ARTS PROPEL:

A HANDBOOK FOR VISUAL ARTS

Acknowledgments

The Pittsburgh Public Schools

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CHAPTER 1

INTRODUCTION

Arts PROPEL is an approach to education that has evolved in the visual arts, music, and imaginative writing at the middle and high school levels. The project grew out of a commitment to develop non-traditional models of assessment appropriate for students engaged in artistic processes. Its larger goal is to find means to enhance and document student learning in the arts and humanities. Supported by the Arts and Humanities Division of the Rockefeller Foundation, PROPEL was developed and field-tested during a five-year period from 1986-1991 by researchers at Harvard Project Zero and Educational Testing Service working in close collaboration with teachers and administrators in the Pittsburgh Public School system.

Our work was guided and informed by a wide range of existing research in the areas of education, developmental psychology, cognitive science, and educational measurement. Combining this background with insights derived from classroom experience, researchers and teachers worked together to develop effective teaching and assessment strategies, as well as strategies for determining assessment criteria that would effectively profile student learning while at the same time help to inform instruction.

The emphasis on assessment reflects the fact that Arts PROPEL has emerged during a decade when the educational system at large has been pressured to improve and when accountability has become a high priority. It has also been a decade when the art education field, spurred on by the dissemination of a discipline-based approach to art education, has been challenged to redefine and clarify its own goals and priorities.

Despite differences in orientation among art educators about such issues, there is a shared desire that art be given a secure position in public education — that it should become an essential component of education. The arts, it is held, are a way of understanding the world. As such, they can be as rigorous and challenging as the sciences, and should have as important a role in education.

What, then, is the role of assessment in this process of advocacy and re-evaluation? Some art educators, caught up in the push for accountability in education, claim that formal assessment and resulting hard data are the key to security for arts in the schools. Others denounce assessment as antithetical and dangerous to creativity in the arts.

In contrast to both positions, Arts PROPEL is grounded in the belief that artistic learning can be assessed in ways that support creativity and at the same time provide information useful to both teacher and student. Toward these ends, we have focused our attention on classroom level assessment and have created assessment measures which yield a picture of student growth over time. This form of assessment is based not on testing but rather on profiling ongoing performance and growth across diverse dimensions of learning.

The PROPEL initiative is part of a general trend toward exploratory research in nonstandardized approaches to assessment. This trend has emerged to complement the

renewed emphasis on accountability noted above. Other examples include portfolio assessment initiatives in California and Vermont. In this context, we believe that, rather than submitting themselves to inappropriate "academic" assessment methods, the arts can assume a leadership role in developing models of assessment that can capture "authentic" learning across domains.

But assessment is only part of the overall picture: To ask what should be assessed is also to ask what should be taught. Hence, developing assessment measures challenges us to clarify what we believe should be our educational content, methodology, and goals. Similarly, in taking on the task of developing a model by which to assess student learning in the visual arts, we have had the opportunity to formulate and apply certain general values and beliefs about education. These will become evident throughout this handbook as we present the goals and rationales for PROPEL accompanied by examples of how teachers have used this approach. We hope, in presenting this model, to inspire and help educators define, clarify, and make public their criteria for assessment.

This handbook is one of four produced by the Arts PROPEL project. In addition to three domain specific handbooks, one each for visual arts, music and imaginative writing, there is a companion general introductory handbook which presents a more comprehensive overview of the Arts PROPEL philosophy.

A HISTORY OF ARTS PROPEL IN THE VISUAL ARTS

Arts PROPEL began with a series of dialogues among researchers, teachers, and administrators across arts disciplines to establish common goals, strategies, and vocabulary. Such cross-disciplinary dialogues have continued throughout the project, serving to coordinate efforts and, in some cases, to expose principles and practices common across domains. At the same time, researchers and educators within each domain have worked closely together to develop and test PROPEL theory and practices.

To a large extent, these theories and practices are not new. Rather, they are an attempt to articulate, systematize, and build upon practices already used in excellent classrooms so that they can be made available to all educators who wish to use them.

The project began with the assumption that effective art teachers make intuitively good judgments about their students. Researchers believed that working with art teachers — giving them the opportunity to discuss and explore assessment with their colleagues and their students — would help bring inherent standards within art education to light.

The effort to expose successful teaching practices and articulate inherent standards in the visual arts began the first year as researchers from Project Zero and ETS met with a core group of four Pittsburgh art teachers and two art supervisors. By year four we were working with four art supervisors and a core group of twelve art teachers chosen from diverse middle and high school settings across Pittsburgh. During the second half of the project, Pittsburgh received a companion grant from The Rockefeller Foundation to disseminate Arts PROPEL district-wide to middle and high school art teachers. Researchers at Project Zero also began working with teachers chosen from a range of schools in the greater Boston area. Working together, researchers and teachers developed the approach to art education described here.

A VIEW OF INSTRUCTION

All educational initiatives are based on implicit beliefs about how students learn. PROPEL is based on the following:

1. STUDENTS ARE ACTIVE LEARNERS

Knowledge, we believe, is not simply transferred from the mouths of teachers to the minds of students. Rather, students take in information, including but not limited to that dispensed by teachers, integrate that information with their previous experiences and knowledge, and construct new understandings of the world.

Such a view of learning has implications for teaching: First, students need to be provided with opportunities to be active learners. To this end, teachers are challenged to engage their students in an exploration of issues, techniques and concepts central to the discipline being studied. Moreover, neither the acquisition of skills and techniques nor the completion of a final work are ends in themselves. Instead, they are part of an ongoing process of experimentation, discovery, and learning.

Students, as active learners, are engaged in a process of research and revision leading to new understandings of themselves, their world, and art itself. Bev Bates, a core teacher from CAPA, Pittsburgh's magnet arts high school, describes this approach to art education in the following terms:

> *I asked my students what we could do differently to improve the*
> *process and found that they like discovering things on their own.*
> *They make more mistakes but once they figure it out, the information*
> *is theirs. We can't forget that the end product doesn't show all the*
> *growth that occurred on the way.*

2. MAKING ART IS NOT ONLY FOR THE GIFTED FEW

PROPEL is committed to making artistic activity accessible in a meaningful way to all students, not only those with advanced technical skill or fine rendering abilities. Thus, in a PROPEL classroom, even those students who might see themselves as "not good at art" can discover new potentials, and draw upon a range of capacities. For example, where skill is not the only concern, teacher and students together can recognize and encourage diverse kinds of art students: the experimenter, the risk taker, the student with imaginative ideas, the one with an intuitive sense of which medium will best express an idea, the student who can pursue a problem, who can revise, and rework.

In addition, PROPEL can engage students who are stronger in perceptual and verbal skills than in studio skills —students who can identify and articulate similarities and differences among works, and strengths and weaknesses in their own and others' work. Beginning with such skills, PROPEL can help these students become involved in meaningful studio work.

3. THE ART STUDENT SHOULD ASSUME THREE ROLES: PRODUCER, PERCEIVER, AND REFLECTOR

In the PROPEL classroom, arts education involves at least three activities: production, perception, and reflection. These activities are developed and interwoven in the course experience; separating them becomes very difficult. In fact, the name PROPEL is an acronym in which these three roles are embedded: PRO for production, which includes an R for reflection; PE for perception; and L for the learning that results. This integrated approach will come to life through classroom examples throughout this handbook.

4. MAKING ART IS THE CENTRAL ACTIVITY IN PROPEL

While acknowledging the educational significance of perceptual and reflective activities, we believe that production should remain the central activity in the art room. Perception and reflection are, thus, conceived as complements to an active involvement with the materials and processes of art. We also believe, however, that active involvement in art making can inform and enrich perceptual and reflective activities.

5. ASSESSMENT IS AN INTEGRAL PART OF LEARNING

Often assessment in the visual arts is based only on the student's final products. In contrast, we view assessment as an integral part of learning in which students and teachers together evaluate ongoing processes and decisions as well as the final product. Moreover, we believe that student work should be assessed on a wide range of dimensions, resulting in a complex profile of student achievement rather than a single score or grade.

THE RELATION BETWEEN PRODUCTION, PERCEPTION, AND REFLECTION IN PROPEL

PRODUCTION

Rehearsing, performing, improvising, composing, designing, or otherwise constructing works of art

PERCEPTION

Noticing connections and making discriminations within and among works of art

REFLECTION

Thinking about the process of making or responding to works of art, either in process or retrospectively
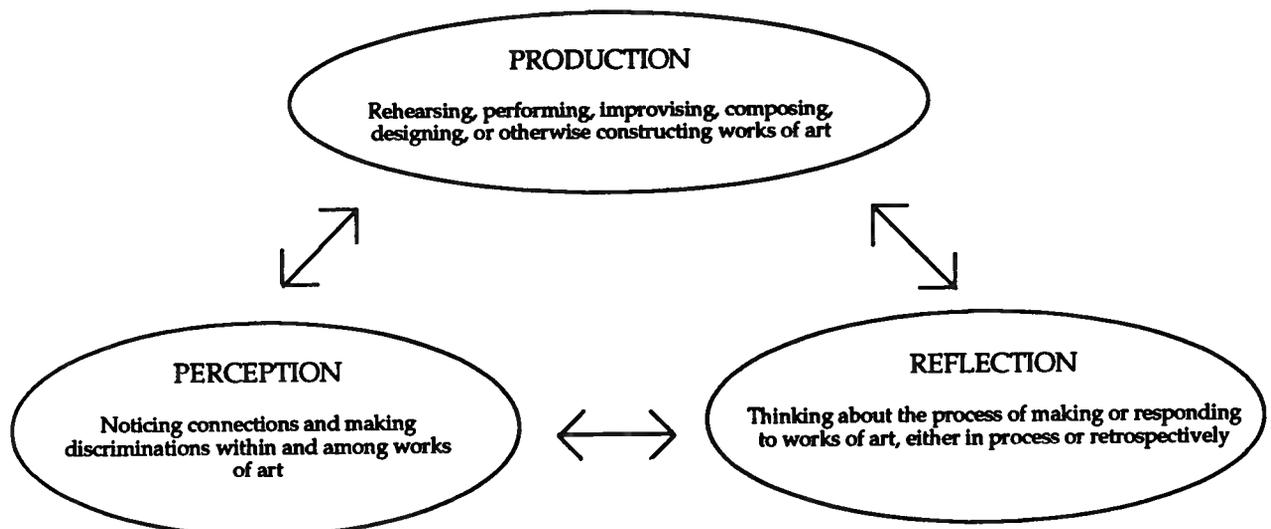
PRODUCTION, the making of art, is the central component of PROPEL. Production activities engage students in an exploration of an issue, concept, or medium central to the domain of art. Reflection and perception grow out of and feed back into the activity of making.

PERCEPTION refers to those processes by which students come to see and understand the world around them and to look closely at works of art—their own and their peers' as well as the work of artists from diverse cultures and eras. In creating art, PROPEL students are encouraged to draw on their own knowledge and life experiences; they are stimulated to use all of their senses; and are guided to investigate art work and other resources relevant to their interests and goals.

REFLECTION is about thinking, in this case, as it is applied to the discipline of art. Development of reflective attitudes and capacities means that students in PROPEL classrooms are encouraged to think, talk, and write about art work and their own art-making process.

Teachers initially model and encourage this way of thinking and foster communication and an exchange of ideas among their students. Then, through dialogue and personal reflection, students develop an awareness and understanding of themselves as artists and individuals that helps them grow artistically.

Nonverbal reflection, of course, also occurs and is evident in drafts, studies, and steps leading up to the final product. Finally, class discussions and critiques, entries in student journals, and guided questions integrated throughout the studio process help cultivate in students the reflective skills that form the foundation of self-assessment.

Selection from Meg Lesniak's Ceramics 1 Portfolio,

Teacher: Norman Brown, Schenley High School

PROPEL production, perception, and reflection interact to allow increasing student independence, even in introductory classes. Here students like Meg Lesniak began with highly structured assignments designed to teach basic techniques. However, with each proceeding assignment, students were allowed increasing autonomy and choice until, by the end of the term, they were developing their own projects based on the experiences and ideas gained from earlier efforts.

Name plate slab, a class assignment to introduce students to clay consistency and slab work.

Pinch pot with ornamentation designed by the student based on studies of pottery from Native American and other cultures. Students also did research into designs from their own ethnic heritage for some of their pots.

Snake handled pot, a final project developed by the student based on previous experiments as well as student-teacher conferences.

A VIEW OF ASSESSMENT

Arts PROPEL, as suggested earlier, is part of a growing effort among researchers and educators across disciplines to develop new forms of performance-based assessment systems that provide more multidimensional diagnostic information than that yielded by standardized tests. Emerging at both the state and classroom level, these new assessments are interwoven with and inform curriculum, in contrast to standardized tests which occur after and often outside the learning experience.

Similarly, the primary function of PROPEL assessment has been to enhance the quality of student learning at the classroom level. It is intended to help students understand educational objectives and their own personal goals and to help them monitor progress toward meeting these goals. It is further intended to help teachers track student learning and examine their own teaching practices. To insure the fulfillment of these assessment goals, PROPEL classrooms may include the following: forums for feedback and dialogue with students; the possibility for students to return to previous work for revision and/or for inspiration; student self-assessment coupled with open discussions among teacher and students to develop shared standards for evaluating work. In addition, there should be opportunities for teachers to work together to discuss the implications of assessments for changes and refinements in the curriculum.

Good assessment is, therefore, held to be always a part of learning, and involves both teacher and student. As compared to measurement, assessment is inevitably involved with questions of what is of value, rather than simple correctness. Questions of value require entry and discussion. In this light, assessment is not a matter for outside experts to design; rather, it is an episode in which students and teachers must learn, through reflection and debate, about the standards of good work and the rules of evidence (Wolf, Bixby, Glenn, & Gardner, 1991).

With these assumptions in place, artistic learning can be assessed in ways that are faithful to the arts, and that respect the creative and personal nature of the arts. Such assessment assumes that students, as well as their teachers, are capable of making informed judgments about learning. Guided by these principles, the assessment process can *itself* become an occasion for learning.

ASSESSMENT AND CURRICULUM FUSED

As indicated above, assessment in PROPEL is treated as a part of, rather than as separate from, instruction. Thus, PROPEL assessment is formative and ongoing as well as summative. Its goals include helping students gradually develop the skills of self-assessment and enabling them, at the same time, to build standards of judgment they can draw on for their own evolving work.

In addition, because PROPEL assessment must be determined by teachers in response to their own specific educational goals, PROPEL provides no fixed system that can be inserted into every classroom. Rather, it is an approach that typically requires gradual implementation once principles are understood and practices are appropriately adapted. We have found, moreover, that effective instruction-based assessment develops most successfully where certain curricular structures and aspects of classroom climate are

in place. Among other things, PROPEL encourages and is best supported by a sequential, process-oriented curriculum, and by an interactive classroom atmosphere.

Arts PROPEL has developed two vehicles — domain projects and PROPEL portfolios — that enable the development of these necessary conditions.

DOMAIN PROJECTS

"Domain Project" is the term used in PROPEL to describe curricular units that share certain attributes (described below) and whose structure supports an integration of assessment with instruction.

* *Domain projects are long-term, open-ended projects built to address central issues and concepts. Domain projects further aim to deepen students' understanding of the world through the domain of art.*

* *Domain projects integrate production (making) with perception (learning to "read" art works and observe the world closely) and reflection (thinking about one's work and the work of others). Although all elements must be somehow included and integrated in a domain project, any one of these activities may serve as the entry point into the project; the order of events is ultimately determined by the nature and the goals of the particular project.*

* *Domain projects emphasize process as well as product.*

* *Domain projects provide opportunities for self- and peer-assessment as well as teacher-student assessment.*

A more complete discussion of domain projects is presented in Chapters 5 and 6.

PROPEL PORTFOLIOS

Students in an Arts PROPEL classroom keep all of their work in what we call a PROPEL portfolio. Unlike traditional artist portfolios which are highly selective collections of finished pieces, PROPEL portfolios include drafts, studies, and sketchbooks, and therefore capture a record of the learning process. Finished works are, of course, also included. In addition to the works themselves, PROPEL portfolios include any record students have made of the resources that have influenced their work (e.g., images torn from magazines, images recalled from dreams, reproductions from a museum, etc.).

The PROPEL portfolio also incorporates evidence of the reflection that occurs throughout the studio process. Besides the nonverbal reflection evident in the evolving work itself, finished works may be accompanied by written reflections about the project. PROPEL portfolios may also include journals in which the student makes notes about discoveries and techniques. Reflection may also take the form of answers to portfolio review questions suggested by the teacher to guide students' self assessment.

In the visual arts, by necessity, the portfolio is often a concept rather than an object since a portfolio may not physically hold the work produced. However, teachers have

frequently contrived practical schemes of storing or at least documenting their students' work to make it available for assessment and future reference.

The PROPEL portfolio is, moreover, not merely used for final evaluation. Rather, it is meant to be integrated into the instruction process, as a resource. For example, during an informal "portfolio review" session, teachers and students can look back at works, both finished and unfinished, for ideas and inspiration, for indications of the students' interests or of problems that need addressing. The portfolio, therefore, brings together a student's work in a context designed to allow both student and teacher to document the evolution of new understandings. It also provides a cohesive way to evaluate students' growth over time.

In assessing work in the portfolio together, students and teachers can create a profile of student performance, a multidimensional assessment of learning. The dimensions that guide this assessment are ones central to the domain of the visual arts, and are typically determined by reference to the goals of the specific project. In this way, assessment becomes an integral part of instruction, meaning that students and teachers will go on to use the assessment to inform and advance future work.

A more detailed discussion of the purpose, structure and assessment of portfolios can be found in Chapter 7, along with examples from student portfolios.

CREATING A PORTFOLIO CULTURE IN THE CLASSROOM

Keeping a PROPEL portfolio for ongoing reference and formative assessment changes the atmosphere in the classroom. A "portfolio culture" develops, in which portfolios become the focus of classroom interaction: students use their portfolios as a resource, and teachers and students together regularly review the portfolio and discuss what the student is learning.

The concept of a portfolio culture goes beyond simply keeping a portfolio. It suggests other qualitative changes in both teaching and learning. For example, in developing a portfolio culture in the classroom, the teacher may begin to listen more carefully to what students say about their work: what they value, what they are trying to do, what resources they are using, and how they judge their own work. The teacher may also begin to work with students to develop a shared set of values, concepts, and vocabulary thereby enabling both teachers and students to assess student learning from a common perspective.

Pittsburgh's Schenley High School core teacher Norman Brown, reflecting on the effect of portfolio work in his classroom, captures this sense of an evolving "portfolio culture:"

> *I used folders for years as a housekeeping device. I used them at grading time. I looked at what was missing. With PROPEL I started to look at folders for possibilities that were untapped. I try to make students rely on their portfolios. They could pull things out to make comparisons...or for suggestions or ideas...or as a way to start a dialogue about their work...If I give students more opportunity to think out loud, then...they can begin to speak about each other's work with*

*more meaning...There's a way we can begin to entice students into
becoming part of this PROPEL process; if you let their answers shape
your next question you can share in more information.*

GUIDELINES FOR USING THIS HANDBOOK

This handbook is for teachers and administrators who are considering adopting PROPEL in their classrooms or school systems. The framework presented here is intended to be used flexibly and to be adapted by individual teachers to fit their own needs. Readers will not find in this a "how to" manual. Instead we have tried to present a view of the kinds of learning that can occur in the arts, a vision of how the arts might be taught to best support that learning, and some insights into how that learning might be documented and assessed.

PROPEL principles and practices will be explained
and illustrated in the pages to come.

Chapter 2 discusses ways in which production, perception, and reflection activities are interwoven in the PROPEL classroom.

Chapter 3 presents the PROPEL approach to assessment in the visual arts.

Chapter 4 describes how journals are used in some classrooms to support the three activities of Propel.

Chapters 5 and 6 describe domain projects and domain project assessment.

Chapter 7 focuses on PROPEL portfolios; here, we present samples of work taken from student portfolios and show how these works were assessed using PROPEL assessment models.

Finally, in Chapter 8, we discuss issues and strategies to consider in implementing PROPEL in the classroom and throughout a district.

CHAPTER 2

THE ACTIVITIES OF PRODUCTION, PERCEPTION, AND REFLECTION

In this chapter we examine essential aspects of production, perception, and reflection. As conceptualized by PROPEL, these represent three different stances or approaches that students take as student-artists. These stances also represent points of entry into domain projects and into the study of art itself.

PROPEL teachers may choose to begin domain projects with production activities, e.g., engaging students in exploring and experimenting with materials. The teacher may then introduce relevant perceptual and reflective activities as complements to the work underway. For perception, the class may look at examples of how artists from a particular culture and era have used similar materials. Reflection activities may involve students in peer discussions where they are encouraged to share their methods and discoveries.

It is equally possible to begin with a perceptual task. Students may, for instance, study landscapes by artists before making their own. Or they may look closely at aspects of the world around them that will eventually provide subject matter for their own work. Finally, domain projects may begin with a reflective activity. Students may consider their feelings and thoughts about a particular event or topic, and then use this reflection as the inspiration for production, or as a framework for looking at art by others.

Speaking developmentally, however, the initial point of entry into art is normally the act of making. The toddler's natural inclination toward mark-making (on any available surface) and molding (of any available substance) is the foundation for the most mature and sophisticated art-making. Moreover, when older children have lost their initial unselfconscious freedom in art, they can often be drawn back into art-making through exploration of materials. But they may be equally stimulated by perception and reflection activities that inspire them to express thoughts, feelings, and experiences visually. No matter the entry point, each domain project is developed to help students find their own ways to become more deeply and personally involved in making art.

PRODUCTION

The heart of PROPEL domain projects and portfolios is production — the active involvement with the materials, elements, and principles of art. Perception and reflection, while valuable in and of themselves, are most meaningful and engaging when these activities are derived from, and feed back into, the act of production.

Underlying this emphasis is the belief that individuals of all ages — but especially children — learn most from doing, particularly if that "doing" is challenging, inventive, and personally significant. Such "doing," in our view, not only develops manual and practical skills, but also engages the intellect and the emotions.

CONDITIONS OF PRODUCTION

If production in the arts is to fulfill the potential suggested above, certain conditions must be met. First, opportunities must be available for personal investment — whether in the communication of an idea, the expression of an emotion, or the inventive use of media. Second, students should be given the opportunity to explore a concept or idea from diverse perspectives over an extended period of time. Third, artistic production should involve a process of development from beginning to end, with each step in this development left somewhat open-ended to allow for ongoing choice and self-assessment.

But, just as the principle of development does not, of necessity, mean a lock-step sequence of activities resulting in similar finished products, open-endedness does not imply that studio assignments need be free-form or wholly student-generated. Curricular units that fit the domain project model are quite frequently highly structured, technically demanding, and rigorous in terms of expectations and standards. They may be designed to help students develop foundation level skills or advanced level concepts. Even so, they should be constructed so as to allow for a broad range of student responses. For only in this can they stimulate thoughtful reflection and invite the degree of personal investment that insures real learning.

PROCESS AND PRODUCT

Even in the most "skill-oriented" domain project, there must be a certain amount of emphasis on "process" in addition to "product." That is, students must be concerned with the means of making art, and not only the final product; and they must learn to value these means for their own sake — as opportunities to learn, to reflect, to grow. There must be room throughout the domain project for students to investigate new techniques or expressive approaches, to take chances with materials or imagery, to change their minds.

An over-emphasis on process, however, is as short-sighted as a relentless concern for a pleasing final product. Artists are concerned with completing their work, since their aim is to realize their expressive purpose to the best of their abilities. By the same token, teachers are quite naturally concerned that students develop the ability to persevere, to put out the effort needed to satisfy the assignment and meet their own artistic goals. Moreover, much can be learned by pushing a work of art to completion. Completing a work requires, among other things, learning how to recognize and tie up the loose ends of a composition so that the work reads as a whole, and no part looks underdeveloped or incomplete. On the other hand, the effort to bring a work to completion may sometimes result in over-working. Here the effort helps students develop the important sense of knowing when to quit. Thus, in PROPEL, students learn to value the final work as well as the process by which that work is created, in so far as both foster the growth of skill and knowledge in the arts.

