, but also the ideas of Paul Lehman on program evaluation, Rob Cutietta on evaluating in the affective domain, Don Taebel on teacher evaluation, Peter Webster on evaluating creative activities, and a few words on qualitative evaluation in music education. Send your reports and thoughts on evaluation activities to us at Boston University. We'll see to it that they are disseminated and that if contacts are needed, we'll arrange for any match ups.

Richard Colwell

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*Address Correction
Requested*



Attention: Richard J. Colwell & Robert Ambrose, Editors