ASSESSING PRODUCTION

By placing emphasis on a student's individual process of development — from engaging in risky experiments to learning to recognize and tie up loose ends of a composition — the production process calls for diverse assessment criteria. To allow for

failed experiments or unfinished work, and to encourage students to create objects and images that have personal meaning and significance, has implications for assessment. It implies, among other things, a willingness to assess the learning that has taken place using a range of dimensions rather than focusing only on the technical or formal success of the final piece.

In sum, production activities in PROPEL are designed to expand the focus from the object made toward the activity of making. The objects and images produced reflect and reinforce the student's own experiences, beliefs, skills, and understanding. Yet, in and of itself, production is incomplete as an educational experience. For this, art-making must be informed by perception and monitored by reflection. We elaborate on the roles of perception and reflection in the sections that follow.

PERCEPTION

Perception, broadly conceived, is fundamental to all aspects of art. PROPEL perception activities may include the following:

> * *looking closely at art from diverse cultures and traditions, both past and present*
> * *looking closely at works by oneself and one's peers*
> * *looking closely at the natural and human environment*
> * *looking closely at the physical properties of art materials*

We briefly examine each of these dimensions below, considering them as points of entry into the experience of art as well as complements to the processes of production and reflection.

1. LOOKING AT ART

To be an "informed" observer involves learning as well as looking. Informed observation of works of art provides students with knowledge about uses of artistic elements, principles, symbol systems, and materials. It can also provide students with an understanding of different roles artists have played in different time periods and cultures. And, conversely, objects and images produced by artists take on much more meaning when looked at with some knowledge of the function and value they held (or hold) when and where they were created.

Art objects used in the perceptual component of PROPEL domain projects, and those selected by students to guide or inspire their works, are in no way limited or predetermined. They may include fine arts — noted paintings, sculptures, prints, and drawings — as well as folk art, traditional arts, and objects of popular culture. They may further include graphic arts — posters, advertisements, commercial photographs; and design — architecture, industrial design, typography, and so on. Objects and images are chosen for use in domain projects primarily according to how well they meet the educational needs of the project.

In making their choices, teachers must ask themselves what purpose the art is to

serve, what qualities it is intended to exemplify, and what can be learned from this work. Students working on their own projects may select art works on a similar basis.

Thus, while PROPEL teachers value art appreciation, art history, art criticism, or aesthetic activities, they tend not to pursue these activities as separate disciplines, favoring, instead, their use as supports and complements to art-making. Moreover, it is our belief that through active involvement in art-making, students will, in fact, become more attuned to looking at art.

It is, of course, necessary that they be guided in this process, at least in the beginning. As teachers discuss objects and images with their students, and provide information about the cultural and personal context in which they were made, students become increasingly capable of asking significant questions and making their own observations, discriminations, and evaluative judgments. These may apply to the work of mature artists, to the work of their peers, and finally to the student's own work. Perception and reflection naturally merge in these activities.

2. LOOKING AT ART BY SELF AND PEERS

Perceptual and reflective abilities applied to discussions of student art may be fostered and encouraged by informal class discussions; peer, group, or individual critiques; reflection questions; or teacher-student portfolio reviews. These may address such topics as the technical qualities of the image, its symbolic, depictive, or expressive content, its use of elements, principles, or materials, its composition, etc.

Observations about such topics often precede more reflective comments which might address the relative success of the project, i.e., the degree to which it achieved the goals of the assignment or met the student's own intentions. Reflective comments may also include students' feelings about their working procedure, their materials, or the assignment, itself.

Such reflections may still be slow in coming and we should not underestimate the difficulty inherent in bringing out personal comments even in the most supportive environment. To initiate discussion on this level, students may, for example, be allowed to begin with positive or negative value judgments and then be encouraged to articulate the specific perceptions which led them to their feelings of success or failure. The attributes of reflective thinking, so central to the development of a student's self-assessment skills, will be discussed in more detail in the final section of this chapter.

3. LOOKING AT THE ENVIRONMENT

For some students, perception is the way into production. The study of images may be the initial stimulus for their own creative explorations. For others, the stimulus might be observation of nature or the human-made environment. David Kirk, a student in Norman Brown's International Baccalaureate art class at Pittsburgh's Schenley High School, provides such an example. David initially had trouble finding a personally compelling project. However, he was interested in athletics and began to collect magazine photographs of athletes in action for his journal/sketchbook. He also wrote compelling

captions for these photographs, demonstrating both his visual sensitivity and his way with words. Next to one image he wrote:

> *Water makes for genuinely amazing visual effects. Here, there is no*
> *exception. As the swimmer comes up for oxygen, a wall of water*
> *carries itself up the front of her. The result is a crystalline-looking*
> *almost glassy effect. It is truly a "breathtaking" snapshot.*

Another image, of a diver, evoked a poetic response:

> *The rigidity of the toes. The swoop of the legs. The arch of the back.*
> *The firm arms and tucked head. The grace of the diving swimmer.*
> *Her ease, her movements.*

Near the end of the term, David did choose a project — not surprisingly, a series of photographs showing athletes in motion. While the project required a crash course in the use of a camera along with dark room procedures, David was nonetheless well prepared and inspired by his thoughtful study of photographs and his practical experience on the athletic field. Moreover, the "perceptions" which inspired and informed David's final studio project went beyond the visual to incorporate the tactile and kinesthetic. In fact, PROPEL teachers often encourage students to develop and employ awareness through all of their senses since, ultimately, visual art is grounded in all aspects of experience.

4. LOOKING AT ART MATERIALS

Perceptual abilities are useful not only for looking at subject matter and making aesthetic choices. They are also essential for selecting and working with materials. Artists must be sufficiently sensitive to the qualities and uses of different media to allow them to choose those most appropriate to the project at hand.

As they work in art, student artists, like their professional counterparts, learn to monitor the state or conditions of material in order to use it most effectively. Working with clay, for instance, one must be able to sense when the clay is plastic, leather hard, or bone dry. One must also know what is best done with the material in that particular state, and what must not be done. Such sensitivities and understanding grow naturally and mature gradually as a student has opportunities to explore a particular medium under diverse conditions. PROPEL teachers who have access to a range of media, therefore, often encourage students to become increasingly aware of materials and their uses through trial and error experiments as well as more focussed domain projects. Perceptions thus derive from and feed back into production. They also invite reflection, as when students begin to think about their own expressive intentions and consider which materials would best contribute to the achievement of their goals.

REFLECTION

In PROPEL, reflection refers to the diverse ways that students look at, think about, and write about art work, their own art-making process, and themselves in relation to that process. To insure the development of those reflective skills which complement production

and perception, students in a PROPEL classroom are continually encouraged to engage in a thoughtful process that helps them to express and communicate their ideas and feelings with art materials.

It may be assumed that students engaged in stimulating art projects are naturally reflecting as they work: making discoveries and choices; acting on their decisions; feeling good or not good about their work. One of the goals of PROPEL is to make this covert process of reflection more accessible, to get students reflecting in such a manner that they better understand their own actions and reactions, their own intentions and options. Students record and share ideas, discoveries, and new understandings, and these shared records become resources for future work.

Recognizing the importance of reflection, and the difficulties inherent in bringing such subtle mental processes to light, visual arts teachers in Pittsburgh have worked with one another and with their students to develop ways of modelling, encouraging, and capturing reflective thinking. The techniques and strategies used are as diverse as individual teaching styles and different groups of students. However, these varied approaches have been developed to address a shared set of goals: First, teachers hope that through guidance, practice, and example, students will learn to internalize this way of thinking so that it becomes an accessible resource for their studio work. Second, they intend that the reflective process, integrated with instruction, and guided by well-developed curricular goals, will form the foundation for student self-assessment.

REFLECTION AS DIALOGUE

As Pittsburgh teachers increased their focus on student reflection, they reaffirmed the importance of fostering communication and the exchange of ideas among students and teachers. Whether formal or informal, individual or group, whether a private exchange between teacher and student, a group discussion, or an internal "dialogue" between one student and his/her art work, PROPEL emphasizes the value of thoughtful exchange and the interactive classroom atmosphere that this implies.

Moreover, by focusing on reflection as a central component for guiding learning, PROPEL teachers have looked more closely at diverse educational dynamics and activities often already in place in their classrooms. PROPEL teachers have, for example, encouraged students to keep a personal art journal as a reference book, a memory book, a record of ideas, feelings, and images. They have developed "guided" questions to push students deeper into their own explorations, to help them find resolutions in their work, and to enable them to evaluate their own progress. Similarly, they have encouraged structured peer exchanges so that students begin to learn the art of questioning and, at the same time, come to see each other as valuable resources. They have integrated informal dialogue, class discussions, and critiques throughout the domain project process. They have organized trips to museums and galleries, and brought in artists, objects, and reproductions related to students' studio work.

As Scott Grosh, a Pittsburgh middle school art teacher said:

> In all the forms of reflection that we have worked with, the important
> element that has to be present is a kind of dialogue, an exchange of

ideas....Students may not initially know how to engage in this reflective kind of process. They need to have the opportunity to see a model of the process working, to share ideas with other students before they are asked to give more private, personal written responses. For that reason, I use informal class dialogue to introduce reflective thinking...It provides students with public examples of how to proceed; it provides them with multiple points of view...It can be done spontaneously; it can be done when and where needed; it can be done briefly...You have the opportunity to ask another question; you can respond immediately to students.

PROPEL's focus on the reflective process has, in turn, given teachers more insight into their students: their ideas and experiences; the understandings that shape their likes and dislikes; their satisfactions and frustrations with their work; and the degree of confidence and direction they have.
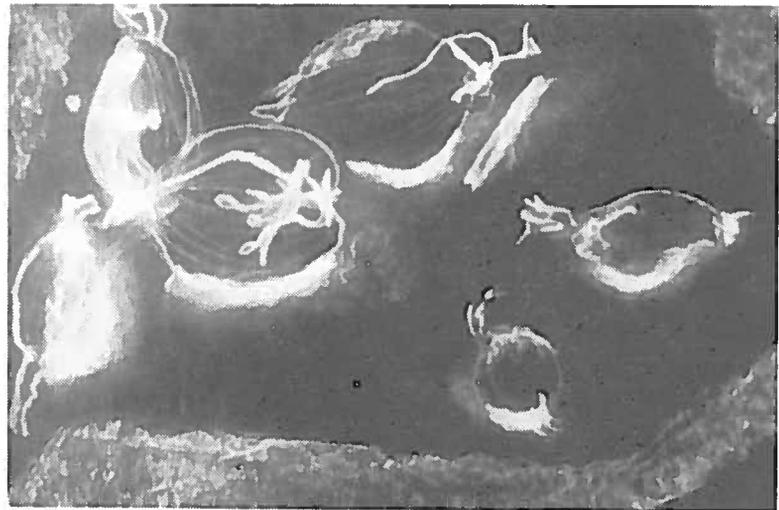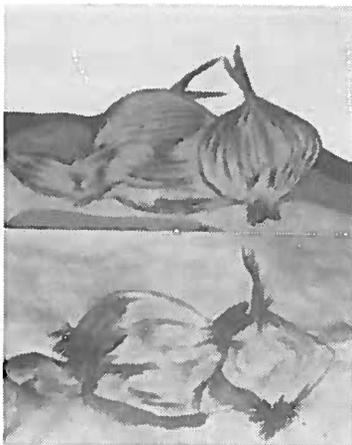
Figure 2.1 Ella Macklin, a student in Norman Brown's Schenley High School class, reflects on her onion drawings.

The onion series helped me to continue to experiment with different media. Because, you know, as you told us one day, draw the onion in pencil, the next day draw it in crayon, watercolor, etc. That's one of the things that the experiment helped me to do, which was to go back and experiment. And also try different types of media -- to see what works best.

I think I was probably doing this for myself. I think some pieces I've done that I want others to enjoy, others to understand. And then some things that I did for myself to help me understand.

THE EVOLUTION OF STUDENT SELF-ASSESSMENT

The emphasis on reflection, integrated throughout the domain project process, helps to create a classroom atmosphere that supports the development of a self-motivated, active learner.

As Barbara Albig, PROPEL teacher in Pittsburgh's South Vocational-Technical High School, said:

> *There is no one key place or correct format for reflection in a domain project. It's not always at the end; it's not always in progress; it's not always when everyone is at the same point. It's just an ongoing part of a domain process. It's not one set way. It continues to float in and out and it's all along. It overlaps and it layers. It's an environment; it's a different kind of environment.*

Thus described, reflection in PROPEL lays the foundation for student self-assessment. This begins, in fact, as the ideas and discoveries discussed informally in class provide students with the skills needed to reflect on their own process and prepares them to record developments in their work using more formal, written formats.

The skills of reflection and self-assessment develop gradually if they are introduced to the student bit by bit, as an integral part of the learning process. Any individual assessment format gains value because it is given to students in the context of a curricular structure and classroom atmosphere that supports a gradual integration of reflective thinking.

It is important to maintain a clear distinction between the desired effect of engaging students in reflection and the diverse ways to so engage students. The primary goal is to nurture a reflective thinking process that is accessible and useful to the student's art-making. Thus, the ultimate evidence of reflection is in the evolution of the art work itself and its significance for the student artist.

The secondary goal is to create periodic documentation of that ongoing process for the student's portfolio. Students in PROPEL classrooms gradually come to see the value of keeping notes and/or records of the results of their own experiments with art materials; of procedures and techniques demonstrated in class; of inspirational images; of ideas, intentions, and alternatives; of their own feelings, frustrations, and successes. They begin to build these into their portfolios, thereby providing the contextual evidence necessary for themselves and others to view their art work with greater understanding. With this material, students can begin to use their portfolios to inspire their own work and to guide them in retrospective self-assessment. And, drawing on these reflective skills, the teacher can develop a structured portfolio review process to help students see connections between projects, make use of understanding and technical skill gained from previous work, and assess their own work for strengths and areas in need of further development.

The following exchange among some of the Pittsburgh teachers is paraphrased from a discussion of the various ways they have encouraged students to record their reflections and of the value this record has for both teachers and students.

Pittsburgh Teachers Discuss Reflection and Self-Assessment

Beverly Bates: *The most valuable part of working with and developing a self-assessment tool for students is that I now have a greater insight into the thinking and ideas behind my students' artistic creations. Much that may not have been clear just from observation is surprisingly clear when students write about what they are attempting and why. Surprisingly, my students have no objection to writing about the process they are using, both their discoveries as well as mistakes to avoid in future assignments.*

The discoveries students make during the process of creating a piece of art are not always those the teacher might anticipate in advance or from looking at the completed work. It is beneficial to me to have insight into these discoveries, to directly address their current understanding of the process. As students become more conscious of their mistakes, discoveries, and happy accidents they begin to feel much more responsible for the outcome of their final creation.

Bill Perry: *I never wanted my students to walk away from my class feeling unsuccessful at art; no matter what their talent, I feel that keeping their self-esteem intact is important. This information (from their written comments and the conversations it engenders) helps me to understand them better...*

Scott Grosh: *Assessment and reflection are closely linked. The kinds of reflective assessment I use I want to be part of the project, to blend or connect with it, not an add on. I'm trying to build an inventory of things that are extensions of the art-making.*

Bill Perry: *Engaging the middle school student is so important. If you don't, you don't get what you expect.*

Karen Price: *That's not only true for middle school but also for 9th and 10th grade. They really need something to hook them. Norm [Brown] and I call writing "sharing your thinking."*

Even 5-6 Year Olds can be Reflective about their Art-Making

Kindergarten students at Graham and Parks Alternative Public School in Cambridge, Massachusetts, were introduced to a PROPEL-style art class. After each project, students were encouraged to talk about how they had made their works, and what problems they had faced.
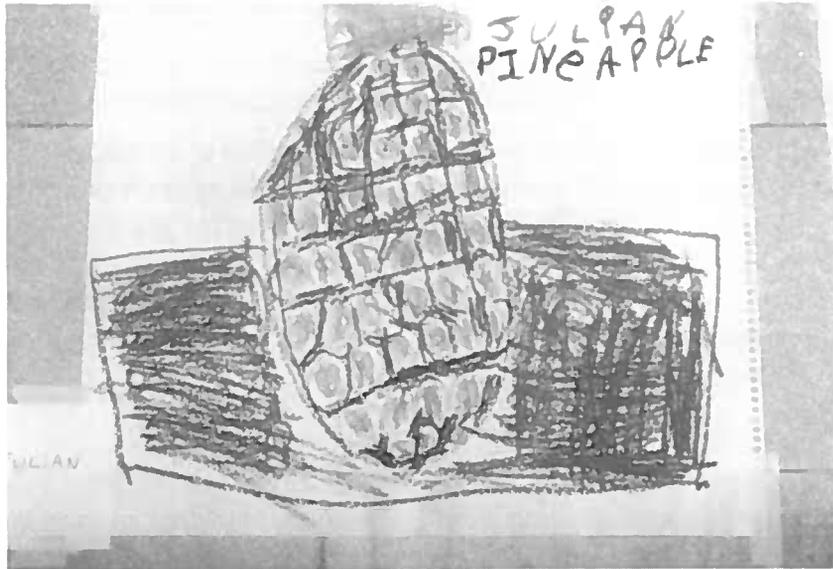
Figure 2.2 Julian's Pineapple

One child, Julian Hammond, had worked for almost an hour rendering a pineapple from life in oil pastel shown in Figure 2.2. He explained to us afterwards:

> *First I did the shape of the pineapple, and then I did the cloth beneath it, and I didn't go over it, I just went to the edge and then I stopped and then I picked up the craypas and did it on the other side, and then I did all these little circles and then I colored them in with yellow and then put some sort of goldy brown on top of the yellow, and then I put some green in the middle and then I put all brown around it...I thought things didn't have so many colors and then when I looked at it close up I saw that it had all different kinds of colors.*

Another child, Noah Chevalier, remarked about his pineapple (Figure 2.3), drawn sitting on a red and white striped cloth:

I saw all of these light green leaves coming out and first I put the white over the red and then I put the yellow all around the little green things, and then I made a little bit of brown and I really sort of tried to make the white stripes but they didn't come out right.

Figure 2.3 Noah's Pineapple

When we asked him how he could have made the stripes white, he replied:

By putting white over, but then that made pink.

Julian suggested that he use the paper for the white stripes:

What I think he should do is just first make the outlines and then just do the red stripes because the paper is white.

Noah wistfully replied:

Yeah, but I thought of it afterwards!

This dialogue provides a nice example of how children as young as kindergarten age can reflect about their art-making, and can come to realize that art- making involves decisions, and that one can learn from one's mistakes.

CHAPTER 3

ASSESSMENT

PROPEL classroom assessment in visual art embodies the project's philosophy as described in the previous chapters. It encompasses a range of strategies that engage students and teachers in thinking about the work students produce.

There is, moreover, no single or predetermined form that assessment takes; rather, it is molded to fit the preferences and needs of various teachers and students.

This chapter explores the ideas underlying PROPEL visual art assessment and traces the processes which led to their implementation in Pittsburgh.

More specific information about assessment of domain projects and portfolios can be found in Chapters 6 and 7, respectively.

WHAT PROPEL VISUAL ART ASSESSMENT IS

The first question motivating the determination of any kind of educational assessment is: "What is it that we want to know?"

For PROPEL, "we" in this question necessarily included both teachers and the students themselves. Teachers as co-researchers had the responsibility for determining what issues were essential for their specific classes. Students were necessarily involved, because assessment was viewed as a means of illuminating processes for them. Therefore, the fundamental answer to "What do we want to know?" was "Information that can be of value to teachers and students, and that can feed back into the teaching and learning process."

WHAT PROPEL VISUAL ART ASSESSMENT IS NOT

The insistence on assessment that could enrich instruction also helped to illuminate what we did not want PROPEL assessment to be. We did NOT want to:

* *remake traditional achievement testing, in which the goal is to find out how much knowledge students have acquired and can recall in response to test questions;*

* *devise assessments that ignore the process of making art and focus only on end products;*

* *pursue program evaluation, in which groups of student scores are used to make comparisons among programs;*

* *identify the most "gifted" students in a particular group, or establish rank-ordered scores;*

* *standardize assessment across classes.*

TEACHER CHOICE IN DESIGNING ASSESSMENT MODELS

In PROPEL, the process of shaping assessment procedures began as a collaborative effort between teachers and researchers, though, in many cases, it ultimately evolved into a collaborative effort that also included students. The initial stage focused on determining the most important dimensions of student learning in the visual arts. Choosing dimensions essentially meant a collective process of sorting out values: e.g., which of the many aspects of making art are important and informative enough to merit consistent, focused attention? Equally important issues that followed logically included deciding what could count as evidence for having attained each kind of learning, developing methods for making these decisions, and integrating assessment into the learning process.

Addressing the first topic mentioned above, we initially identified and defined a group of generic dimensions which virtually all of the teachers valued highly. These included creativity/inventiveness; technical skill/ability to use materials; and understanding of the concept(s) being taught. We realized, however, that generic dimensions such as these, while useful as references, could not be adequate in all situations. Instead of imposing common dimensions and assessment methods across the board, we therefore recognized the need to formulate flexible approaches to assessment. Unlike predetermined assessment tools, these were developed individually by teachers and were adapted to use with both domain projects and portfolios. Such teacher-developed frameworks have the advantage of being sensitive to the curricular history of the class, the experience students bring to the class, the students' developmental levels, the students' previous work in the class, changes in the students' work and their interaction with the work, etc. Equally important, the assessment frameworks reflect those teacher-centered variables, such as curricular choices, emphases, and values, which significantly influence what students produce and how they learn. Given these concerns, it is not surprising that many different assessment models have emerged, each one based on individual teachers' sound sense of who their students are, what they want to teach the students, and how they want to teach

it. Thus, each model is viable and logical in the situation for which it was defined.

Differences among assessment models are shaped by a fairly large number of factors. Some of these have to do with teaching philosophy. For example, some teachers include in their dimensions several that refer directly to students' attitudes and effort, whereas other teachers do not. Some assessment models include project-specific dimensions that refer to the goals or objectives for each project, while other models are more generic, and therefore equally applicable to a range of diverse domain projects.

Models may also be influenced by teaching strategies. For instance, some teachers rely heavily on oral interaction with and among students. This approach may contribute to the development of a leaner-appearing written assessment than one used in a class with more emphasis on journals and written reflections. Even diverse physical formats for recording assessment information affect assessment approaches—for example, whether teachers use separate assessment sheets or write on the back of student work, etc. Of course the realities of teaching—class size, class load, and, especially, the related time factor have their inevitable effects. The fact that each dimension takes time to evaluate is taken into consideration by every teacher, providing a built-in argument against the inclusion of trivial or minor dimensions.

At the same time, more dimensions can mean more information. The final selection of dimensions, therefore, requires balancing detail against conciseness. Thus, the number of dimensions that PROPEL teachers actually considered manageable and desirable varied considerably. The range was from three to ten, with high school teachers like Barbara Albig (South Vocational-Technical High School) and Karen Price (Schenley High School), both of whom were working with relatively small total numbers of students, selecting about 10 dimensions each. For a middle school teacher like Scott Grosh (Greenway Middle School), who in 1990-91 had nine classes per semester, the need for a leaner system is self-evident. His model involves a graphic representation of students' achievement on each of three dimensions for each completed piece in the domain project. Even three dimensions, though, provided significantly more information—and a different kind of information—than he and his students would otherwise have had. Because of developmental differences between middle and high school students, the smaller number of dimensions may have carried other advantages as well—it made the assessment framework easier to understand and less daunting for students to use themselves. Examples of these models are presented in Chapter 6.

It would be difficult to emphasize too strongly the main point here: PROPEL classroom assessment in visual art is not uniform or mechanical. It is based on uniform principles, but in order to be both fruitful and manageable, it has to be shaped by each teacher to meet the needs of a particular situation. This takes considerable knowledge, thought and work on the part of the teacher. If the process is short-changed, one person's genuine assessment can too easily become another person's ill-fitting yardstick.

DEVELOPING SELF-ASSESSMENT BY STUDENTS

An additional source of richness in PROPEL assessment has come from the increasing role of student self-assessment. As PROPEL has stressed students' ownership of their work and the working process, it has become natural—in fact, necessary—for

students to take an active role in assessment. The details vary a great deal, from students graphing their perceived achievement on dimensions to substantial written comments and/or conferences with teachers. But self-assessment is a logical outcome of PROPEL's philosophy, which states: art is an important activity; the choices you, the student, make affect the outcome of your work; and, finally, we want to know what you think about the work—your opinion matters, because you are responsible for your work. Self-assessment, like teacher assessment, often takes place during, as well as after, work on a project. It therefore provides information that can help students not only to look back clearly, but also to move forward with new understanding.

The ability to assess oneself has to be developed over time. But a foundation for it exists in any PROPEL classroom, since self-assessment evolves directly from reflection; students apply their skills in reflection to assessment activities that become another sort of dialogue with the teacher, and even with themselves. By the time PROPEL students are required to participate in the assessment of their work, many of them have already experienced written "dialogues" with their teachers through vehicles such as journals, in which students write comments on their work, the teacher responds in the journal, etc.

This sort of exchange serves several valuable functions which will be outlined in the next chapter. Here, however, we should note that, as several teachers have reported, the privacy of this process, combined with the accumulation of exchanges over time, has built a sense of trust in most students that enables them to be honest in appraising their own work. Students in less journal-oriented classes still have the experience of oral give-and-take with their teacher, between their teacher and other students, or among students to draw on.

The development of trust in the teacher is a necessary first step for self-assessment to work. Once that trust exists, self-assessment can engender increasingly clear vision by students of their own work. No less important is the habit of self-assessment, as built into the learning experience. Bev Bates, at Creative and Performing Arts High School (CAPA), establishes self-assessment as a formal routine, asking her students to take a few minutes at the end of each 2-hour class period to assess their work that day on three dimensions. Because CAPA is an arts magnet school, many of Bev's students are both highly competent and highly confident. She cites, for example, a student who initially gave himself only the highest "grades." Then, as he became more attuned to the process of self-evaluation, more able to trust his teacher's assurance that the self-assessments would not, in fact, be directly transformed into grades, he was able to be more honest and to learn from his own critical insights.

Not surprisingly, another essential ingredient for self-assessment is that students have a clear understanding of what each assessment dimension means. Similarly, if a scale of any kind is part of the model, they need a clear sense of how their teacher defines the points on the scale. This is not something that can be taken for granted; many teachers have described the necessity of explaining even apparently straightforward dimensions to their students. Especially for younger students or those who may have had no art class for several years, a term like "inventiveness" may not initially convey much. In addition to direct explanation, individual or group discussions provide forums through which students' understanding of terms can be increased. When teachers, and, after a while, students, use assessment-dimension terminology to talk about their own or others' work,

the concepts underlying the dimensions become familiar; there is no need to shift to uncomfortably "formal" terms for the actual self-assessment.

Toward these ends, Barbara Albig, at South Vocational-Technical High School, had all the students in three classes work with her to develop and define the dimensions they (and she) would use for assessment. An example of the assessment dimensions developed by one of Barbara's classes appears in Chapter 6, page 73. It is worth noting here that, almost without exception, students were enthusiastic participants in both the development and the use of the system. They were particularly pleased with how "up-front" and clearly laid out it all was.

STRENGTHS AND LIMITATIONS OF SELF-ASSESSMENT

Self-assessment completes a PROPEL circle—it asks students to take the reflection skills they have developed for and through their own working process, and use those skills to evaluate their work upon completion or retrospectively. By doing so, the students add a great deal to the information that teachers are getting. At least as important, however, is the increased amount of information that comes back to the students themselves. Moreover, assessing one's own work strongly encourages a sense of ownership in the work and the working process. Students become responsible for comparing their work to what they were asked to do, to their own personal standards, to the work they have already done.

For teachers, too, much can be learned from students' self-assessment. Simply knowing students' view of their own work, their own sense of the effort they put into it, or their sense of how well they understood the project, can be informative. Student responses may also make it clear, as Bev Bates has pointed out, that the most significant learning does not always occur when or how the teacher expected; insights gained from student self-assessment can point to otherwise unnoticed moments or events on which the teacher can help the student build.

Norman Brown, at Schenley High School, has had similar experiences with his students. Norman has been particularly insistent about students keeping sketches and drafts, and has even salvaged crumpled-up drawings from his garbage cans after classes. Because students have this resource of their own history, they have had unusually complete material to draw on in assessing their work. In several cases, students have realized weeks, or even months, after the fact that a piece they had discarded actually pointed the way to where they had wanted their work to go. These "pivotal pieces," as Norman calls them, represent a conjunction of teacher and student insight that has aided students' development.

The use of self-assessment also has clear limitations. How students assess their work in general is obviously related to their personalities; for example, competent but self-deprecating students may rate their work lower than is deserved. A somewhat more subtle, but potentially valuable factor is that a student's understanding of the dimensions, or of art in general, may grow so much during a semester that the student's sense of the merit of his or her work also changes. Scott Grosh, at Greenway Middle School, has speculated that this may explain the fluctuation in the self-assessments of one of his middle school students.

This student's assessment of his work dropped at the same time that his understanding of artistic issues increased as evidenced in conversation and in the work itself. To an outsider, it might appear simply that the student's level of confidence or self-esteem had dropped. In fact, what happened was that the student's new realizations of what art is had given him a clearer and more realistic sense of his current level of development. The work had not declined; his understanding had matured. Obviously, this experience emphasizes how close and complex the links between personal growth and self-assessment can be. Perhaps more importantly, though, it points out that here, too, the teacher's knowledge of his or her students is critical in order to make sense of the students' responses. Self-assessment becomes part of the interactive process of teaching, and learning from, students.

PROPEL ASSESSMENT IS NOT THE SAME AS REPORT-CARD GRADES

On first introduction to the kind of assessment described above, many people have either wondered how it relates to report-card grades or have assumed that scores on any group of assessment dimensions could be transformed mathematically into such grades. Such formulaic transformation is not appropriate for several reasons. The most basic is that, as stated earlier, the primary function of PROPEL assessment is to provide information to the teacher and the student. This can only happen if both participants feel free to be as honest as possible. In addition to encouraging openness and analysis of strengths and weaknesses, the assessment models have been deliberately set up to take in many aspects of artistic learning — skill in production, understanding of the project, understanding of one's own work, perceptual skills, etc.

Reporting grades for marking periods is necessarily different. There may be external factors, such as the number of classes missed, that the teacher has to consider. But beyond such administrative concerns, it seems to us imperative that the teacher be free to use the information gleaned from the various assessment sources as she or he sees fit for each student. For example, a student who enters with little previous experience, or a student who has severe learning disabilities, or a student who lacks self-esteem may start at point X and progress in certain areas to only a little past X. But that degree of change may reflect commendable effort, growth in understanding, etc., even if the student in question still falls short of the level of work of other students in the class.

Similarly, one student may fail to complete a project because of a lack of effort, while another student has trouble completing the same project because the student's ideas are beyond what he or she can execute. How the teacher evaluates the two students may differ significantly. Whereas a single reported grade might be similar for each of the two students, the use of multiple assessment dimensions would indicate the reasons for incompleteness in both students' work, and distinct areas that need attention. In other words, the PROPEL assessment process can provide the teacher with more detailed information about students than would otherwise have been available. But if the kind of assessment PROPEL has developed is to flourish, it cannot be tied rigidly to any other grading system.

WRAPPING IT UP

The kind of assessment described here takes time and effort to design and to implement. However, all of the teachers who have been involved with it feel that the effort pays off, both for them and for their students. Student "ownership" has been discussed earlier, but there is also an issue of teacher ownership here. Each of the individuals involved in the project has searched out a process and a format with which he or she is comfortable. To do so, the teachers have used not only their accrued knowledge of art, teaching, and students, but also their own sense of educational values, and their imaginations. The results of their efforts have many shared features, but each has an individual stamp.

As a result of their assessment experiments, these teachers have reported that they are seeing and understanding aspects of students' work that they would previously have missed. A fairly typical example, again from Scott Grosh, involved a student who rarely completed a project, making several abortive attempts instead, and becoming easily frustrated. When Scott started to use "conceptual understanding of the project" as a dimension for assessment, he realized that the student not only understood what was intended, but also had good ideas. As a result, Scott was able to help the student find the courage to persist with a piece by pointing out the student's strengths.

Scott's analysis is that he would not have seen these interacting factors before; thus, his ability to help the student obviously grew. It should probably be added that the student was one in a total teaching load of several hundred students, which obviously makes in-depth personal interaction extremely difficult.

Teachers have also talked about the utility of the PROPEL models in helping them assess the successes and flaws of their own teaching. Here, too, focusing attention on the separate dimensions may help teachers to put a finger on exactly what it was that made a project work—or made it less than satisfying.

To conclude, teachers find that as the assessment models develop, they become more and more natural a part of classroom life; a part of the process of making and thinking about art.

It is greatly to the credit of the PROPEL teachers that they persisted in shaping and re-shaping their approaches to assessment to reach these goals. We all hope the insights gained will be of use to others.

CHAPTER 4

JOURNALS

Student work in PROPEL classrooms is assessed in the context of the students' understanding of what they are trying to do as revealed in students' reflections. To encourage and keep track of such reflective thinking, students are encouraged to record their intentions in words and sketches. They may also describe their processes as they work, make judgments about the results of their efforts, and collect images that affect them strongly. This collection of thoughts and images provides a resource for the student, a record of ideas, influences, research, revisions, and reactions over time.

PROPEL teachers have developed diverse ways to gather the material described above. Some have students write comments on the back of pieces; others have found ways of integrating perception and reflection activities into the project itself. Several teachers, however, have wanted a way to keep together the recorded images and ideas from different projects. Toward this end, they have asked their students to keep "journals" as part of ongoing classroom procedure. Journals are also referred to as "sketchbooks" or "diaries." These incorporate aspects of production, perception, and reflection and combine the functions of a class notebook, a sketchbook, and a diary. Typical contents include:

* *handouts and notes from the teacher*

* *preparatory sketches for projects and other drawings either assigned or student-generated*

* *ideas for future projects*

* *reflections about projects in process, and thoughts about projects after their completion*

* *images (photos, clippings, post cards, etc.), objects, and recorded perceptions, dreams, etc., that inspire or interest the student*

Some PROPEL teachers have found that keeping a journal with this sort of material informs and strengthens students' subsequent course work since such journal entries require and invite regular thinking about assignments. However, many teachers feel that the ultimate purpose of journals is to provide a structure within which students can engage in more self-directed explorations of art. Students, working with such teachers, may begin the journal-keeping process by gathering only required class materials, but they soon feel comfortable enough to use journals as an opportunity to record personal thoughts, feelings, and impressions. Students may also paste into journals intriguing found objects, postcards, and photographs. These entries, images, and objects may have no immediate purpose but may provide ideas or inspiration for future work. In any case, the process of collecting and recording serves to get the student engaged in looking at and thinking about art in a deeply personal way.

Personalized Journals and Sketchbooks.

The form of the journal varies from class to class and, ultimately, from student to student, with some focussing more on writing and others more concerned with keeping sketches and visual images. Journal materials may also differ according to the level of the course in question. For example, in Norman Brown's Ceramics I class at Schenley High, journals begin with the vast assortment of handouts intended to establish procedures in the clay room. Other materials include reprints of drawings and photographs showing pottery from different cultures, drawing exercises, and pages where students sketch plans for projects or surface ornamentation. In the advanced classes, where students are expected to set their own projects and agendas, journals tend to be highly personalized, as exemplified by Dan Crow's journal, described below.

Dan Crow, a senior in Norman Brown's International Baccalaureate class, uses his journal as an aid to production, and as a means to record reflections and perceptions related to ongoing projects. For example, Dan uses the journal to develop characters and lay out scenes for a comic book he has been working on. (See Figure 4.1)
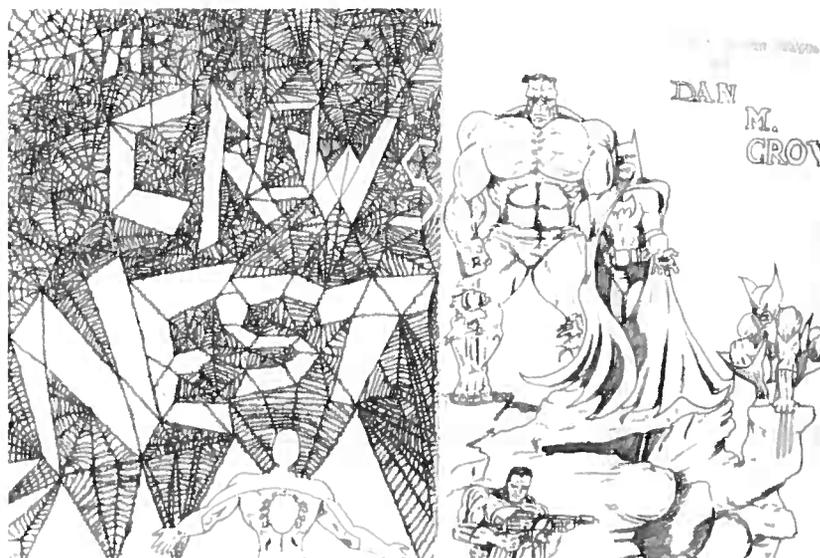
Figure 4.1

Dan records in his journal thoughts about his images, including explanations and self-assessments. So as not to damage the drawing or disturb the composition, Dan has pioneered the use of yellow "stickums," rather than writing on the page itself. His teacher also provides feedback on these attached pieces of paper.

Dan cuts out images from comic books, art magazines, etc., and pastes them into his journal. He then records observations and analyses about these images, referring to such things as the expressive effects of composition, perspective, line work, etc. For example, in discussing a drawing of "Spiderman" crouching in his web, by Todd McFarlane, Dan notes:

> [The drawing is] highly detailed, equal in the dark and light content.
> Although it is in color, it could be either colored or black and white and
> still have the same appeal. It is active in the sense of the pose, the flex-
> ibility of his muscles, the shading with the lines, and the solid areas.

Dan's teacher, Norman Brown, responds in Dan's journal:

All lines converge on Spiderman, leading eyes to subject.

Dan reports that he regularly tries to apply ideas derived from such perceptions and reflections to enhance the expressive power of his own work. In addition, Norman Brown has used the images in Dan's journal to encourage Dan to branch out beyond the comic book format into sculpture and painting. (See Figure 4.2)

Like all activities in a vital educational environment, journals tend to evolve in form and content as they become increasingly personalized as well as integrated into the activities of the classroom and the lives of the students. Pam Costanza, visual arts teacher at Rogers Middle School for Creative and Performing Arts, describes the evolutionary process:

> *When I first joined Arts PROPEL, I was asked to have students keep journals. Initially, I used them at the end of the period; students put everything away, got out their journals, and made an entry. It seemed like a task, a chore to do. They weren't thrilled about it; it obviously wasn't benefiting them because when kids are excited about something — when it means something to them — they take ownership of it. They didn't take ownership of their journals because I really didn't; I didn't see the purpose of having them write.*
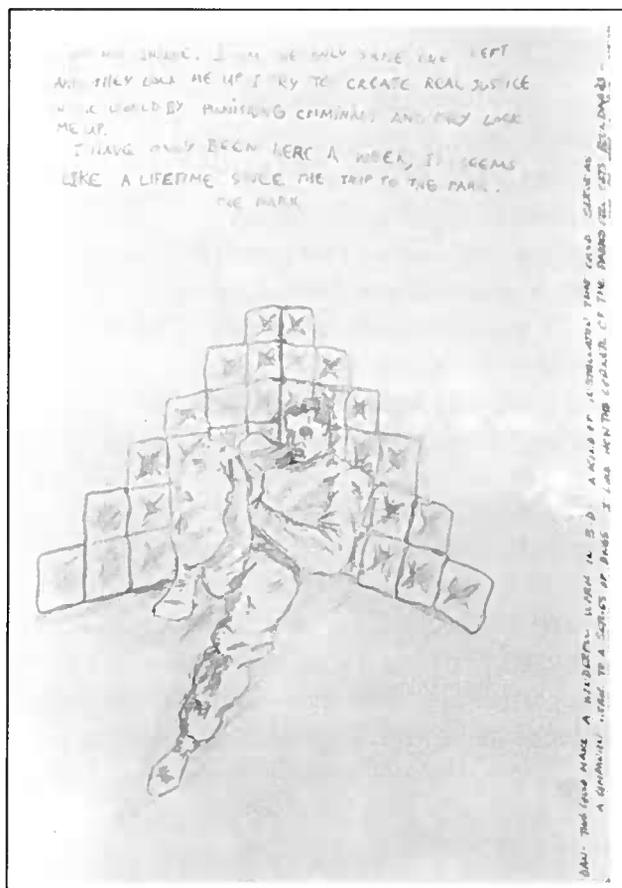
Figure 4.2

Teacher's comment:

This could make a wonderful work in 3-D.

After some reflection on her own, however, Pam began to recognize the potential of journal keeping.

> *I tried to clarify for myself what I wanted students to get out of jour-*
> *nals. Then things started·to click. I started to find ways to present the*
> *journals so that they would be important to students, so that they*
> *would want to use them. I started to suggest ways they could use the*
> *journals differently.*

She pointed out that journals were a place for students to record ideas for art projects, color combinations, compositional changes, etc. Pam explains:

> *Suppose a student is mixing colors and has just "invented" a fabulous*
> *color, but doesn't take down notes. When the student tries to do it*
> *again the next day, it's not going to work; the result is a totally differ-*
> *ent color and the student may be disappointed. Using the journals, a*
> *student could write, "Well I put 3 tablespoons of this, 1 teaspoon of*
> *that, and I ended up with this fabulous color," and could even paint a*
> *little bit of color in the journal to compare with later.*

Without journals, these ideas would soon be forgotten. With them, they could be kept for future reference in an organized and protected way. To insure that this record-keeping happened, Pam's role was "to assist students in developing an approach where the journal becomes an automatic tool...a memory book."

Students soon caught on and the journals became an important part of the class. As Pam explains:

> *[Students are now] using the journal in their own way to benefit*
> *themselves. They include writings, drawings, and things stapled in,*
> *such as feathers, newspapers clippings, etc. Their daily comments have*
> *also changed. Reflections have become more in-depth and creative.*
> *Sometimes students write a whole page one day, and just do a sketch*
> *the next day. They tend to comment more personally in journals than*
> *they do in an open critique. There is a lot more art work in the jour-*
> *nals than before, even though they keep separate sketch books. I had*
> *hoped in the beginning that they would gradually become more open*
> *and creative, and it is now turning out that way.*

Pam's students regularly add to their journals without being specifically required to do so. They take pride in these additions and enthusiastically share them with other students, or look through their own collections from time to time, as a way of "taking stock." Pam also continues to find new ways to use the journals. For instance, she now asks students to prepare well in advance for future art projects by gathering related images or writing down ideas for the project. Then, when students are working on the project, she has them keep their journals handy to record reflections before, during, and after each stage of the activity.

Advanced students also use their own journal entries to generate independent projects — projects of deeply personal interest. An example of such use comes from Dennis Biggs, an eighth grade student at Rogers Middle School for Creative and Performing Arts.

Dennis uses his journal primarily for developing images to use in future projects (including both 2-D and 3-D activities). Figure 4.3 shows a preliminary study he did for a clay project. He also records in his journal reflections about his work and other aspects of his life. On one occasion he wrote down a particularly exciting dream and later used the feelings and imagery from the dream as inspiration for Figure 4.4, the final self-portrait in the Portrait Domain Project which is described in more detail in Chapter 7, pages 88-91.
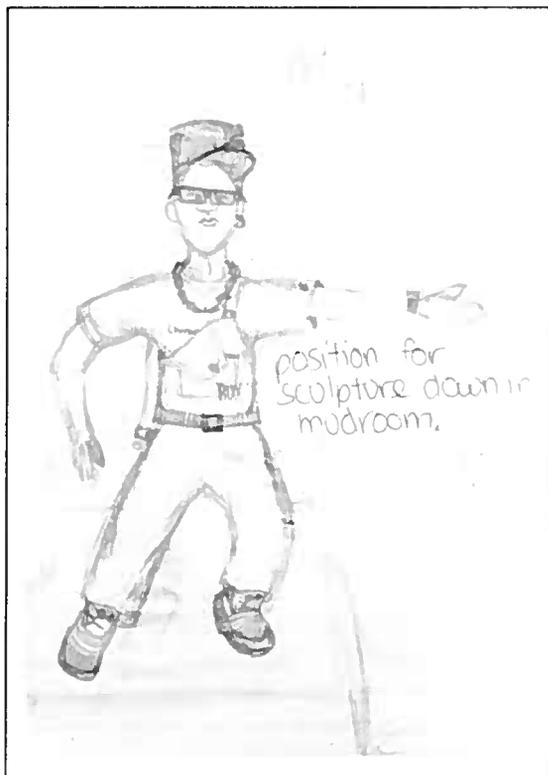
Figure 4.3

Figure 4.4

He writes about his dream as follows:

> *It was a dark night and I had just come home from a program. Then the terror began. I jumped in my bunk bed onto a ton of spikes. Then I got up and jumped a whole flight of steps into a pool. I then began to sink to the bottom where I found myself in a jungle with the Ghost Busters. As we talked, I asked how I could get home, but before I knew it, I was on the floor in the bathroom of my own house.*

Pam writes:

> *Wow! Thanks for sharing it; it would make an interesting painting or drawing.*

Teacher Feedback in Journals and Sketchbooks

Whatever form the journal takes, regular feedback from the teacher is an essential part of the journal-keeping process. Feedback may include comments about what has been collected or recorded, suggestions about things that need attention, or ideas for new directions the student might take in his or her work.

Pam, for example, reviews journals thoroughly once each term and writes comments about most of the entries. She also grades the journal — a decision voted for overwhelmingly by the students — using "effort" as the main criterion. Beyond grading the journal itself, Pam finds that she can use material in the journal to help her assess students' studio work. For example, students might reflect on the intention behind a particular piece or describe a specific problem they were trying to solve — information which may not be directly evident in the work itself but which can be of great use in determining the relative success of the effort.

Some teachers in PROPEL don't use journals or written reflections until their students have a strong foundation in oral, informal group discussions about the kinds of issues they will be asked to write about. Others have chosen not to use journal keeping as part of their class. For many of these teachers, time constraints make the work of journal-keeping a practical impossibility. Others have felt that the additional writing common to journal-keeping is a distraction from the making of art.

As suggested at the beginning of this chapter, these latter teachers encourage other forms of reflection which they feel are more appropriate to their particular situation. For example, Scott Grosh, a teacher at Greenway Middle School, has developed a domain project in which students first make an image of a place where they would like to be, then write a postcard to a friend describing the place. Scott feels that this kind of integrated writing stimulates reflective thinking while still keeping with the inventive spirit of the studio process. Other teachers may have students record reflections on the mat surrounding an image or write them on the back of the page.

Those teachers who have found a place for journals in their classroom, however, find them an invaluable record for both teacher and student. For the student, they guard the efforts of a school year; for the teacher, they provide an organized and in-depth record of student productive, perceptive, and reflective growth. In the former capacity, students will undoubtedly keep their journals as references for years after the class is over. In the latter capacity, current teachers (or students) may choose to select certain journal entries to copy and pass on to the student's next teacher along with the work in the portfolio.

Yet, useful though such communications may be, some material that goes into journals may be highly personal in nature. Therefore, the topic of who should see the students' journals and how they are to be used is not a matter than can be resolved categorically. Rather, it is an issue which is up to the individual student and teacher to determine. Moreover, since many teachers feel the journal's ultimate utility lies in stimulating students' honest reflection, uses which might compromise honesty and openness should be avoided.

CHAPTER 5

DOMAIN PROJECTS

Domain projects are long-term studio projects that focus on issues central to the visual arts. They emphasize process as well as product, encouraging students' active involvement in experimentation, research and revision. They integrate production with perception and reflection. They provide opportunities for self- and peer-assessment as well as teacher-student assessment.

INTRODUCTION

Students in PROPEL become actively engaged in the processes of making art, looking closely at art, and thinking about art through domain projects. Domain projects are curricular units composed of interrelated lessons that guide students in the investigation of a central concept or theme. They focus on both the process and meaning of art making and incorporate activities of production, perception, and reflection. Their purpose is to deepen understanding of a central property or concept in the domain — in this case, the visual arts.

Through active involvement with art materials, students are challenged to explore and understand more about themselves and their world. Domain projects immerse students in the process of making art and in the artistic problems that unfold. Integrating production with perception, domain projects also stimulate students' interest in how other students, as well as artists of various eras and cultures, have solved similar artistic problems. Complementary reflection activities involve students in thinking about their artistic goals in light of the discoveries, choices, and decisions they make when they work. Through domain projects, students therefore come to understand that process is as important as final product, and they become increasingly invested in mastering that process in uniquely personal ways.

Domain projects are, thus, vehicles for teaching essential ways of thinking as well as fundamental ways of working in art. Moreover, domain projects instill habits and attitudes

that become a part of the classroom culture and the student's own artistic activity. Finally, they provide opportunities to develop skills and standards needed for self- and peer-assessment.

Like PROPEL assessment, domain projects are most effective when they grow directly out of a specific classroom experience. To emphasize the importance of teacher development of these projects, we will follow the example from the assessment chapter and begin by describing the development process pursued in Pittsburgh. We will then outline some principles and characteristics of domain project design, providing illustrations of these principles in domain projects written and used by Pittsburgh teachers.

DEVELOPING DOMAIN PROJECTS

The first visual arts domain projects were developed by researchers and field-tested by Pittsburgh teachers. Soon, teachers began to modify and interpret these domain projects in their own ways, adapting them to make them more relevant to their particular students. However, it wasn't until teachers and researchers together began to focus on the underlying intentions of a domain project's essential characteristics and to relate them to teachers' classroom knowledge and current curricula that teachers were able to take full ownership of PROPEL. As they reevaluated their own lesson designs and teaching strategies in terms of the educational goals embedded in the domain project structure, they could both identify "PROPEL" processes already in place in their classrooms as well as areas for revision and reevaluation. Therefore, as teachers became comfortable with the goals and intentions of the domain project structure, they were able to adapt their existing curricula, while still maintaining the best match with their own student populations, teaching styles, chosen media and content.

With this understanding in place, some Pittsburgh PROPEL visual arts teachers participated in two-week curriculum writing sessions during the summers of 1989 and 1990 in which they integrated their own classroom experience with the philosophy of Arts PROPEL. The summer sessions were significant in several ways. First, they gave participating teachers the time to write up, in detail, the domain projects they were teaching. Moreover, it enabled them to design and develop new domain projects to pilot with their fall classes. Many of the project descriptions used in this chapter are excerpted from the curricula written during these summer sessions.

Broader curricular changes also ensued. While most teachers had initially interspersed domain projects with their regular curriculum, some now began to reorganize their whole curriculum in terms of domain projects. They were not only strengthening the connections between lessons within a domain project, but were providing structure and continuity between and across projects. For some teachers, a single "domain project" or a series of interrelated projects came to define a whole semester's, or even a full year's curriculum; as a result of this long range view, each "activity" (sometimes composed of a series of lessons) took on attributes of a mini-domain project. Experimentation and research, a focus on perceptual concerns, and opportunities for reflection and self-assessment, were, thus, built into the structure of ongoing learning in the art-room.

In fact, the purpose of the domain project model is to define and describe aspects of studio-based curricula that we have found to be essential to support instruction-based

assessment. The characteristics which define a curricular unit as a domain project not only encourage meaningful self-assessment, but also support and encourage learning.

DOMAIN PROJECT CHARACTERISTICS AND EXAMPLES

As described in the introduction to this handbook, domain projects build on characteristics often evident in the best of existing classroom practices.

> * *Domain projects are long term, open-ended curricular units built around central issues and concepts.*

> * *Domain projects emphasize process as well as product.*

> * *Domain projects integrate production with perception and reflection.*

> * *Domain projects provide opportunities for self- and peer-assessment as well as teacher-student assessment.*

In this section, we will expand upon the characteristics of domain projects mentioned above and discuss projects developed by Pittsburgh core teachers which exemplify these characteristics. These domain projects are not presented as "The Model" of how a particular concept should be taught. Instead they are each a record of one professional's domain project idea at a given time for a specific teaching situation.

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1. DOMAIN PROJECTS ARE LONG-TERM, OPEN ENDED PROJECTS THAT FOCUS ON ISSUES CENTRAL TO THE DOMAIN.

There are three distinct though interrelated characteristics embedded in this first domain project descriptor. Domain projects focus on concepts and issues; domain projects are long-term investigations; and domain projects are open-ended. Each of these attributes, as discussed below, has implications for curricular design.

Central Concepts

Domain projects are designed to introduce students to concepts central to the visual arts while encouraging students' personal investment in the activities that help bring these concepts to life. This suggests that artistic concerns (e.g. composition, portraiture etc.) not be taught in formalist ways, but rather in projects that relate the concept to the students' own lives and interests. Student engagement is also fostered because the lessons within a

domain project are interrelated to provide students with diverse opportunities to explore the concept or theme.

As the core teachers in Pittsburgh thought about the domain project goal to nurture students' evolving understanding of media, themes, and concepts, many found themselves rethinking the meaning and structure of their own curricular units. Teachers then began to design units as a series of investigations that linked one lesson to the next within a project. As they made the conceptual goals of their lessons more explicit, teachers could focus more on fostering students' meaningful relationship with their work.

Long-Term Investigations

To stimulate students' evolving understanding of concepts and ideas, domain projects typically involve them in long-term interrelated investigations and in the creation of multiple images or objects. The great flexibility within the domain project guidelines supports diverse ways of achieving this goal.

For example, some domain projects may call for preliminary sketches, studies, and drafts leading up to a final product. Others may achieve similar ends by guiding students through a series of exercises and experiments that explore various ways to approach one idea. Still others might teach technical skills or introduce elements or principles of art and then pose a problem where students are challenged to create a context in which to apply their new knowledge. The way that projects are initiated also varies. One project might elicit a visual response to a personal experience; another might begin with research and a search for resources; still another might start with the exploration of the particular medium.

No matter how it is structured, the unit is designed to support the evolution of students' skills and understanding, and to help students build on what they have already done and learned. While before a unit might be long-term only because of the multiple steps involved to create a complex image or object, now the length, or really the breadth, of the project reflects the time and value given to research, experimentation or revision; the time to look at work and talk to peers; the time for self assessment.

Open-Ended Lessons

Through such integrated activities, students are given a more responsible role in the studio process. In order to make this possible, the teacher is challenged to present lessons that engage students in their own explorations, and to provide them with both the structure and the freedom necessary to make the choices of how their work will be. The teacher's role then, is not to design a creative and aesthetic product to model and instruct students to make; the teacher instead poses a problem and challenges students to invent solutions to that problem.

Three domain projects are described in boxes 1, 2, and 3 to highlight a domain project's focus on issues central to the domain.

Box #1 The Use of Symbol & Pattern in Jewelry Design

A Domain Project Designed by Gail Rose/Brashear High School
and Mari Murrer/Carrick High School

This jewelry project is presented here as an example of a domain project involving long-term, open-ended learning about an artistic concept. It explores the concept of the symbol, focusing on both the cultural and personal use and significance of the symbol in jewelry design. Beginning with a study of jewelry from one Native American group, students learn about the role of spirituality and nature as important symbol sources throughout Native American jewelry design. Students are then guided in a discussion of the diverse functions of jewelry in our culture (e.g. religious, decorative, social, political, etc.).

The perception and reflection activities described above provide a background within which students can begin to think about one aspect of Native American design - the repetition of a simple symbol to form a more complex design. Students are challenged to design their own simple "single unit" symbol that creates an image for one idea. This design unit will be repeated and manipulated (inverted, turned, mirrored...) to form a pattern. In this particular project the patterns are used to make a bangle bracelet from two strips of nickel silver.

Students are introduced to the technical processes involved so they can begin integrating their technical knowledge of metal with the goals and concepts they are trying to achieve. Their developing understanding of the medium helps them to discuss and consider compatible design choices. Then students are ready to develop drafts and studies from which they select the one design unit to use for repetition. Further technical information and demonstrations are interspersed throughout the domain project, leading to a finished piece of wearable jewelry.

During the design and selection portion of this project, through class discussion, peer exchange and journal entries, students reflect on such questions as:

* *How do my designs reflect my own interpretation of an idea in symbolism?*

* *How am I focusing on the Native American stylistic approach?*

* *What design is best suited to the medium being used? Why?*

* *What changes could be made to better meet the technical demands of the medium?*

Through this domain project process, students come to understand how ideas are used to inspire shapes and symbols, and how multiples of a simple symbol shape will create a complex pattern.

Box #2 *The Concept of Composition in Abstract and Representational Art*
A Two-Unit Domain Project Developed by Mark Moore/Arsenal Middle School

Combining two discrete curricular units, this domain project introduces eighth-grade art students to the concept of composition in abstract as well as representational art. The objective for this project is to introduce students to the principles of design (unity, emphasis, balance, variety, movement, rhythm, repetition, contrast, and proportion) as the basic formalist consideration in the creation of a composition. It is further intended to give them the opportunity to look at and discuss images in the world, in art books, and in their own work in terms of aesthetic design principles.

Students begin with a series of exercises and discussions, built around the creation of abstract collages. (Figure 5.1)
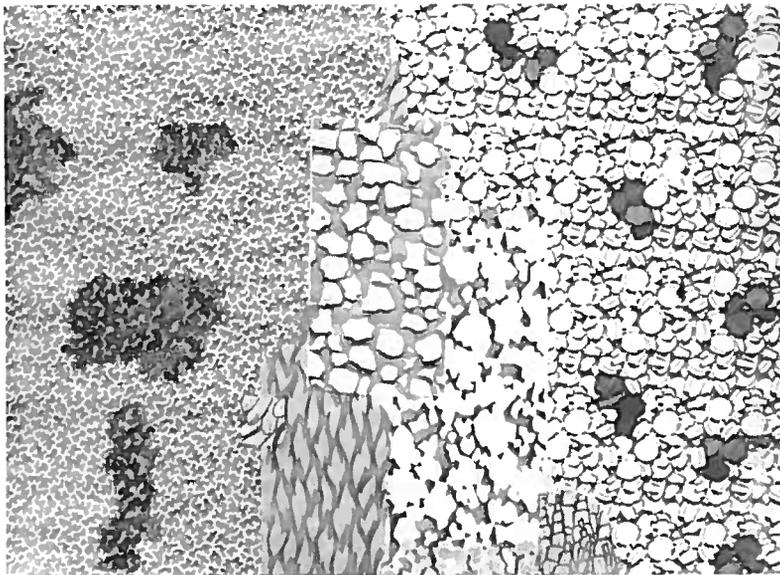
Figure 5.1

Figure 5.1 - 5.3 are by Tammy Crawford, Arsenal Middle School, Mark Moore's student

Then, after a review of the art elements, and an opportunity to experiment with mixing paints, ("inventing custom colors"), students apply their new knowledge by creating large mixed media compositions using colored paper, paint, string, straws, yarn, etc. (Figure 5.2). Interspersed throughout these activities, students are given the opportunity to sketch ideas and to discuss their work with one another.

A project investigating cityscapes and skylines follows, providing students with the opportunity to employ their new knowledge in a different way. This project begins with an exploration of the life and images of a city. For example, this could include discussions of urban life and images; listening to poems about the urban landscape; looking at photographs of city skylines as well as at artists' depictions of them. These experiences are followed by a series of exercises to allow students to experiment with ways to depict buildings. These include experiments with tools and materials such as the use of pieces of cardboard as a paint brush to "brush" in the shapes. Students are then given a lesson on two-point perspective drawing. Students then make compositional drawings of cityscapes intended to capture the energy and organization of a city skyline (Figure 5.3).
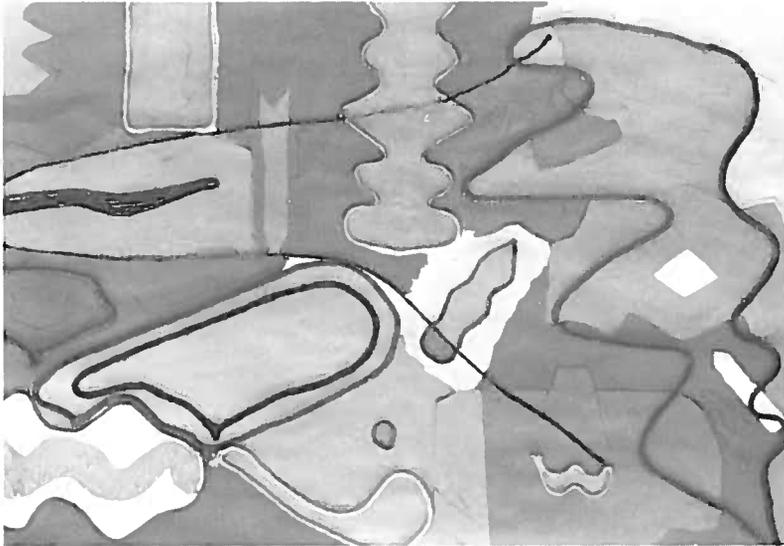
Figure 5.2
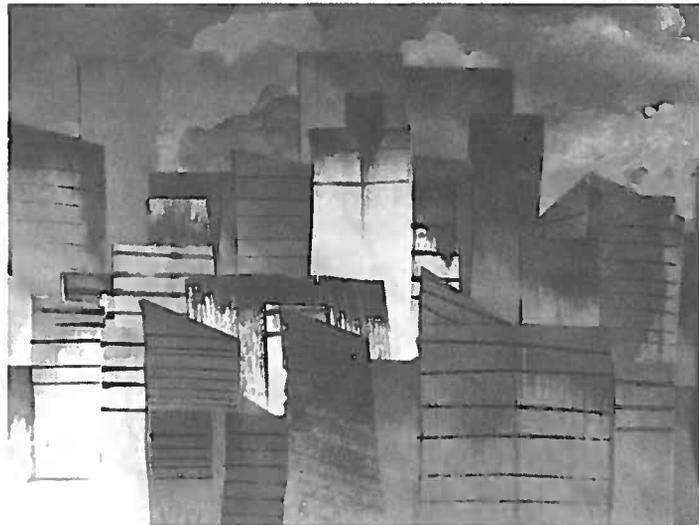
Figure 5.3

Finally, while looking together at both the large abstract compositions and the cityscapes, students compare and contrast the works in terms of the common or dissimilar use of art elements and design principles.

Box #3 A Self-Portrait Domain Project
A Year-Long Curriculum Developed by Bill Perry/Banksville School

Bill Perry developed a year-long project for seventh-grade gifted students at the Banksville Scholars Center. It was designed for thirty-two 75 minute classes meeting once a week. By extending the domain project model, this portrait project lays out an overview of an entire curriculum.

The first three "activities" introduce three areas of focus that are then integrated with and further developed in each of the later activities. The first activity, "Who Am I ?" is an introduction to the concept of a portrait and an investigation of the advantages and limitations of representing people in different symbol systems, both verbal and visual. The second activity, "What's Important ?", is an introduction to the process and value of self-assessment including a series of exercises to help students identify and understand criteria for the evaluation of their own learning and progress. The third activity, "An Historical Overview", introduces students to a range of artists and the portraits they have made so that students can begin to see how portraits are influenced by their historical context as well as the style, medium and intent of the artist. By looking at reproductions and learning about relevant historical contexts, students start to perceive and discuss the visual evidence that provides clues about such considerations as epoch, style, intent, media, process, and affect.

As Bill describes it, the project is primarily geared to the needs of middle-school students at a stage in their physical, social, and emotional development in which their individuality is increasingly more apparent to themselves and others. The project is designed not only to help students explore and portray their own unique "portrait" but also to introduce them to diverse ways that have been developed in the visual arts to capture the essence of a person (e.g. caricature, proportion and distortion of the human face, photographic portraits, computer generated images, etc.).

In each activity the student is guided through a series of lessons, researches, exercises and/or experiments to prepare them to create a self-portrait. In addition, the concerns and considerations of the introductory three activities are reinforced and interwoven in each of the other activities. For example, the portraiture activity ,("Putting It Where It Belongs On Purpose"), designed for three class periods, is intended to teach students the position, size, and relationships which exist among the parts of the human face. Students are introduced to the relationships of the "average" face; they are asked to create an accurate proportion map of their own face; they are challenged to create a "monster" by altering the proportion, size and shape relationships of the human head. Students are introduced to the work of selected artists who have altered human proportion to create a specific effect. They are also given the opportunity to look at and discuss each others' proportion studies, maps, and monsters to discuss how actual proportions deviate from the norm and to explain what alterations they employed to create their monsters.

The final activity, "Putting It All Together" asks students to create a composite self portrait by assembling all of the individual portraits, preliminary studies, and accompanying notes and resources to serve as an open portfolio. Students would thus be able to look over the year's accomplishments, their own and their peers, and note changes, ideas and discoveries, influences, progress, and effort.

> ## 2. DOMAIN PROJECTS EMPHASIZE PROCESS AS WELL AS PRODUCT. THEREFORE, THEY CONTAIN AMPLE OPPORTUNITY FOR EXPERIMENTATION, RESEARCH, AND REVISION.

Domain projects make it possible for students to infuse the final product with the kinds of thoughts and feelings that can evolve from sustained and varied engagement over time. In the process of pursuing such projects, students are given the opportunity to try out ideas, images, and techniques without being committed to them. Students, thus, have the chance to learn from their mistakes and "happy accidents". Equally important, teachers can help students make use of their discoveries and help them to apply their newly learned skills and knowledge to new endeavors. In sum, the focus of a domain project is not only on the images and objects created but also on the activity of making.

To focus students on process and experimentation, research and revision, some of the PROPEL researchers developed a domain project entitled: "Biography of a Work". As one of the original domain projects developed, it served as a model for teachers and students; the awareness of process, or of the "biography" of a work, was seen as a pervasive concept which could inform all art teaching no matter what the specific conceptual focus of a given domain project.

"Biography of a Work" first opens up the process of making a work for students by an in-depth examination of "works of art in process." That is, they examine not only the finished work but the sketches and studies leading up to the final piece, as well as the stages of completion for the end-product itself. Students, thus, become vicariously involved in the revision, the effort to work through ideas, and the painstaking technical struggles that an artist has experienced.

The works of art examined for this domain project included: Picasso's Guernica and Andrew Wyeth's Brown Swiss. For Guernica, slides of sketches and studies leading up to the final work and also of the painting itself in various stages of completion show how the composition evolves to create the powerful effect of the final work. Slides of Andrew Wyeth's Brown Swiss in process show how Wyeth develops his idea from an initial study of a brown Swiss cow; he then turns to a landscape in which ultimately only the hoof-prints of the cow for which the work is named are visible.

This project also creates a model for students in thinking about their own portfolios, as it shows students what might be in a Picasso's or a Wyeth's "portfolio." Along with their study of Picasso's and Wyeth's sketches, students can also read their reflections. In the case of Picasso, this comes through the intermediary of the psychologist Rudolph Arnheim who attempts to interpret the thinking and decision making evident in the creation of the work in his book <u>The Genesis of a Painting: Picasso's Guernica</u> (University

of California Press, 1980). In the case of Wyeth, the student can read the artist's own thoughts recorded after the fact in an interview with the author of the book, <u>Two Worlds of Andrew Wyeth</u> by Thomas Hoving (Houghton Mifflin, 1978). By seeing and reading how these artists returned to ideas, saved notes, etc., students can come to value their own footsteps, not only as useful resources, but also as important markers of their own growth and thinking.

Then, after studying and discussing the processes these artists went through, students are guided through the development of their own work, work that expresses something about themselves and their feelings about what they are depicting. Propel teachers initially used this project as an introduction to curricular units that give students an active role in shaping their work, and that emphasize the importance of student research, experimentation, and revision over time. As teachers truly internalized the objectives of a "Biography of a Work," they were able to use this knowledge as they developed or transformed their own curricular units.

The broad view of process exemplified by "Biography of a Work" includes not only the choices and changes made once a student is involved in a project but also the processes of engagement, invention and self assessment. Most important, it aims to develop in students an awareness of the meaning their work holds for them as well as the artistic learning it embodies.

Two domain projects are described in boxes #4 and #5 to highlight a domain project's emphasis on process as well as product.

BOX #4 The Poster Project

Developed by Bev Bates/Creative And Performing Arts High School

Bev Bates, who teaches at CAPA, Pittsburgh's magnet arts high school, developed a project which asks students to design and make a poster expressing the concerns of a current social issue. The students are actively involved in the research of issues and images; they are engaged in an exploration of effective composition and color; they are also given the opportunity to view and discuss each other's work at various stages throughout its development. Some of the highlights of this process are described below.

After viewing examples of art which demonstrate social commentary and looking at posters of diverse purpose, students and teacher together discuss both the approaches used to communicate visually a social concern as well as the design concerns essential to produce an effective poster.

Once students choose a social issue to portray they are encouraged to research relevant opinions and images and to sketch several versions of their ideas. Students discuss their initial sketches together to identify elements within each that might be combined to create an image with the greatest visual impact about the social issue chosen.

Students are mandated to use one color harmony plus black or white and encouraged to experiment with various color choices to find the one most effective combination to convey the intended effect (anger, fear, warmth, shock, irony...).

Both the problem posed and the processes students are engaged in provide students with a clear structure through which to pursue, discuss and evaluate their work throughout the development of a final poster.

BOX #5 *A Study of Historical, Cultural and Technological Influences on Artistic Process and Choice*

Developed by Sue Ann Whittick/Greenway Middle School

This craft project, designed by Sue Ann Whittick for an eighth-grade classroom in a comprehensive middle school in Pittsburgh, focuses on the techniques of weaving, basketry and dying using examples of Native American crafts from the South West to inspire students. The domain project helps students investigate cultural, historical, and technological influences expressed in an artist's productions, while gaining the technical skills necessary to make choices about the materials, techniques and purpose of their own work. Although this project focuses on the Southwest Native American, on weaving and basketry, and on the element of color, the project provides a model that could be used with other ethnic groups, other crafts, and other art elements.

To begin, students are introduced to materials, techniques and vocabulary and asked to experiment with two-dimensional and three-dimensional paper weaving (mats and baskets). Students make at least two of each weaving, stopping between each to look at the work of the whole class and discuss choices and discoveries made in terms of: the type(s) of weave used; type(s) of paper chosen; color selections; and the effects of these choices.

This awareness of artistic choice and the effect each decision has on the final piece is then placed in a larger context with the help of the school librarian. Students are introduced to the weaving of one Southwest Native American group by: looking at examples of their weaving; learning about their culture and technology as it relates to their weaving tradition; and hearing the myth of the spider woman and discussing the role of myths in that culture.

When students return to their studio work, they continue to explore the effect of the materials available and chosen for use, through a series of lessons on dying. Students experiment with both natural and chemical dyes and compare the different palette of colors produced. The potential aesthetic and symbolic significance of such choices is explored by again expanding the context to look at Navaho use of dyes and colors. Information and visuals are presented to discuss such things as the symbolic color significance for the four directions, seasons, spirits...; the impact of the colors of the natural environment; the influence of the technology of European settlers...

In the final activity of the domain project, "Weaving it all Together", each student designs and creates a basket or weaving. Students are grouped for instruction based on their chosen project. Students research and sketch ideas for their basket/weaving, and select and prepare materials from a supply of reeds, yarn, fleece, feathers, beads, shells, etc. Students discuss the finished piece in terms of discoveries and changes made in process; choices made in terms of materials, colors, and techniques; and influences and resources used. Students finally compare the materials and technologies available to them as compared to the Navaho weaver.

3. DOMAIN PROJECTS INTEGRATE PRODUCTION WITH PERCEPTION AND REFLECTION

As is clear from the domain projects already described, activities to develop perceptual and reflective thinking are an integral part of the art-making process in PROPEL domain projects. Perceptual and reflective activities grow out of and inform the students' studio work and thereby help students create objects and images that are more personally meaningful and visually effective.

For a detailed discussion of what is meant by production, perception and reflection, the reader is referred to Chapter 2. Here we will just mention some of the impact on curriculum development brought about by focusing attention on the components of production, perception, and reflection. For one, it reinforces the belief that production is the central component of an art program. For another it helps teachers take note of things that they are already doing to foster reflective thinking and/or to help students perceive the world and its resources. By focusing attention on the perceptual component of their lessons, teachers often find themselves looking for ways to broaden the context and value of a lesson beyond the focus of the project's product. By focusing attention on the reflective component teachers tend to expand the strategies they use to engage students reflectively and to find ways to really integrate the reflective process throughout the domain project. Ultimately, the integration of production with perception and reflection means making time for students to look, to talk, to write, to think as part of the process of creating a meaningful and effective visual statement. These experiences, practiced over time, provide the backbone of self-assessment.

One domain project is described in Box #6 to highlight a domain project's integration of production with perception and reflection.

BOX #6 *The Grid and the Organization of Geometric Shapes*

Developed by Karen Price/Schenley High School

Karen Price developed a one semester course composed of three domain projects which explore composition through craft and design. The first project focuses on the grid and the organization of geometric shapes. The second explores value and visual texture through line. The third, designed to challenge students to draw directly on the experiences and discoveries of the previous two, is a study of African Kuba Cloth design.

The first unit of the trio prepares students for the ultimate study of Kuba Cloth design by exploring both the grid structure and the manipulation of geometric shapes, both design elements that define the appearance of the Kuba cloth. The grid project will be described here as a demonstration of the integration of production with activities to encourage perceptual and reflective skills. The project was designed for a heterogeneous group of secondary students at entry level, grades 9 through 12, in a studio art class meeting five times a week for 44 minute periods.

Karen tends to build domain projects in a jigsaw rather than linear fashion, using a common conceptual thread to link lessons that move from 2D to 3D across diverse media. Karen also creates a link between lessons by having students use their own previous work to shape future pieces. Through this mandated structure, students begin to see their own ideas and images as a resource for future work.

To begin the grid project, students are introduced to the structure of the grid and its value as a tool to transfer and enlarge images. Students discuss and then select organic images that represent something about themselves to use as the transfer image. Before applying color to their own enlarged grid drawings, they discuss contrasting colors using reproductions of artists' work. Upon completion, students select a peer partner and discuss their grid drawings using as guidance questions like:

a) Describe your joys and frustrations around this assignment.

b) Discuss the transformation of the images.

Each pair reports to the whole group about their discoveries.

Students next explore the grid as a structure in which to assemble a geometric pattern. Students view slides of artists' work and discuss the principles of composition, and the similarities and differences between geometric and organic shape.

Students create three 4"x4" cut paper geometric designs focusing on creating contrast through their use of color. Choosing one design, each student experiments with the layout of cut-paper pieces to create twelve variations of the design. Students assemble the 12 squares to form a 16"x12" grid pattern. (Figure 5.4)

Students look at the completed grid patterns together. The teacher leads a critique of the patterns developed. All students are asked to verbalize at least one positive aspect about one of the works, using ideas from previous class discussions as a frame of reference.

Students now use the grid structure to create a 2D cardboard pattern for a 3D cube. They study how the effect of the geometric pattern changes both when transferred from 2D to 3D as well as when changed to complementary colors.
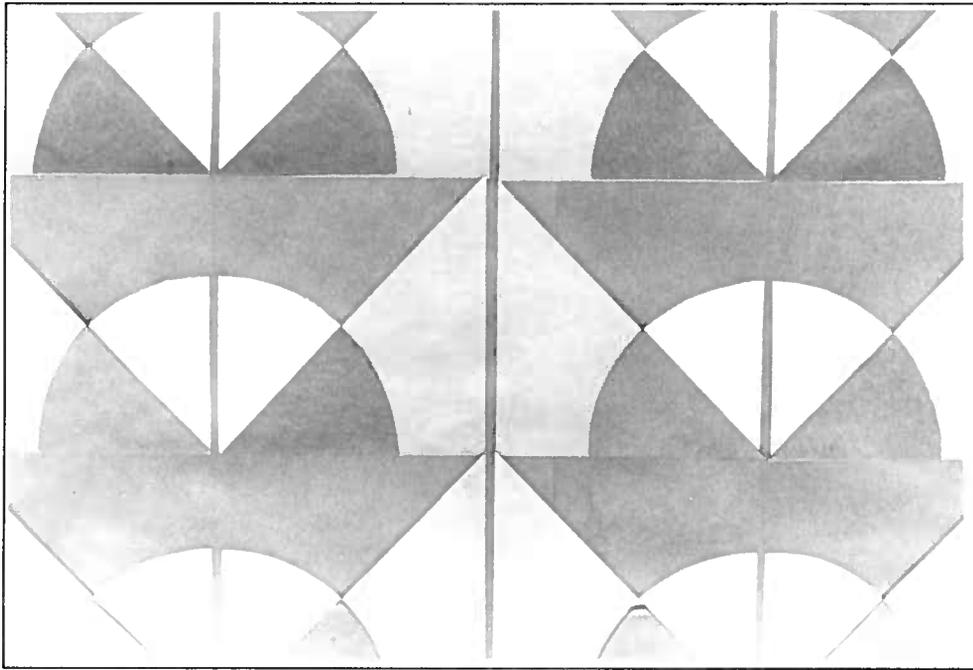
Figure 5.4

Figures 5.4-5.7 are by Camille McNutt, Grade 9 Crafts 1A,
Schenley High School
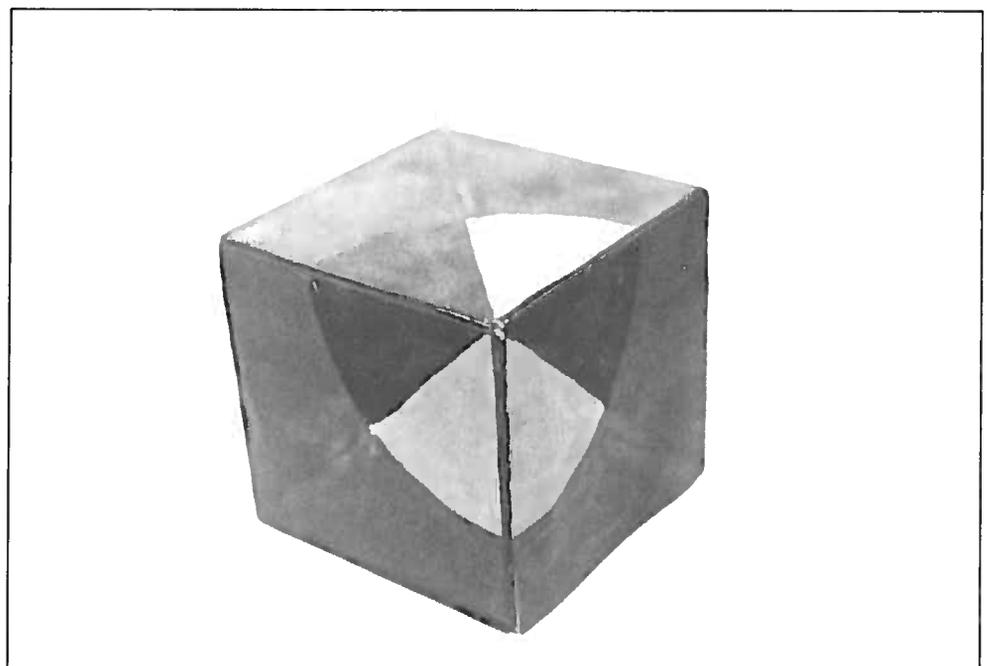
Figure 5.5

Karen presents the work of M. C. Escher and guides the students in a discussion about transferring their designs to a three-dimensional form. Students research Escher's design boxes. After a lesson on complementary colors, students paint a design, based on their grid patterns, on the outside of the cardboard box using the complements of the original grid colors (Figure 5.5).

Groups of four students arrange their cubes on the table. Using the questions like those suggested below, the students conduct group interviews:

a. *Compare the 2-D pattern with the 3-D construction. What are the similarities and differences as you see them?*

b. *How does the 2-D pattern change as it appears on the 3-D cube?*

c. *What different effects were created by changing the color combinations?*

Students continue to alter their original grid pattern, turning their attention to a new three dimensional medium, clay.

Students and teachers discuss ideas for transposing their original grid designs into a three-dimensional clay box. Students sketch designs and review them with Karen.
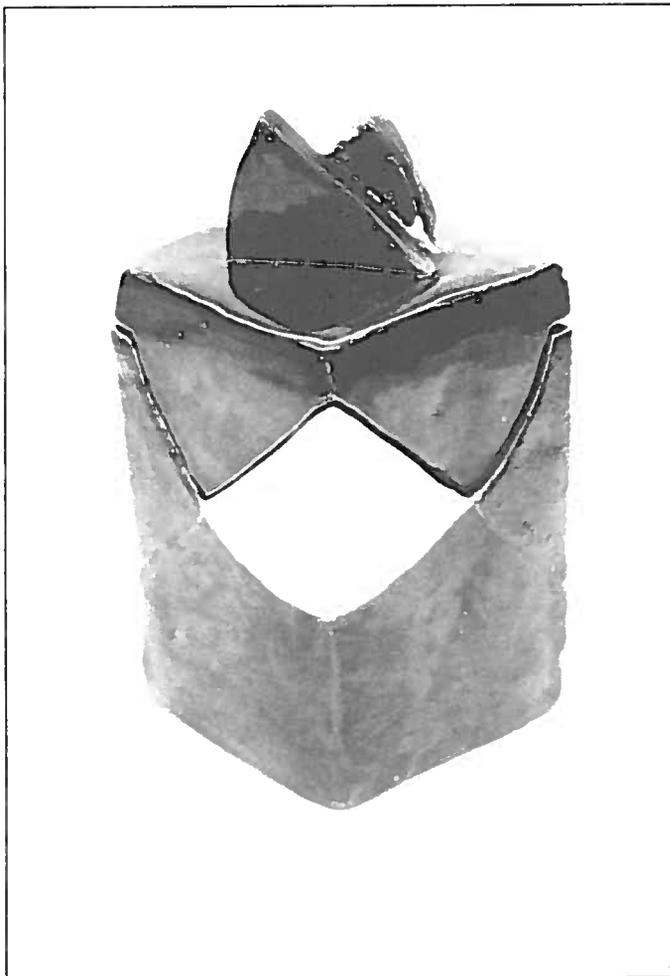
Figure 5.6

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Students are introduced to all of the necessary procedures and techniques of the clay studio, and assisted through the process of creating a lidded clay box glazed with a design based on their original grid patterns. Lid ornaments are designed to complement the glazed grid designs (Figure 5.6).

The students participate in an oral discussion about the effects of transforming their 2-D design into a 3-D receptacle and the results of the glazing.

As mentioned, the grid project just described was the first of a trio taught in one semester. The final domain project of this trio culminates in the production of an African Kuba Cloth design, pictured below in Figure 5.7. Students are challenged to draw on the knowledge and experience acquired in both the grid project and a domain project exploring linear organic forms as they explore both the visual and cultural conventions that influence Kuba Cloth design.

Figure 5.7

4. DOMAIN PROJECTS PROVIDE MANY OPPORTUNITIES FOR SELF AND PEER-ASSESSMENT, AS WELL AS TEACHER-STUDENT ASSESSMENT.

Student involvement in the assessment process is a central component of Arts PROPEL. Varied and integrated approaches to reflection such as those described above, form the backbone of student assessment by providing opportunities for students to engage in informal self- and peer-assessment. They encourage dialogue and communication. They help build students' awareness of and value for their own working process. They help guide the development and revision of work. Thus, learning to discuss, revise, and assess work in progress, students gradually develop skills that provide the foundation for using more concise or formal assessment models.

Students working on domain projects are also involved in the formal assessment of their work. They may participate in the selection and definition of the aspects or dimensions of their work that will be assessed; they may be called upon to give themselves an evaluation based on these dimensions. Typically such student assessment is compared with teacher assessment and provides a basis for further teacher-student dialogue.

The inclusion of students in creating a shared set of criteria by which the work is to be assessed can provide students with a greater understanding of the project and thus enable them to pursue their work more purposefully. Furthermore, the direct involvement with self- and peer-assessment engenders a sense of responsibility in the student for his or her own work, and a sense of community standards. Students have a say in what is valued in their work, and are encouraged to think about what the assessment dimensions mean to them and to revise them together if the meaning changes during the course of their work.

An Ethnic Batik Project is described in Box #7 to highlight the opportunities for self-, peer-, and teacher-student assessment in a domain project.

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BOX #7 Ethnic Batik Project

Developed by Barbara Albig/South Vocational-Technical High School

The batik project is designed to engage students in an exploration of their own and others' cultural heritage; to research images and patterns that are inherent to those cultures; and to use these images to inspire the design of their own batik pattern.

Student involvement in the assessment process is clearly illustrated in this project. Barbara's students are involved in assessing their own work throughout the course of the domain project in the form of class critique, peer critique, journal entries and discussions with Barbara. Students are also involved in the formal assessment of their work.

Before the project gets underway, students review a list of assessment dimensions with the teacher. They work together to define and refine the dimensions until the class has a sense of community standards and shared understanding of what is worth assessing. See Figure 6.3 (Chart of Assessment Dimensions Definitions, Chapter 6, page 73). To contribute to the sense of group effort, students take on a variety of responsibilities in the classroom, such as coming in early in the day to begin to melt the wax so that it will be the right temperature for the start of art class, hanging work from the previous class when the timing is just right, or teaching other students how to use the dye baths or the wax. All of these activities, along with the formal and informal self-assessment that take place, encourage a sense of individual responsibility for one's own work as well as for the working environment of the classroom.

Throughout this project, students go through the process of critique. They critique what they learned in the research component, their designs, and their final product. In addition, students are encouraged to work with their peers, and turn to their peers for informal discussions and assessments of their work and the work of others. Occasionally, some of these suggestions and reflections are recorded by students in their journals.

The section that follows presents excerpts from Anthony Valenta's journal written during the batik project along with images from his portfolio. By looking at his art work and reflections along with brief descriptions of the class activities that inspired this work, we can get a sense of the informal, on-going self-assessment process integrated throughout the domain project.

Students begin this domain project by discussing with their families their own ethnic heritage and looking at objects and images at home that came from their countries of origin. Students in Anthony's class then researched and sketched landscapes and motifs from Egypt (Figure 5.8). Writing in his journal about the things he learned from this research Anthony said:

> *First off, I learned what a cultural motif is. I had never heard of*
> *cultural motifs before this project....Second I learned about Egyptian*
> *hieroglyphics, used to describe everything about the Egyptian*
> *culture....I also learned about various landscapes of Egypt....They seem*
> *to build all of their extravagant pieces for their kings and*
> *gods....Strangely enough, many of their villages are very basic...*

Figure 5.8

Students use their research on cultural motifs as well as information they have learned from films on batik from various cultures to draft and design a pattern they will create in batik. Asked to reflect on his use of this information to create a batik design Anthony said:

> *As I went through my drawings there were many I was interested in...I felt that (the servant girl playing a harp) would make a very beautiful and soft looking batik. Then I realized it would need many colors and a lot of channeling. I then thought about using the palette which included many different types of hieroglyphics....(However,) although the palette interested me, I really didn't like the way the shapes were formed. Finally I decided to use an Egyptian warship. When I pictured it in my head, I felt that it would look very impressive and strong....Finally, I drew the warship and plotted out my color scheme (Figure 5.9).*
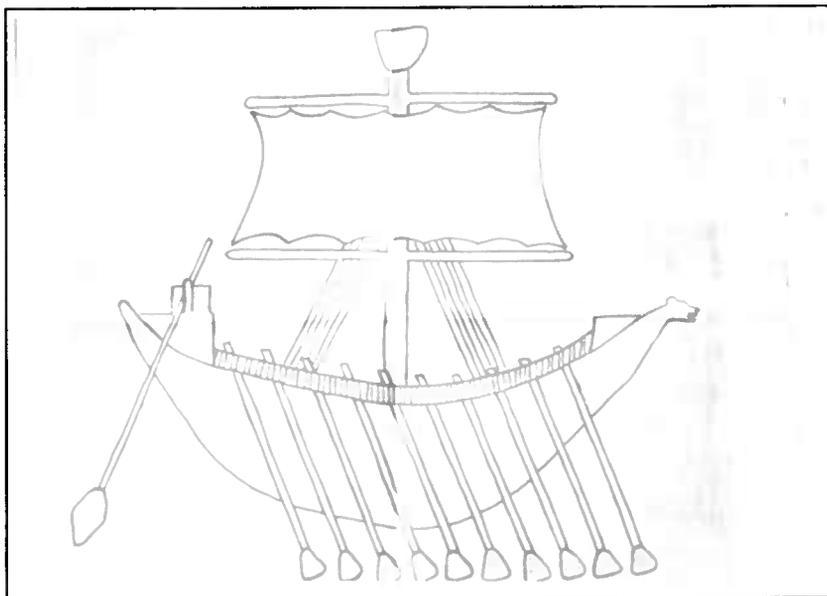
Figure 5.9

Next students learn about batik techniques. They review their designs together and make revisions in their patterns as dictated by the process. In recording the types of changes he had made and his feelings about his altered plans Anthony wrote:

I chose to do without ropes (from the mast to the tarp of the warship). That way I wouldn't need another color. I also decided to do away with detail on the head in front....These changes didn't bother me at all and they made the process easier. I also found I had to make the dimensions of the boat big enough so that when I applied the wax...(I wouldn't have) white blotches throughout my batik...I was very pleased with this part of my batik.

Then when my project began to burn during ironing, I found that I had to use more paper. This helped to keep my batik from burning as much...(but) it was more difficult to remove the wax. This became very frustrating...In conclusion, although my batik didn't turn out as good as I expected, these changes helped to save my batik.
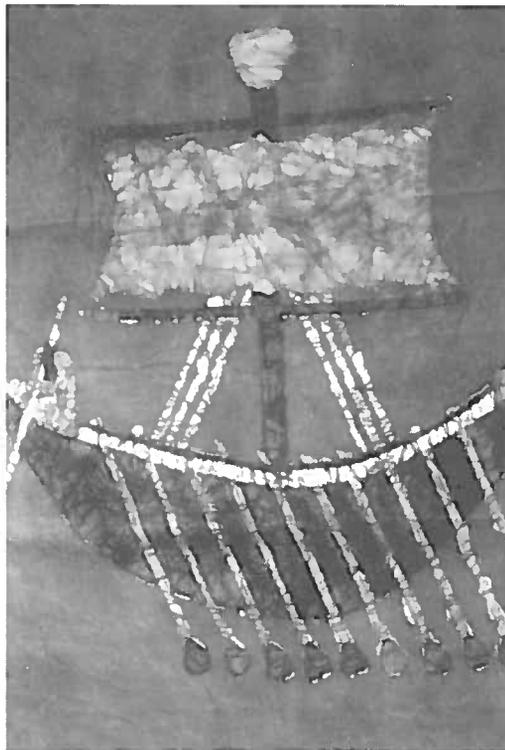
Figure 5. 10

These journal entries give us a sense of the self-assessment skills that develop through on-going informal dialogue and reflection. As students become used to critiquing their work in process and applying this information to their art work, they can draw on these skills of self reflection for more formal assessments. For example, after the completion of the domain project, students fill out an assessment sheet (which lists the dimensions they helped to develop early on in the semester) (Figure 5.11). Barbara also fills out a similar sheet for each student (Figure 5.12), and then compares the two, providing both another forum for dialogue and new inspirations for future work.

NAME: ɪᴏɴʏ VALENTA

DATE: April 25, 1991

PROJECT: Batik

DIMENSION DESCRIPTION	DIMENSIONS	RATING	COMMENTS
		STUDENT:	
How hard you are willing to work.	Effort/Attitude	4	I tried to do my best even though I was frustrated at times.
Following classroom rules and procedures.	Participation	4	I worked on my project every day, I didn't waste any time.
Rough drafts, journal reflections, research, and projects over time.	Development	3	The development of this project was long, I had many obstacles to overcome.
Your own style. Making changes. Risk taking.	Use of Personal Choices	3	I changed my color pattern to have 4 colors instead of 5. I continued to Iron my project even when it burned.
Departure from original intent. Innovative.	Creativity/ Experimentation	3	Well, even though I think it was a mistake. I went to a darker shade of blue instead of my original pick turquoise.
Accomplishing stated goals for the lesson.	Lesson Objectives	3	I accomplished the goals, but I don't believe I accomplished them to the point at which they could have.
Use of concepts and techniques learned from past experience.	Learned Concepts and Techniques	3	I didn't enjoy the waxing, I didn't like the crackle it formed. I also hated the ironing it burnt my batik.
How well you used the materials available.	Use of Materials	2	I believe I used the materials poorly, I waxed out of lines, I burned my batik, and my dye bath color was to dark.
Were you able to create a project.	Completion/Final Product	3	I feel that for everything that seemed to go wrong; my project turned out very good.
Quality of the work. Care taken with the project.	Craftsmanship	3	If I would have been more careful the mistakes which occured would have never happened.
	Other:		

Figure 5.11

NAME _Anthony Valenta_

DATE _April 29, 1991_

PROJECT _Batik_

TEACHER:		
COMMENTS	DESCRIPTION	RATING
This whole process was new to you and I	Effort/Attitude	4
felt you stuck with it through	Participation	4
every obstacle.	Development	4
I feel you pushed the process as far as you could for	Use of Personal Choices	3+
the first time out, and given the	Creativity/ Experimentation	4
class room time constraints.	Lesson Objectives	4
This seemed to be a break through	Learned Concepts and Techniques	4
project. You were willing to risk even if things	Use of Materials	4
did not go as expected. You constantly	Completion/Final Product	4
revised and shifted gears.	Craftsmanship	4
Your attitude was super!	Other:	

Figure 5.12

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CONCLUSION

The "domain project" approach to curricular units outlined in this chapter incorporates a wide range of educational experiences. By integrating production, perception, and reflection, domain projects expand students' understanding of artistic media, processes, and concepts. While encouraging familiarity with traditions in art, they stimulate thoughtful responses to working with art materials and challenge students to respond from their own experiences and their own sense of the world. The domain project model requires that teachers develop explicit conceptual goals and create curricular units to facilitate clearly defined learning objectives; at the same time it challenges students to develop and discuss their own individual intentions and discoveries. By looking at student work and discussing their studio experiences both from the context of the students' own agendas as well as the teacher's intended learning, students develop the skills that provide the foundation for self-assessment.

In the following chapter, we will look in more depth at domain project assessment and at some of the dimensions and formats developed by PROPEL teachers.

CHAPTER 6

DOMAIN PROJECT ASSESSMENT

Domain Project assessment in PROPEL classrooms is a form of shorthand; it provides a relatively concise way of capturing a great deal (though certainly not all) of what students have accomplished. Such assessments can be meaningful to both students and teacher because they grow out of a sturdy panoply of discussion, practice, and examples that are already in place in the classroom. In effect, what these assessment models capture is a focussed synthesis of that classroom life.

The close link of assessment to the specific classroom reinforces what was said in Chapter 3 about the necessity of each teacher developing his or her own form of assessment. Classrooms differ; the sensibilities through which teachers have filtered decisions about what and how to assess differ; the models themselves differ. Thus, they cannot be cut loose from their contexts and applied in other situations without a loss of integrity. As other teachers work through the process of implementing PROPEL, they may develop very similar models. But the process of sorting and selecting for oneself is crucial.

Other important links among the domain project assessment models also help to ground them in the learning environment of individual classrooms. These links include the following:

> * *The assessment must be public; students and other interested parties should have a clear sense of what is happening and why.*
>
> * *The assessment must be based on shared criteria.*
>
> * *The assessment must involve students in developing and using the criteria.*
>
> * *The assessment must be integrated into and supported by the ongoing class process.*

DEVELOPING DOMAIN PROJECT ASSESSMENT

The development of models for assessing student work on domain projects was a central issue for PROPEL teachers and researchers from the inception of the project. The models described here, however, grew out of a particularly focussed effort on the part of a committee on Domain Project Assessment. This was one of several teacher committees formed during the fall of 1989 to develop specific aspects of PROPEL theory and practice.

The Domain Project Assessment Committee consisted of core teachers Barbara Albig, Beverly Bates, Scott Grosh, Bill Perry, and Karen Price. Meeting regularly and working closely together for two academic years, these teachers presented, discussed,

refined, and field-tested models of assessment derived directly from their own domain projects. While specifics of each model differed according to classroom needs, teachers also had numerous common concerns, such as those philosophical concerns listed in the introduction to this chapter.

No less important, all teachers were concerned with pragmatic issues, especially, the conciseness and, therefore, the utility of their models; there is ultimately a limit to the amount of time per student that even the most dedicated teacher can afford. Settling on assessment dimensions thus required striking a balance between the greater detail that more dimensions could offer and the greater burden of making judgments on more dimensions for each student.

The particular dimensions that teachers have chosen seen to consist of two general types. The first includes dimensions such as inventiveness or technical achievement that are quite generic, applicable across a wide range of classes, curricula, etc. Such dimensions are also value-free; they do not rest on a preference for a particular kind of end product or working style. Their openness helps teachers to uncover information about what and how the students are actually learning—what is happening rather than only what the teacher expected or hoped would happen.

The second type of dimension—for example, use of class time, participation, use of materials—carried with it the teacher's values with respect to what is important in the learning process. Even these, though, do not dictate how the student is to demonstrate the dimension, leaving room for a range of working styles, etc. In all cases where teachers have chosen such dimensions, the students are well aware of their teacher's standards—in fact, working with such a system helps students to understand expectations of this sort. Here, the issue of differences in class context becomes quite open, as teachers name the additional dimensions that they want their students to be aware of and pay attention to.

The models developed by all five teachers are presented here, as they existed at the end of the 1990-91 school year. Their similarities will be clear. But they also reflect the personal choices of five individuals working in five different situations.

Beverly Bates, Creative and Performing Arts High School

CAPA is the arts magnet high school for the Pittsburgh Public Schools. Both class size and total enrollment are small; students are capable and highly motivated. Because of the nature and structure of the school, a formal review of each student's work takes place each semester, and all of the relevant teachers contribute to it.

Bev meets with her printmaking classes once a week for two hours. In her work on PROPEL, Bev concentrated on student self-assessment. For the most part, she has worked with very straightforward assessment sheets. At the end of each class, students are asked to grade their own work on three dimensions: use of class time, creativity/originality, and use of materials. They are also asked to comment in writing on what they have learned. The process takes less than five minutes per class.

Bev's experience has been that students may be initially hesitant to make honest appraisals of their work. Therefore, she works hard to persuade them that their self-appraisals do not determine their actual grade, and that she is genuinely interested in knowing what they think about their own work and what they see themselves learning. As students gain trust in this process, their self-assessments become more honest and more informative, as noted in Chapter 3, page 30.

In some cases, the assessment process itself has contributed to students' growth, as they look at their work more candidly and thoughtfully. In other cases, students' comments about what they've learned have brought Bev to a realization that the most important steps (or leaps) that students make don't necessarily occur where her project design would predict. Rather, the regular use of student self-assessment documents moments of illumination whenever they occur in the student's working process. Such documentation, in turn, sheds light on how students learn and what is valuable to them. Bev sums it up as follows:

> The most valuable part of working with and developing a self-assessment tool for students is that I now have a greater insight into the thinking that is behind the ideas of the artistic creations of my students. Much of what may not have been clear just from observation is surprisingly clear when the students write about what they are attempting to do, and why. Surprisingly, my students have no objection to writing about the process they are using, the discoveries they make, as well as mistakes to avoid in future art assignments, as long as it is related to what they are doing.
>
> What has been most beneficial to me is that the discoveries students make during the process of creating a piece of art are not necessarily those the teacher might anticipate before, and certainly not after, the completion of a work of art. Students feel much more responsible for the outcome of their final creation.

Scott Grosh, Greenway Middle School

The teaching context at Greenway, where Scott Grosh teaches, is radically different from that at CAPA; in 1990-91, the scheduling system at Greenway was such that Scott met with nine different classes each semester. Class size was as large as 42 students, in a room that had not been designed to accommodate that many. Given the situation, Scott's search for a relatively lean, concise assessment model is easily understood. He decided to focus on three dimensions: conceptual understanding, technical skill, and originality. These remained constant across projects. The dimensions are graphed directly in Scott's grade book. This makes it relatively simple for him to record his assessment; it also facilitates a sense of a particular student's work across projects

In applying the model, both Scott and the students used the same graph format to assess the students' work. He points out, as others have, that even apparently simple dimensions such as his are not immediately meaningful to students; rather, the meaning of concepts like "creativity" has to be patiently and carefully developed. Once that understanding exists, he has found the students to be fairly accurate in their self-assessments; differences in his assessment and their own appear to be attributable more to students' personalities than to a lack of understanding.

With respect to his own use of the assessment model, Scott has pointed out that even with the small number of dimensions involved, evaluating student work in this way implies looking at it differently. This, in turn, has led him to see it differently in some cases. The result may be a realization of what is holding a student back, a recognition of a previously unacknowledged strength in a student's work, or any of a range of other possibilities. In part, Scott feels that this may be attributed to the simple fact that working with the dimensions makes him think more methodically and consciously about the work produced.

Scott also has begun working with a variety of formats for student self-assessment that are probably less direct, but are more integrated with the projects and more imaginative. Examples of such possibilities include asking students to add "graffiti" to urban landscape paintings as a means of commenting on their work; or asking students to pretend they are visiting the landscape they've just painted and write a postcard to a friend describing what it looks like. The responses to such tasks were unusually rich for middle school writing, and helped the students articulate the affective aspects of what they had done.

All of these activities are themselves processes that students have to learn. The kind of change they can effect is captured by one Greenway student who commented that "this is a great class — because we think."

ASSESSMENT PROFILE

Student Name			Projects								
		A	B	C	D	E	F	G	H	I
1. **Demonstrated Understanding of Concepts**	4 3 2 1										
2. **Technical Skill**	4 3 2 1										
3. **Originality of Response**	4 3 2 1										

Figure 6.1 Scott Grosh's chart

Karen Price, Schenley High School

At Schenley High School, Karen Price works with diverse groups of high school students in general art classes and crafts classes. Like Scott Grosh, Karen uses a graph for assessment of achievement on domain projects, but there are several significant differences. As seen in Figure 6.2, her version is more detailed. The dimensions are sorted into two groups: Artistic Skills and Citizenship Skills (as they relate to the process of making art).

After each major piece of a complex domain project, Karen asks her students to graph their own achievement. She then adds a second line that shows the student what her assessment of the same work is. This is often accompanied by brief written comments. The graphs are returned to the students; the students thus get feedback not only about their work, but also about their assessment of their work. The interchange of thinking that the completed graphs represent becomes a form of mini-dialogue.

That interactive or conversational quality is characteristic of Karen's approach to assessment. It also typifies how tightly interwoven assessment and classroom structure have become. The literal conversations that are part of life in an art room have been refracted into a variety of processes with a variety of participants. In some cases, the comments come mostly from Karen — for example, by asking a class to leave works-in-progress or completed works out on long pieces of white paper and writing comments right on the paper.

But, like the other teachers, Karen has developed her own ways of insisting that students take on responsibility for many such interactions. An example is her increasing use of peer assessments — for example, asking students to work in pairs, make drawings of each other, and then critique each other's work. Another example: for a sculpture project based on American folk art, students invited a "significant other" to class — family member, friend, another teacher, etc. The students' task was then to explain to their own guests what the work was, what its artistic intent was, how it developed, what changes were made along the way, and so forth.

Finally, for the last two years, Karen has turned her (district-mandated) written final exam into a review by the students of their own portfolios. As the questions on the exam lead the students to reflect on their work, the exam itself becomes a learning experience.

The familiarity that the students have developed with the process of self-assessment of single works prepares them well for these or similar portfolio-related tasks. Thus, the domain project assessments provide a consistent thread throughout the class, and serve as a kind of anchor or reference point for a wealth of other evaluations, from informal to relatively formal.

NAME

SOUND PATTERN UNIT

OBJECT

TEACHER COMMENTS:

Assessment Levels	Points	Expressiveness of theme: Sound Patterns	Originality	Technical Skills (use of medium)	Composition (use of design principles)	Visual Detail (neatness)	Experimentation with combinations of materials	Transfer of learning from one assignment to another	Effort to meet the objective (amount of thought, planning, time, care)	Followed Directions	Completed project	Appropriate use of supplies and materials
HIGHEST	10											
HIGH	9											
	8											
	7											
MEDIUM	6											
	5											
	4											
LOW	3											
	2											
	1											
DID NOT DO	0											

ARTISTIC SKILLS

CITIZENSHIP

Figure 6.2

Barbara Albig is the only art teacher at South Vocational-Technical High School. Although some of her students will go on to college, most will not. Many tend not to think of themselves as potentially successful students, at least before they work in Barbara's art room. In her art classes, students keep journals, which contain both relatively structured and unstructured reflection activities. All students are encouraged to participate in discussions of their work and that of their peers; there is a great deal of support for these efforts, both from Barbara and from others in the class. Students learn that they will be taken seriously, and they respond in general with the kind of effort that shows they are also beginning to take themselves seriously.

When Barbara set out to develop a structured domain project assessment model, she felt it was critically important for the students to work with her on it, from the ground up. Therefore, as mentioned in Chapters 3 and 5, rather than presenting and explaining to her classes a list of assessment dimensions, she involved her classes in the process of selecting and defining the dimensions. As the teacher, Barbara facilitated the discussions, but each of the dimensions is one that was chosen and elaborated by the students.

The list they generated consists of the following dimensions: effort/attitude with respect to one's own work, participation (in the class as a whole), development (of work over time), use of personal choices, creativity/experimentation, lesson objectives (accomplishing stated goals), learned concepts and techniques (transfer of learning), use of materials, completion/final product, craftsmanship. (See Figure 6.3) Clearly, this is a more extensive list than the others, and it reflects values that are developed and nurtured in Barbara's classes.

To check on the level of student agreement with the criteria, Barbara circulated a questionnaire as the next step. Students were asked whether they agreed with the definitions of the dimensions that were listed. If they did not, they were asked to define the dimensions in their own terms. The responses were overwhelmingly positive. Students not only agreed with the definitions of the dimensions, but also felt a genuine sense of ownership in the system and a corresponding sense of responsibility for their work.

The dimensions were then transferred onto assessment sheets, which also contain brief definitions of the dimensions, space for student ratings of themselves and their work, and space for comments. A half-sheet overleaf allows Barbara to integrate her own ratings and comments, so that there is an exchange of opinions similar to that in Karen Price's model.

An example of Barbara's assessment sheets can be found in Chapter 5 page 62 and 63. This assessment system stands out as an example of the benefits of active student participation in determining, as well as applying, assessment criteria.

Do you agree with the following descriptions? If not please define in your own terms.

- <u>Effort/Attitude</u>- How hard you are willing to work.

- <u>Participation</u>- Following classroom rules and procedures. Helping other students. Contributions to critiques, discussion.

- <u>Development</u>- Rough drafts, written journal reflections, research, and projects over time. Contributions to critiques and discussions over time.

- <u>Use of Personal Choices</u>- Using your own style. Making changes according to your own experiences. Risk taking.

- <u>Creativity/Experimentation</u>- Trying ideas that are a departure from the original intent. Exploring uncharted territory.

- <u>Lesson Objectives</u>- Accomplishing stated goals for the lesson.

- <u>Learned Concepts and Techniques</u>- Use of concepts and techniques learned from past experience.

- <u>Use of Materials</u>- How well you used the materials available. How efficiently did you use them? How creatively did you use them?

- <u>Completion/Final Product</u>- Were you able to create a project? How satisfied you are with your own work.

- <u>Craftsmanship</u>- Quality of the work. How much care you took to complete your project.

Figure 6.3

Bill Perry, Banksville Scholars' Center and Greenway Middle School

During the course of PROPEL, Bill Perry taught at two very different middle schools: Banksville, a school to which groups of academically gifted students come for one day each week, and Greenway (where Scott Grosh also teaches). To assess his students, Bill developed a series of giant wall charts, or scrolls, one for each class, that served as a forum for comments and evaluations by Bill and by his students.

The term "wall charts," however, fails to convey the visual impact of these scrolls. Drawn on long sheets of paper, they included students' names at the left and corresponding pathways that extended, moved, and/or curved their way toward the right-hand side. Along the paths, milestones were marked, such as stages in the completion of projects; the scrolls, therefore, also became graphic representations of processes across time.

The specific ways in which the scrolls have been used have also varied. At Greenway in 1989-90, their initial year, part of their purpose was to seduce students, by the visual power of the scrolls, into greater engagement with and understanding of the processes of making art. Toward these ends, Bill used many places on the charts to record his responses both to the students' work and to their degree of effort, amount of time on-task, etc. In addition, the charts served as a forum for students' comments on their own work. In general, however, the teacher-generated aspects of this appear to have had more of an impact than the students' own contributions. Bill's comments helped students to track their own progress, and made it clear to them that he was attending to what they did. The students' own comments or reflections tended to be somewhat more genuine than previous efforts, but Bill felt that they could still improve in significance.

In light of this first experience, Bill used a different approach in 1990-91 at Banksville. Here, the charts were used initially as a field on which students posted answers to questions about the students' background and their attitudes. Examples of the questions included asking students for their art "average" since kindergarten, their self-evaluation of their abilities as artists, and their description of how others assessed their art ability. This process provided helpful information for Bill; it also helped the students make a connection both with the physical format of the scrolls and with the process of reflection and self-assessment. Later, more evaluative questions yielded fairly substantive answers, compared with those of the previous year's students.

On the whole, Bill felt that the scrolls were a mixed success. They offered a level of insight into student thinking and learning that would not otherwise have been available, but they didn't work as well as Bill had hoped in capturing a sense of the moments of illumination that make art sparkle for those doing it. On the other hand, they *did* provide a public, irrefutable collection of information about students' work over time. Finally, as all who saw them agreed, they constituted a vibrant proof that assessment can be creative, lively, and even fun.

CHAPTER 7
PORTFOLIOS

Portfolios in the visual arts are not new. They are traditionally used by both artists and art students for the purpose of demonstrating accomplishment, generally in the form of selected pieces of finished work. Of course, the work included in a portfolio, and how the portfolio is structured, depends on the audience for whom the portfolio is intended. The PROPEL visual arts portfolio differs from the traditional portfolio in a number of important ways:

> *Whereas traditional portfolios are designed for some outside evaluator, the primary audience for the PROPEL portfolio is the student. The portfolio is a resource that enables students to track progress, generate ideas, think visually, and communicate with others about their work.*

> *The PROPEL portfolio places a much greater emphasis on the thought processes that go into making art than do traditional portfolios, which tend to be concerned primarily with end products.*

> *PROPEL portfolios are kept in all visual arts classes, regardless of the level of the class; they are not reserved for the advanced levels.*

> *Assessment of the portfolio is a collaborative effort between student and teacher. By contrast, the traditional portfolio model leaves most, if not all, of the assessment process in the hands of the teacher or other evaluator.*

> *Though many teachers have kept folders for practical reasons such as storage and grading, the PROPEL portfolio is viewed as an active and interactive part of classroom learning.*

> *Selected documentation of the portfolios may also travel from classroom to classroom, grade to grade, as the student advances, thereby demonstrating to both the student and his or her several teachers how the student has developed over time.*

What of institutional uses for PROPEL portfolio assessment? Until now, PROPEL portfolio assessment in the visual arts has focused primarily on classroom use; however we have also begun to develop methods that serve institutional purposes. Important though this may ultimately be, our philosophy has been to create assessments that will, first and foremost, provide the most beneficial feedback possible to the student in the art class, and then to move towards institutional assessments that would inform and support desired classroom practice.

THE EVOLUTION OF PROPEL PORTFOLIOS

As teachers and students together reviewed domain project work and journal/ sketchbooks, they began to think more about the importance of looking at work developed over extended periods of time. In this way, portfolios naturally grew and evolved in many classrooms, sharing fundamental attributes, but also taking on unique forms in order to meet the needs of particular educational environments.

> PROPEL portfolios share with domain projects a focus on a process orientation, student reflection, and self-assessment. In fact, this type of portfolio is a natural extension of the domain projects.

In light of these diverse experiments, a portfolio committee that included three Pittsburgh core visual arts teachers was formed during the last years of the Arts PROPEL project to explore the extent to which standards for development and portfolio assessment could be defined. The teachers were Norman Brown of Schenley High School, Pam Costanza of Rogers Middle School, and Mark Moore of Arsenal Middle School. Their perspectives and those of the assessment committee referred to previously are represented in the general discussion that follows. The chapter will conclude with a review of selections from actual middle and high school portfolios.

WHAT GOES INTO A PROPEL PORTFOLIO?

The most important contribution of PROPEL portfolios is to provide evidence of learning. Ideally, therefore, everything a student does might be retained in a portfolio. On the other hand, pieces that a student might choose to discuss or to work from during one portfolio review might be different than those chosen as most significant or influential at the next viewing.

Thus, PROPEL visual arts portfolios are typically not created by a selection process from an all-inclusive folder. Selection does occur, but it is part of a student's self-assessment or portfolio review process; work once reviewed is returned to the portfolio.

Obviously, there are situations in which a folder is not physically adequate to contain all the work a student produces. What *is* critical is that all of the work be available for review during the semester or year in which the portfolio is collected, even if it does not all reside in a single container. Nonetheless, while the contents of an unedited portfolio can provide the most thorough evidence of learning, an all-inclusive portfolio may be less manageable and less accessible to the student. To address the issue of manageability, some teachers have elected to use more limited portfolios, only including several selected domain projects chosen to illuminate certain aspects of the student's learning. Even in these cases, projects chosen necessarily include drafts, reflections, etc., in order to chart the student's thinking process.

To facilitate access to and review of portfolios, the Pittsburgh committee also developed a recommended set of supplemental materials to help guide the reader through a portfolio. These materials are included among the core portfolio materials listed below:

* *Cover sheet:* *Student's name, class name, and date*

* *Annotated table of contents:* *This provides a brief description of the contents of the portfolio, including a description of the projects and the time dedicated to each, along with any other relevant background information on the projects.*

* *Background information about the student:* *This can be obtained through an "entry survey" that students complete at the beginning of a course. Such a survey helps the teacher understand the experiences, interests, and knowledge that the student brings to the class.*

* *Student work and reflections:* *Student work is comprised of drafts and final works, accompanied by journal entries. Reflections include, but are in no way limited to, student self-assessments. All work should be signed and dated. Typically, the backbone of the portfolio is a series of domain projects, each of which contains, along with the final product, preliminary work, research, inspirational resources, reflection, and assessment by the student, by peers, and by the teacher. The number of domain projects depends on length of the course, length of the project, and age and grade level of the students.*

* *A mid-semester portfolio review* *by the teacher, or the teacher and student together.*

* *A final assessment* *of the student's work by the teacher, or the teacher and student together.*

PORTFOLIO ASSESSMENT

The portfolio is the vehicle through which students see and eventually come to assess their own progress on a variety of dimensions, such as skill development, inventiveness, etc. Looking at portfolios from a broader perspective, however, may lead to still deeper insights. For instance, students may develop a sense of how projects fit together conceptually; at the same time, they may begin to develop self-knowledge as they gain a sense of their own strengths and weaknesses, their likes and dislikes. Because of its reflective nature, portfolio assessment as described above serves as a potent means of simultaneously documenting and fostering students' understanding of art and of themselves as artists. For the student, the portfolio can potentially become the center of an entire, unified working process.

The first step in portfolio assessment is to create a common language that describes student performance. This process, typically begun during domain project assessments, provides a basis for reflection, for assessment by student and teacher, and for shared assessment among students. Dimensions are selected, discussed, and defined in terms of characteristics of students' own work or the work of other artists.

Characteristics Observed in Student Portfolios

PRODUCTION

Craftsmanship 1. Demonstrated understanding of elements and principles of design
2. Safe and effective use of tools and equipment
3. Skillful and appropriate use of materials
4. Attention to detail

Inventiveness 1. Originality of idea
2. Experimentation with imagery and materials
3. Risk-taking
4. Divergent or inventive thinking

Integration of Skills and Ideas
1. Utilized prior knowledge
2. Showed connections between work and progress over time
3. Utilized outside influences

Effort 1. Caring, investment, involvement, commitment
2. Follows through, persistence, diligence
3. Revision process

Expression 1. Revealing student feelings and/or ideas
2. Personal style or qualities
3. Response to personal or life experiences

PERCEPTION

Perceptual Awareness
1. Looking closely at works by oneself and one's peers
2. Close study of the physical properties and qualities of art materials
3. Cultural awareness: Understanding art objects and traditions in the context of time, place, person, and purpose
4. Ability to discern qualities in the work of other artists
5. Visual awareness of the natural and human environment

REFLECTION

Message / Purpose / Intention
1. Student's values and intentions
2. Lesson objectives and desired conceptual understanding

Awareness of own process
1. Procedures and discoveries
2. How ideas change
3. Obstacles and frustrations

Strategies for revision
1. How choices affect outcome
2. Understanding own likes or dislikes about work

Sense of ones own goals and artistic growth and development
1. Own strengths and areas to develop

Use of resources and suggestions to develop artistic process
1. Journals as source books
2. Valuing others' opinions
3. Working collaboratively
4. Learning from other art work

Figure 7. 1

Sharing assessment dimensions among teachers is also valuable and may proceed along roughly the same lines. For example, when the portfolio committee sought to develop common standards of assessment, they began by looking at student portfolios together and describing the characteristics of student performance that were evident in each portfolio. Next, individuals were asked to describe characteristics and point to explicit evidence supporting the assessment claim. We were then able to organize the characteristics in a form consistent with the primary PROPEL processes: production, perception and reflection. The general characteristics that were identified through this process are shown in Figure 7.1. An expanded set of dimensions, developed by researchers at Project Zero along with Boston area teachers, is available separately from this handbook.

In addition to identifying characteristics to be assessed, teachers, administrators, and students also need to reach some shared sense of standards of performance. What kind of craftsmanship is expected of a first-year middle school student? What constitutes outstanding expressiveness for a senior in high school? For the Pittsburgh portfolio committee, these standards were defined by looking at and discussing the work of many students.

The process described above ensured that, in discussing a student's work, teachers had a shared sense of what the various terms and standards meant. However, it should be stressed that the standards we found are general and leave ample room for individual students' differences. An individual student's growth and development is considered at least as important as his or her relationship to any established norm.

It is also worth noting that the development of a common language or of common standards did not imply identical values among teachers. Teachers and programs using the PROPEL assessment dimensions may differ in how they emphasize aspects of students' work. For example, one teacher or program may feel that rendering skills are among the primary goals for a class, while another considers them relatively unimportant. Finally, teachers may thoughtfully add dimensions not listed or subtract those that are, as appropriate to their teaching goals. In addition, districts may impose different levels of structure across classrooms. That is a decision that has to be arrived at through consideration of costs and benefits by both administrators and teachers.

In all cases, the success of the portfolio process depends upon *making public* the characteristics, criteria, and standards for assessment of student performance. No less important is a common understanding of the way such assessment measures will be used. Students cannot take responsibility for their performance if the dimensions on which they will be evaluated appear murky to them. On the other hand, if students understand and internalize these dimensions, they can learn to assess themselves. The process of self-assessment in itself aids their learning and their work in art. Figure 6.3 in Chapter 6 page 73 presents a list of assessment dimension descriptions developed through class discussion by students in Barbara Albig's class.

Ultimately, then, students should be able to reflect on their own work in the terms learned in class. As they learn to do so, they are learning and applying essential criteria that are used to judge all levels of artistic thinking and artistic making. Thus, the most important point about PROPEL visual arts portfolio assessment is that it is not meant to be confined to the term of a particular project or a particular course. Rather, it is concerned with developing habits of mind and standards of judgment that can be used throughout life, having application both within and beyond the realm of art.

WHEN TO ASSESS

Any portfolio review involves looking at and making judgments about work that spans a period of time. When more time has gone by, there is usually more work, and hence more that students and teachers can see and react to in the portfolio. For this reason, as well as for providing a sense of closure at the end of a course, a retrospective (or "summative") portfolio review can be of great value.

On the other hand, there is a strong conviction on the part of PROPEL teachers that, just as portfolio development is an intrinsic part of the art class, portfolio assessment should be ongoing (or "formative") and should serve as a form of guided intervention in the students' working process. As students produce work and reflect on it, they are accumulating knowledge. Portfolio assessment aids in that process, helping to clarify what students have learned by focusing their attention on issues that contribute to understanding.

Whether formative or summative, PROPEL assessment entails both student and teacher input. However, the particular process that each teacher evolves will vary with context. Factors such as students' ages, developmental levels, and previous experience all contribute to assessment strategies. Equally important are the teacher's preferences, class load, etc. Thus, no standardized approach to portfolio assessment can be imposed without detriment to the process of teaching and learning art.

Figure 7.2 Deon Rice Portfolio Review with core teacher Karen Price

ONGOING PORTFOLIO ASSESSMENT

Ongoing portfolio assessment takes many forms. It can be rather formal, as in a mid-term portfolio review. More often, it will take the form of informal discussion between teacher and student, or self-assessment by the student. The purpose is generally to clarify understanding and, simultaneously, to direct future efforts. For example, students in some classes review their portfolios in order to develop final projects that emerge from interesting or unresolved issues in other work. As the portfolio becomes a source of ideas and a basis for grounding classroom discussion, the question of whether formative portfolio assessment is better thought of as "assessment" or "instruction" becomes irrelevant.

Although, as suggested above, procedures for formative assessment naturally vary, one common approach is to talk with each student about his or her portfolio, using a series of questions (some fairly standard, others based on the flow of the conversation) to determine what the student has learned, understands, would like to improve, etc. The learning potential of such dialogue is great.

FINAL PORTFOLIO REVIEW AND ASSESSMENT

Discussion of portfolios, as described above, may also become a more formal interview process to be used as part of the summative assessment process at the end of the term. Yet valuable as such dialogues may be, many teachers find they are simply not feasible. Teaching load and time restrictions in some programs may preclude the possibility of spending even 10 to 15 minutes for an individual student interview.

Problems of this sort, coupled with some teachers' desire to include a final, retrospective review in their assessment model, have yielded a variety of written approaches to summative assessment. For instance, students may answer in writing questions much like those that would be asked in an interview. Karen Price's final exam (described in Chapter 6 page 70) is a review and portfolio self-assessment exercise for her students. (For excerpts from a student's Mid-Year Final Exam see Figure 7.3.) Questions focus on the work that students have produced that semester, and students are asked to refer to specific works (or characteristics or details of works) in responding. Frequently, such questions can be answered visually rather than verbally — for example, by drawing a quick version of a piece rather than describing it.

Since the exams are returned to the students with comments, the interactive nature of portfolio assessment is carried through; in effect, the final exam becomes an individual, end-of-semester portfolio review. What is asked on the exam builds directly from the ongoing reflection and assessment that students have done all year. The exam, like an interview, serves as a means of drawing the whole semester's work together.

As the process has evolved, the exam has come to include collaboration between students and the soliciting of opinions from peers. This interchange was rewarding enough to warrant expanding the concept. Students were asked to invite a "significant other" to come to class to participate in a portfolio review. Central to the effectiveness of this process was the student's own role in "walking the guest through" his or her portfolio, describing projects and procedures, sharing reflections and pointing out resources. See Figure 7.4, "Significant Other" Portfolio Review and Reflection.

Mid Year Final Crafts and Art (High School)

Looking back through your portfolio of artwork, take this time to reflect upon your development as an artist. Take all of your works of art (folder design, 3 cut-paper designs, cut-paper pattern, 3-D cube, value scale, perspective sketches, drawing of cube, and ceramic box; line chart, gesture sketch, contour drawing, yarn drawing, pen and ink drawing, and scrimshaw piece (or sculpture); and the African Kuba Cloth design, 2 Goethe color triangles, and the mask painting) into consideration as you respond to the questions below. Pay close attention to your sketchbook assignments as well. Your opinions, perceptions and thoughts are important for your development as an artist. Use complete sentences and artistic terminology in your responses. Each response carries a value of 10 points.

1. Which characteristic or style can you identify as uniquely your own? (color choices, use of line, brush control, construction skills, etc.) Explain.

I would say color choice. The colors I chose are my own. I can change colors by mixing to create new ones. If I'm warm inside my pictures I use green.... colors can reflect our feelings. *Green is actually a cool color. Maybe you sense green as the warmth associated with summer, grass, trees, etc.*

2. Which piece of work is your favorite? Explain why.

I think my line print is my favorite. I worked on this for a long time - doing it over and over until I was satisfied with my final outcome. I was able to experiment with different ways of using the ink - positive and negative space. I was also making it for someone else which makes me feel good. *Yes you did take a risk.*

3a. Select a piece that your are displeased with. Why are you displeased with the piece?

I'm most unhappy with my pen and ink drawing. I didn't feel I was patient enough. I'm usually dissatisfied when it comes to faces. The lines on the lips bother me and it reminds me of an old best friend. *Mr. Brown was quite impressed by the linear lips.*

3b. What did you learn from this piece of artwork?

However, I did learn about the values lines create. I did like my use of line in the hat and hair. I hadn't realized how much difference it can make with different textured lines and the distance in between. *Excellent analysis.*

Figure 7.3 Excerpt of Mid -Year Final Exam from Karen Price's class. Karen's responses are in italics.

"SIGNIFICANT OTHER" PORTFOLIO
REVIEW AND REFLECTION

Student's Name_____Grade_____

Reviewer's Name_____Grade/Position_____

DIRECTIONS:

Please view with a critical eye everything in the student's process-folio and sketch-book. Also, read any reflections and student assessments found in the process-folio and sketchbook. Each final product is accompanied by sketches, rough drafts, and background information. Finally, the process-folios include peer assessments and teacher comments about the student's strengths and weaknesses as developing artists.

We believe that the best assessment of student artwork begins with the students themselves, but must be broadened to include the widest possible audience. We are thrilled that you have become part of the audience.

When you view and read the process-folios and sketchbooks, talk with the student about his/her artwork and reflections. In addition, please take a few minutes to respond to the questions below.

1. Which piece of artwork in the portfolio/sketchbook tells you the most about the student's artwork?

2. What does it tell you?

3. What do you see as the strengths in the student's artwork ?

4. What do you see as areas of need that could be further developed in the student's growth and development as an artist?

5. What suggestions do you have which might assist the student's growth as an artist?

6. Other comments, suggestions, or concerns?

Thank you for investing this time in this student's artistic assessment.

Ms. Karen Price
Art Teacher

VISUAL ARTS PROPEL-- SCHENLEY 5 SCHOOL TEACHER CENTER

Figure 7. 4 "Significant Other" Portfolio Review from Karen Price's class.

In some situations, however, teachers may find that any "final" assessment is less meaningful than is the assessment that occurs throughout the semester. This is the position taken by two middle school teachers in Pittsburgh, Bill Perry (from the Banksville Scholars Center) and Scott Grosh (from Greenway Middle School), who feel that the level of abstraction required to make connections between apparently dissimilar domain projects is extremely difficult for their middle school students. They prefer to focus portfolio review (oral or written) on single domain projects or small groups of domain projects. They use reflection and assessment to try to help students see the more abstract connections, but they don't assume that students will necessarily be able to make such connections without considerable help.

Similarly, Barbara Albig (from South Vocational-Technical High School in Pittsburgh) uses the sequence of domain projects and domain project assessment in an iterative process that will gradually help students see connections among projects. She points out emphatically that her students don't automatically accept the premise that a retrospective portfolio review has inherent value. Rather, the sense of why such review processes are valuable has to be developed, and in order for that to happen, portfolio assessment must be ongoing and integrated with curriculum. Indeed, for students who will be in art class for only one semester, it may be more helpful to think about last week's work than to think about one's self-definition as an artist. The principle is the same as in full-scale retrospective review, but the scope of operation is smaller.

In the cases mentioned above, domain project assessment is the backbone of portfolio assessment. What is added is either a formal portfolio review, a portfolio-based exam, or questioning and reflection strategies that lead students to see connections among projects and evidence of their own development over time. The models that teachers have developed for assessing domain projects form the basis for portfolio assessment dimensions. These dimensions do not vary among students.

PORTFOLIO ASSESSMENT AND EVALUATION

Beyond the pedagogical value of assessment, teachers have the responsibility for making a summary evaluation of a student. Most often this evaluation takes the form of a grade; this is typically the case in PROPEL classrooms as well. In PROPEL, however, we have attempted to supplement and lend support to any grading system by creating methods of formal assessment based on the portfolio. Toward this end, teachers have attempted to provide succinct reports that summarize student work on the major characteristics articulated in the assessment framework. Thus, consistent with all assessment activities in the PROPEL classroom, students understand the criteria on which their work is being judged.

Final assessments such as these are necessarily brief and have taken various forms. While some teachers use numbers and others render their reports in a graphic format, the portfolio committee has adopted short verbal summaries on salient aspects of student work. Summaries of students from Pam Costanza's and Norman Brown's classrooms are included in the final section of this chapter. Note that their summaries refer not only to the student's performance levels, but also to the student's artistic growth over an extended period of time.

IMPLEMENTING PORTFOLIOS IN THE CLASSROOM

PROPEL portfolios in visual art can encompass a wide range of contents, physical organization, etc. What unifies the portfolio process across contexts is a shared understanding and implementation of basic principles — the principles delineated in the introduction to this handbook. This consistent approach makes it possible for teachers to diverge in the specifics of how they use portfolios without having the portfolios lose coherence as PROPEL entities. To maintain that coherence, especially with students who are new to PROPEL, we suggest a sequence such as the following to help to lay the groundwork for the portfolio process.

* *introducing PROPEL*
* *introducing reflection*
* *introducing domain projects and their assessment*
* *introducing journals*
* *introducing portfolio assessment by student and teacher*

1. Introducing PROPEL: The introduction to PROPEL's philosophy and structure can be part of an introduction to art classes in general, especially for students who have little or no recent experience with art. Alternatively, the introduction to PROPEL could take the form of an infusion of PROPEL philosophy and processes into ongoing art activities and curriculum. This is, perhaps, more practical if students have been involved with art on an ongoing basis. In either case, the purpose is to acquaint students with the general concerns that PROPEL embodies.

2. Introducing reflection: Reflection is sometimes an elusive process to get started. Virtually all students, but especially those who are young or relatively uncomfortable with verbal analysis, need to be taught what reflection is and shown that it is within their grasp. Teachers have been able to model reflection by pointing out the reflective qualities of their own comments to students. Student reflection can also be initiated through class critiques or discussions, and through individual student-teacher dialogues (oral or written) .

3. Introducing domain projects and their assessment: As students become comfortable with domain projects and domain project assessment, they are putting PROPEL into action. In addition, they are developing a basis for assessing their own work on such projects and for seeing connections among their works.

4. Introducing journals: Journals gradually become part of ongoing classroom practice. The use of journals serves to emphasize that making art requires thinking. Journals serve as a forum for student-teacher dialogue, providing a safe arena in which students can pursue their own interests. For many teachers and students, the journal becomes a critically important aspect of the portfolio.

5. Introducing portfolio assessment by student and teacher: Once the components described above are in place, one can begin to implement regular portfolio reviews, and portfolio assessments. The portfolio assessment process provides information that feeds back into the student's work.

TWO STUDENT PORTFOLIOS

On the following pages we present samples of work selected from two students' portfolios to suggest what PROPEL portfolios can involve and to show how two teachers have used them. The selections are, therefore, meant simply as examples, and not as models to follow in developing portfolios, since teachers must adapt PROPEL principles and processes to their own classroom situations and educational concerns.

These selections from portfolios are provided to illustrate how production, perception, and reflection activities interact over an extended period of time to inform and guide students' learning experiences. They also illuminate the ways assessment is integrated throughout the course of studies through student-teacher dialogues, written teacher responses to student reflections, and final assessment forms which, unlike many art assessments, highlight perception and reflection as well as production.

The work selected represents very different approaches to teaching and portfolios, suitable to students of different ages and levels of ability. The first portfolio from which work has been taken is from a middle school class. It consists largely of teacher generated domain projects, although the idea and procedure for the final piece was developed by the student herself. The second portfolio from which work was selected comes from a senior in high school. It is largely student generated in that the student was given responsibility to set his own agenda for the year.

The students chosen also have different strengths. Janelle Hirschkopf, for example, has a basis of highly developed technical ability through which to develop ideas, as evidenced in the work itself. John Edwards' particular strength lies in his reflective abilities, as evidenced in his journal comments and especially in his final portfolio interview.

A LOOK AT A MIDDLE SCHOOL PORTFOLIO

Janelle Hirschkopf was an 8th-grader in Pam Costanza's class at Rogers School for the Creative and Performing Arts in Pittsburgh. Pam Costanza teaches in what might be considered an ideal environment for developing a PROPEL approach to art education. She is surrounded by supportive colleagues and administrators who share her belief about the importance of art in education and who, in many cases, are similarly involved in PROPEL. The students in her classes are also unusual in that, by the time they enter the sixth grade, they have made a serious commitment to the study of art. They attend art classes during their entire three years at Rogers. Sixth graders take art for a 40 minute period two to four times per week. Seventh and eighth graders attend classes four days a week, and spend three consecutive periods, or two hours and fifteen minutes each day, in art. Seventh and eighth graders alternate regularly throughout the year between classes in two-dimensional media taught by Pam and classes in ceramics taught by an adjunct teacher.

The portfolio shown here begins with two of the many sketches Janelle did as weekly homework assignments. Figure 7.5 shows her first sketch, a drawing of a porcelain figurine. The figure is rich in detail and challenging in terms of its proportions and surface qualities. In later drawings, Janelle continued to focus on rendering details and surface qualities, but now concerned herself with more subtle issues of texture and tone as she began to "blow-up" small objects to several times their natural size (see Figure 7.6).

Figure 7.5

Figure 7.6

When asked in her end-of-term self evaluation which works she felt were particularly successful, Janelle said:

> *Pencil drawings are what I'm the most successful with. I've been using pencils basically all my life. I can really create some great stuff with it when I want to because I know what I'm doing when it comes to that kind of medium.*

She felt that her most frustrating experience was a watercolor assignment done around the same time as Figure 7.6. The frustration was due to feeling that she was unable to control the medium.

The first in-class two-dimensional domain project was a portrait unit. Building on portrait drawing experiences from previous years, this project was structured to help students learn to do portraits using a variety of styles and media. Students started with a series of three-minute line drawings, using felt tip-pens and drew the person across the table from them. Students made a blind contour drawing, a drawing using only circular lines, and a drawing using only straight lines made with the help of a ruler (see Figures 7.7, 7.8 and 7.9).
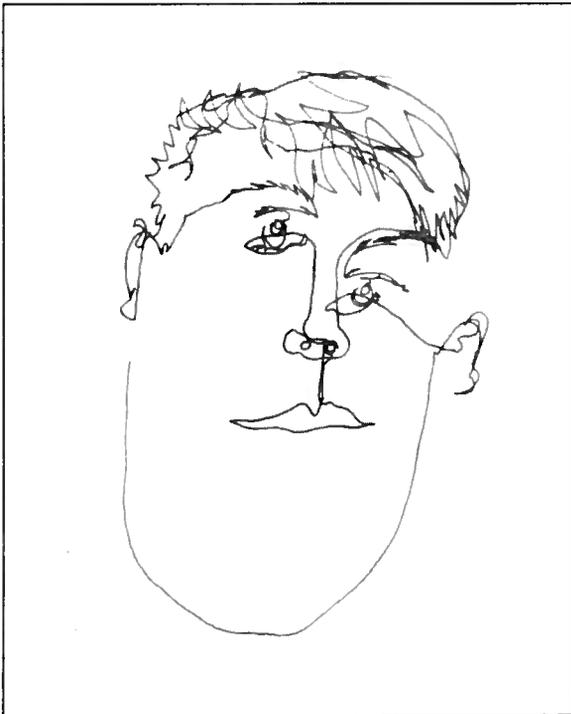

Figure 7.7
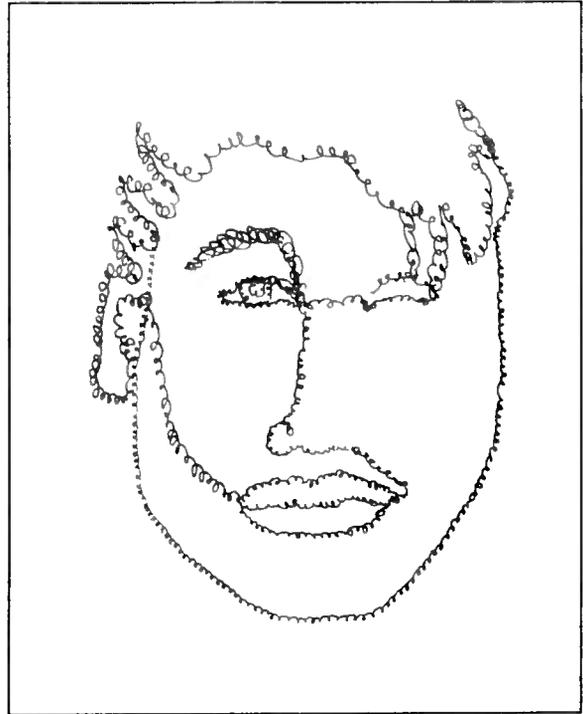
Figure 7.8
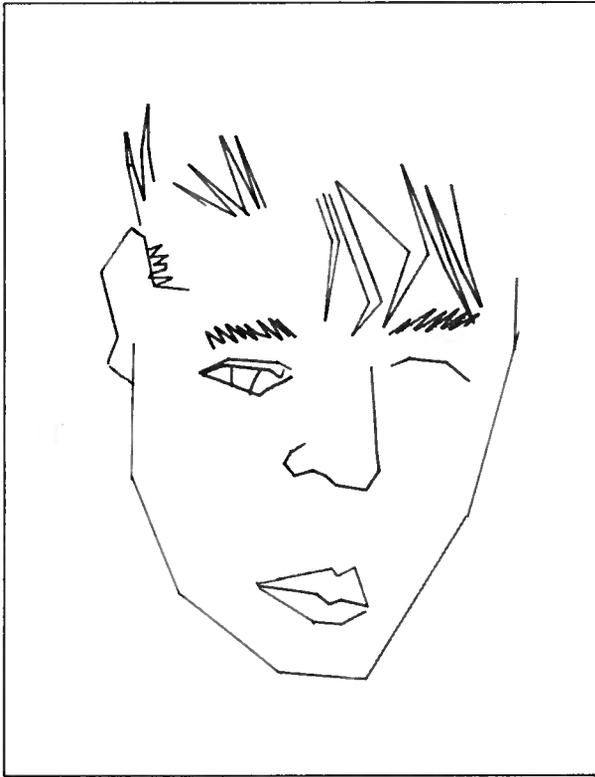
Figure 7.9
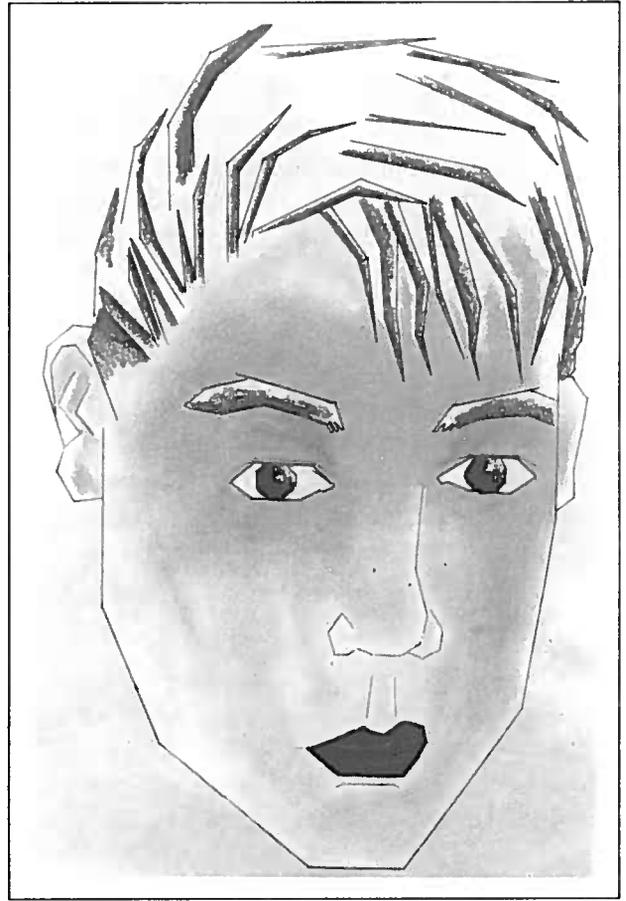
Figure 7.10

For each drawing, students made entries in their journals about how they felt about the drawing and the assignment. After all three drawings were done, they were put on the board to critique and discuss. A fourth drawing was then begun, initially using the ruler again to define the contours, then using oil pastels to paint in the face with "expressionist" tints that portrayed the person's personality. (Figure 7.10).

The completed oil pastels were put on the board for further discussion. At the end of the project, students looked at a series of Cubist and Expressionist portraits by Picasso, and were asked to discuss their portraits in comparison to those by Picasso.

The portrait project resumed, after several weeks spent on another assignment, with portrait drawings done in conte crayon and self-portraits done in pencil (see Figures 7.11 and 7.12). These were also critiqued in class. Before starting a final portrait drawing, students looked at and discussed portraits by artists with very different styles: Botticelli, Filippino Lippi, Vermeer, Rembrandt, Cassatt, Van Gogh, Modigliani, and Picasso. Students selected one or more artists as models, and created a portrait or self-portrait using the model as inspiration. Students could choose any of the media they had used during the project. As they began work, students recorded in their journals the objectives of the project, their chosen artist(s), subject, and media. These entries were accompanied by an explanation for the various choices.

Janelle wrote as follows:

I am going to do a self-portrait in colored pencil... because I want to learn how to use color to make portraits more interesting. The reason why I'm doing myself is because, if I want to express myself in any certain way by reflecting my personality, I know more about me, than I know about other people in this room.

The style will resemble Botticelli's technique because I like how he makes his models pose. I had to change my medium to pastels. It is going to be more of a challenge but I guess it will make this project more exciting. I'm doing it from shoulder up so you can focus your attention mainly on the face, and since I'm starting a new medium it would hold me back to worry about the body on top of a new medium...In the background I'm going to put in deep blue sky with lots of clouds simply because I'm a daydreamer. I love to just sit around doing nothing but I am thinking and dreaming.
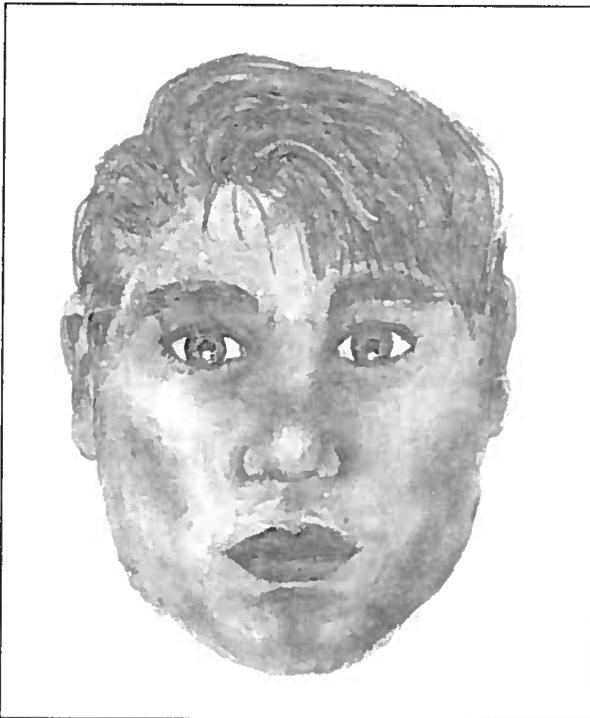
Figure 7.11

Figure 7.12

After doing the portrait, students critique their work in light of the assignment and their intentions (see Figure 7.13). These comments are summarized in the final portfolio review form.

Figure 7.13

Although her teacher was pleased with the final self-portrait (above), Janelle was not. When asked, in her final portfolio review, to select a work she felt was not completely satisfying, she chose this one, saying:

> *I don't think it is expressive enough. The main reason why I picked a self-portrait is because I wanted it to reflect me. I thought I would be able to show myself through art but I didn't do too well.*

Figure 7.14

A series of diverse activities followed the portrait unit during the second half of the year. Among these were a watercolor unit, a Native American project, and a project done in conjunction with a social studies unit on "immigration and integration." For the last project, Janelle worked in collaboration with another student on a large pencil drawing showing immigrants wearing the costumes of many cultures arriving at the port in New York (Figure 7.14).

The final project for the year was determined by each student individually, the primary requirement being that it draw upon material and concepts taught during the year. For this assignment Janelle did another large drawing, this time, in pen and ink. The title of the drawing was "Family." (Figure 7.15)

Explaining her title, "Family," Janelle said:

> *Because that's what it is. I didn't want to say "the funeral" because then people won't be able to make up their own story to it. So with, say, just "family" you can come up with many different opinions and stories.*

Figure 7.15

Commenting on her weaknesses, Janelle writes:

> *Everything blends in with other things around it. I'm taking too long. I can't get all of the shadows to make sense.*

About her strengths, she writes:

> *The people look like people except the girl in the chair has a beard. The stained glass windows' shades all look right. I managed to get patterns done easily, like on the window seat, and the wallpaper. Usually everything would be different, but these all are the same.*

JANELLE'S JOURNAL

In Janelle's journal are her drawings, along with her comments, and observations, reflecting her present and future concerns as an artist. She also included pictures and writings that inspired her, such as cut out images of faces from magazines, antique post-cards and photographs inherited from an elderly neighbor, and lengthy articles on portraiture and costumes apparently xeroxed from an encyclopedia. There are also extensive drawings and quotes taken from a book on anatomy. Although many of these images were eventually used for class projects, they were initially selected just because they intrigued Janelle.

Other drawings in the journal include sketches and cartoons which show a lighter and freer side of the student artist than one might expect looking at her class work (see Figure 7.16 (cat) and Figure 7.17 (cartoon). But also evident is a deep sensitivity to art and experience, captured in reflections on her work and in observations such as those cited in the box on the next page.

Pam collects the journals once each grading period and writes extensive comments, often in response to the student's observations.


Figure 7.16

Figure 7.17

A PAGE FROM JANELLE'S JOURNAL

October 23, 1990. Sometimes, I don't think I'll ever fully understand what Art is. There is so much of it and it comes in so many different forms and appearances. Lots of it is beautiful and lots of it is ugly. Many different feelings come with it, from graceful to clumsy, boring to shocking.

Art is everywhere and can be created from anything. Whenever I am riding through the city at night, I see all the buildings shining gloriously against the dark sky, the red tail lights glowing in front of me, and the passing shadows that are reflected from telephone poles, abandoned stores and other objects that line the city streets, I think to myself "that would be one of the coolist pictures in the world to be captured on canvas." Then there is the late afternoon scene. Maybe it just stopped raining and the appearance of everything has been grayed and misted. Bright warm mornings in the summer. Cold, black winter nights when the stars appear so sharp they cut through the sky.

Everything gives you different feelings and thoughts. That's why I like to draw people so much. Everyone has its own interesting personality and identity. Old people, young people, black, white, short, fat, tall and skinny. I hope that soon I will become a good enough artist to capture every intricate detail on my models. I hope to give them personality, feelings, moods, and appearances all with my pencil. But it will take a lot of hard practice.

In response, Pam wrote:

> *These are beautiful and sensitive observations. "What art is" is a question that changes constantly through the years. That's why it's a good idea to record each year what you think it is and how it changes from time to time."*

Assessment of Janelle's Portfolio

Pam provided the following mid-semester evaluation of Janelle's portfolio:

Production: When comparing these two sketches (referring to Figures 7.5 and 7.6), one can see how Janelle's drawing skills have improved. The sketch done in September was of a porcelain figurine. It is meticulous, detailed, and richly textured. The size of the sketch was the same as the object itself. The January sketch is a more refined rendering of a pin, an object much smaller than the drawing. Janelle has captured the smooth "buffed" metal and "highlighted" the reflective part of the eyes, nose, lips, and end of the moon which were highly polished, demonstrating a greater sophistication.

Reflection: In Janelle's final portrait (Figure 7.13), she wanted it to express her personality. Although she did a beautiful rendering, she was not pleased; it did not accomplish her goals. There are many changes she would make that would express her personality more accurately.

> The following are some of Janelle's comments about the changes she would make which were excerpted from a Portfolio interview with Pam:

> *"I didn't put enough feelings into it and I think I need to change the background because I'd put more feelings into it . . . I could change the pose a little bit . . . the skin's too pale. It just looks possessed. Everything stands out but the skin . . . I think I'd want to put more of my body in it so I can have it show more of me, other than just my head. Maybe a different face expression . . . I'd probably smile or something.*

> *The reason why I put the background in there is because I do daydream a lot, but I don't do that all the time. I have something more wild and something more alive than just sitting there. I wouldn't put shapes because everybody puts shapes to express themselves. I'd have some kind of weird scenery . . . and I'd want people in the background.*

> *I wouldn't make it so still. It just sits there and looks at you. It doesn't have anything to it. I'd make it more alive, put more colors into it. Make it more colorful and bright . . . I'd have my hair flying around everywhere."*

Perception: I think the body of Janelle's work thus far has shown a keen sense of perception of her environment, from the subjects she chose for weekly sketches, to her self-portrait.

A LOOK AT A HIGH SCHOOL PROPEL PORTFOLIO

We next look at some pages from a high school student's PROPEL portfolio. The student is John Edwards from Norman Brown's Senior International Baccalaureate (I.B.) art class at Schenley High School in Pittsburgh. Schenley is an urban high school with a heterogenous racial and socioeconomic population. It also serves as a teaching center. Several teachers in the school have been involved with Arts PROPEL including art teacher Karen Price, who has worked in close collaboration with Norman since the beginning years of the PROPEL project.

Norman teaches three sections of ceramics as well as junior and senior level International Baccalaureate art classes. I.B. classes are taken by students of high academic achievement and require a major project presentation at the end of the senior year which they must defend. In the I.B. art class, these presentations typically involve ten finished pieces, a portfolio, and a sketchbook/journal including evidence of perception and reflection. Senior I.B. classes are supposed to be comparable to a freshman college level experience and may count for college credit. I.B. art classes are given the same weight on college admissions applications as other I.B. classes and therefore require a serious commitment by participating students.

Students in the junior year I.B. class begin with common course projects to teach elements and principles of art as well as to help them develop drawing skills, technical abilities in a range of media, and the beginnings of a personal style. As the year continues, however, students are expected to reflect on previous work and to look at works of other artists, using both of these as resources for determining more individualized projects based on personal interest. From this experience, students in the Senior I.B. course begin the year by setting out personally determined projects which will lead to their final presentation. Norman works closely with all his I.B. students in an 'atelier' type atmosphere, helping them reflect on previous work, showing them how to use this work to guide their future efforts, recommending images which might provide information or inspiration, and encouraging them to assess their progress and direction regularly.

The portfolio reviewed here begins with an early self-determined project begun during the Junior year: John's first landscape painting, a relatively large work (30" x 40") done in acrylics (Figure 7.18). The scene is from his grandfather's farm in upstate New York derived from photographs John himself took. He looked to Andrew Wyeth's and Milton Avery's work as inspiration for this work.

At the end of the school year John travelled to Montana to take a job as a cowboy for the summer. He took a number of photographs to document his life there which he used as a basis for the drawings and paintings during his senior year. These culminated in his final presentation.

He began the series with a large painting of a landscape where the forms all converge in the center of the picture. As Norman commented: "John seems to be most intrigued with the horizon line because that's where all the action is." This was followed by several others, including an acrylic painting which focuses on an expanse of a Montana pasture seen from a distance (Figure 7.19).

Figure 7. 18

In a portfolio interview with his teacher, John described this first acrylic painting as "simplistic, monochromatic...It expresses a quiet feeling, I wouldn't say somber, but just quiet." He felt that, since he was not very adept at working with color, he would try to use a limited palette which was more in keeping with his black and white pencil drawings.

John spent nearly four weeks on this project, painting in, scraping out, working and reworking until he was satisfied. Later, he described his struggle trying to get the woods to look realistic, saying:

> *I first tried drawing every single tree limb and leaf...but it didn't look right...it was too specific.*

Then he "scrubbed the forest in" with a fan brush," thereby succeeding in giving "the feeling of the forest, of the mass.

In his assessment of this painting, Norman Brown spoke of this work being truly a "pivotal" piece for John, one that led him on to new discoveries.

Figure 7.19

John reflects about this work in his journal:

> *I just finished my third painting today. Every painting reaches the*
> *point of completeness when all of a sudden things come together. It is*
> *like trying to understand math, all of a sudden it becomes clear. It is*
> *the same with painting. The first few days are a struggle, and then it*
> *works-you get just the right combinations of color and perspective.*

Norman replied back in his journal writing:

> *This is the essence of where we want to get to. Look at your works and*
> *see if you can define the things you see coming together...like color*
> *creating a mood. Your monochromatic landscape (Figure 7.18) is so*
> *peaceful. How have others transmitted these feelings? (See Rothko)*
> *Action through the brushstroke, color layered upon color, etc.*

In the paintings which followed, John continued to explore the theme of cowboy life, working at the same time to develop a sense of personal style. (See Figure 7.20) Along with his drawings, John also kept reproductions of magazine photographs and reproductions of paintings in his journals, recording his ideas and feelings about each image. In reference to a painting by Frederick Remington, he said:

> *This is one of my favorite Remington's for two reasons. I like the*
> *composition and style and I like the fact that it hints of a story. The*
> *mixture of the men and horses in the foreground with the distant*
> *mountain range in the background gives the picture a good balance.*

While such images inspired and informed him about what to do for future projects, others informed him of tendencies to avoid. About one such image, a print from a magazine, he wrote:

> *This is the type of corniness that really disgusts me. This drawing is*
> *too overly dramatic. If I decide to give expression to the horses I draw,*
> *I have to be careful not to overdo it. I have included this scene to*
> *remind myself not to overdramatize a scene.*

JOHN'S JOURNAL

In the process of creating the paintings outlined above, John continuously developed his journal, pasting in images and sketching out ideas that would serve future projects, writing down perceptions and reflections about his entries as well as other issues that came to mind. Among the annotated sketches from the senior year journal is a series in which he works on capturing a sense of strength and movement in the bodies of animals. (See Figures 7.21- 7.24.)

At the end of the term, John and Norman Brown reviewed the portfolio. Questions were chosen which would direct John's attention back to the processes he had followed and the choices he had made. Their aim was both to help John reflect on what he had learned and to assess his progress and direction.

When asked which of his works had gone through the most extensive revisions, John chose the work in Figure 7.22 to discuss.

John was then asked to select a work that he felt was the most satisfying work of all, one that might have demonstrated a real breakthrough for him: "I'd say drawing these cowboy pictures" (Figure 7.23 and 7.24).

Figure 7.20

John spoke about this work in response to a question concerning the emergence of a personal style or signature:

> *My signature I think is rather sloppy. This is the epitome of my own*
> *style-it's sort of loose and maybe a little sloppy. I've tried to*
> *incorporate that into my other drawing. I like my pencil lines to show,*
> *I don't really like to blend them.*
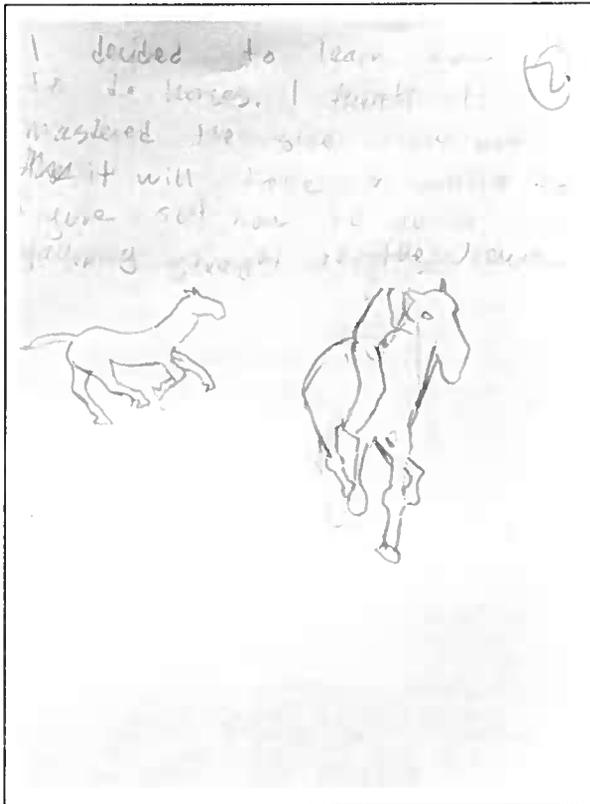
Figure 7.21 Commenting on these images, John explains:

"I decided to learn how to draw horses. I think I mastered the side view but I think it will take a while to figure out how to do a horse galloping straight at the viewer."

In a later entry, he adds:

"I've been having quite a frustrating experience drawing a horse from the side-moving. The only horse I've drawn from the side was....standing still. It's so confusing to get the legs working right. I've tried about five times with this drawing. The idea's there but I haven't quite captured it in my drawing so I've been working on this in some other sketches in my notebook...."

Figure 7.22 This drawing is a composite of ideas: the scene was taken from one of his photographs from his summer in Wyoming; the portrait of the woman, his mother, was taken from an old photograph that a family friend took of her twenty years ago.

"This one's certainly gone through a number of drafts. The main thing I kept redoing was the mouth of the woman. I left no mouth at all at the end. I'll probably leave it like this because the paper is about to give way I think with all the erasing."
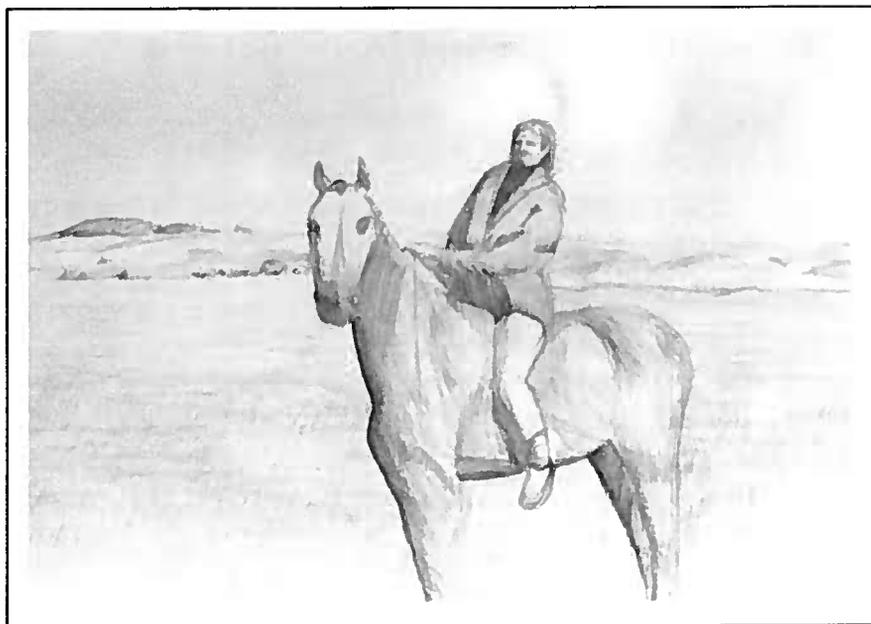
Figure 7.23 *"I used a Marlboro advertisement from a french magazine to draw this and I put someone else's face on the cowboy...my father's face actually. I really like how I was able to put my own ideas into the picture. I was able to draw the horse well, too."*

Figure 7.24 *"In this one, it kind of all came together. I started out with the figure and then I put the background in. The background determines a lot about the drawing. I was thinking..here is this fellow riding his horse and then suddenly he stops his horse for some reason. The quality of the picture is going to depend on this—the background is going to bring it all together, it will establish the focus."*

Beyond the focus on individual works, the interview process provided John with the opportunity to reflect about his own learning in art. About his observational skills, for example, he says:

> *I guess what I used to do was to take one look at something and try to draw it. When you do that, you don't really see what it really looks like. Like if you were to draw that table over there, you probably wouldn't notice that the legs are splayed out if you were just to look at it one time. I never noticed things before. Now I look and draw at the same time. I'm looking at what I'm drawing more.*

John also spoke of his most significant changes in his drawing style:

> *I think mostly the change has been from a really loose style to a more tight style. Normally people would change the other way around I think. I've become more careful in my drawing. With the early drawings, I don't think I was as careful in my looking. The looser style is a little more exciting and the tighter style is more realistic. I'd rather not say which I prefer between the two. It is more of challenge to draw in the tight style.*

John was then asked to consider what kind of future project he would like to pursue, to which he responded:

> *I think I'd like to do some Frederick Remington style drawings. He really romanticized the west. He went out in the last days of the cowboys to record what was going on.*

> *I think it was kind of a shame that he chose to show the one-sided glorious view of the cowboys versus the Indians. I think it was rather irresponsible but the paintings sure are good. I think there's a lot to learn from these. Remington said that when he painted the horses he wanted people to be able to feel them, the detail, rather than to just see the details.*

TEACHER ASSESSMENT OF JOHN'S PORTFOLIOS

Production

Craftsmanship:

John is aware of his own signature or style which is very evident in his work. While he refers to this as "sloppy", his lines, brush work, and approach demonstrate thinking, energy, and a bold, quick approach to the subject matter.

Pursuit:

John has utilized sketches to rethink drawings and points of view; one case in point is his series of works based on a Wyoming bluff, seen from several different views in a variety of media: pencil, acrylic, chalk, cray-pas.

This series of landscapes, followed by an interest in horses and people, demonstrates a commitment to solving or making a statement. ("I can finally draw horses to my personal satisfaction" or "I feel this work creates a mood.")

Inventiveness:

John's sketchbook and approach demonstrate many examples of inventiveness. He often made small images painted on paper to correspond to places on the canvas that he was trying to work out. This way he could lay these over places on his canvas to experiment with color and compositional strategies. He also used this method repeatedly in his sketchbook during his landscape paintings. He would make a drawing in his sketchbook and attach a "foldout"- a piece of paper that he could fold up over this drawing to add to or crop out a certain portion of the drawing that he was uncertain of.

Expressiveness:

John is aware of the energy in his lines and brush strokes but also aware how color or lack of color affects what the viewer sees and feels. His first acrylic painting was executed in monochromatic hues that created a particular feeling. While John felt that working in this manner was more successful in that it was easier to mix and manipulate, he continued to paint with a limited as well as a full palette. I feel it is important to note that John's work is based on his personal experiences out west. He was looking to capture and share the feeling of open space, vastness, both in a realistic manner as well as an abstracted style.

Perception

Of physical properties and qualities of materials: John's use of and respect for the ordinary pencil grew as he explored values and textures using the pencil point as well as the side and also by using various leads ranging from #2h to 6b.

He was selective in mixing different consistencies of the acrylic paint working from thick to thin to create soft washes and thick impastos. John experimented with working with rich textures, color on color, dry brush, and scumbling techniques.

CHAPTER 8

IMPLEMENTATION OF PROPEL
IN THE CLASSROOM

Throughout this handbook, we have drawn on the experiences of core research teachers to present the basic premises of PROPEL and guidelines for the central vehicles of implementation. We have also tried to convey a sense of how the methods and strategies of PROPEL have evolved through their adaptation by individual teachers. Teachers who wish to implement PROPEL need to be introduced to the goals and principles of PROPEL. In addition, they need the time, support, and resources to develop strategies to bring PROPEL to their students. Expanding on these ideas, this chapter will draw on approaches developed for the Pittsburgh dissemination project in order to set forth guidelines for implementation.

We will begin this chapter by briefly outlining some of the insights we have gained about implementation which we hope will be of use to teachers and districts interested in PROPEL. Next, we will discuss specific strategies for introducing reflection, domain projects, portfolios, and PROPEL assessment. This will be followed by a discussion of district support. The chapter will then conclude with some personal statements on the changes in education brought about through the implementation of PROPEL.

PRINCIPLES FOR IMPLEMENTATION

We have learned many lessons about bringing PROPEL to the classroom from the Pittsburgh core teachers involved in PROPEL. And we continue to learn about effective implementation from the experiences of the Pittsburgh dissemination process. Through both, we have found there are certain salient experiences that help teachers internalize the goals of PROPEL and develop effective approaches to implementation:

> * *To begin, we have found it important that teachers learning about PROPEL be given opportunities to consider how the initially abstract concepts could have concrete applications. More specifically, they need to tie in PROPEL principles to what they already know and do.*

Thus, once teachers have a basic understanding of the central concepts of PROPEL assessment and an overview of the vehicles of domain projects and portfolios, they can use PROPEL philosophy as a lens through which to look at student work, to discuss their own and other teachers' curricular units, and to review student portfolios. The implementation process is similarly most effective when the ongoing discussion of PROPEL concepts and models is grounded in personal classroom experiences — looking at student work, modifying and adapting curricula, and assessing portfolios.

Classroom and curricular changes such as those outlined in this handbook naturally require personal initiative, reflection, and experimentation, particularly in the early stages. But, as evidenced in Pittsburgh, real growth and development also demands collegial dialogue and group process.

In fact, throughout the project in Pittsburgh, both the core group and the dissemination teachers have had the benefit of learning about and developing PROPEL as members of an on-going group of colleagues with strong support from their district. Although the principles and practices of PROPEL can be adopted by individual art teachers, we strongly recommend a broader support system.

Just as the opportunity for collegial exchange is important for teachers as they explore this approach to education and assessment, it is no less important for students to have opportunities to engage in peer exchange and to learn in an interactive classroom atmosphere.

Indeed, we have found that such changes in relationships between students and teachers emerge almost naturally as the concepts and vehicles of PROPEL take shape in a classroom. As several Pittsburgh teachers reported, the process of clarifying educational goals for themselves and their students led them to rethink the very structure of instruction in their classrooms. In particular, it led them to seek out ways to turn over more control and responsibility to their students, thereby encouraging both student autonomy and creativity.

Finally, we have found that, when the formats and procedures used to implement PROPEL are developed by teachers and students themselves, the transition to instruction-based assessment becomes more viable and more meaningful.

INTRODUCING PROPEL

While emphasizing the importance of personal adaptation of PROPEL principles, it is nonetheless possible to abstract, from many teachers' experience, certain strategies for introducing PROPEL into the classroom. For example, teachers new to PROPEL might start with an exploration of the concept of assessment. Beginning by discussing (or thinking about) their current ideas about evaluation (which may tend to focus on a comparative evaluation of finished art work), they might broaden the discussion to include a more comprehensive assessment of each individual child's learning. Questions which might be raised in this context include: What information do we, as teachers, have or need to create a profile of what a student is learning and understands? How might the teacher and student best summarize and make use of the information?

As one example of this process, teachers in Pittsburgh's dissemination program were asked to look together at a piece of student art work. Aware of the grade and age of the student as well as the artistic problem posed, the teachers began by discussing what they thought the student learned from doing this work. Then, to enrich their background

information about the piece, they were given something the student wrote about the work or about his/her own working process. They also gained insights from the classroom teacher about the student's process and about the significance of the piece. Given this additional information, they then discussed the new understandings they had which might otherwise have been missed when looking only at the work itself. To conclude, they considered the issues, raised by this process, that might be valuable to discuss with the student-artists, themselves.

Given time to ask such questions of their students' work and to reflect on the pedagogical implications raised by such questions, teachers may then be introduced to the basic premises of production, perception and reflection and to the two main vehicles of domain projects and portfolios.

As teachers become familiar with the philosophy and goals of PROPEL, they can devise ways to best introduce this approach to their students. Students new to PROPEL might first be introduced to the goals of the portfolio process. They can discuss the idea of keeping all of their work including drafts, experiments, notes, and research. They can, further, come to expect regular opportunities to look at and talk about their own work and that of their peers. As students become engaged in domain projects they can gradually learn to draw on these experiences to help them reflect upon their work and to assess their own progress.

REFLECTION

Opportunities for reflection, integrated throughout the studio process, provide the foundation for student self assessment. While many Pittsburgh core teachers were already engaging students in reflective thinking, they realized that they were not treating reflection as a way of engaging students in an integrated assessment process. Toward that end, they asked: If we say we value reflection, what do we want students to reflect about? Giving themselves, as teachers, the opportunity to explore that question helped them clarify ways to bring reflective activity into the studio process.

For example, when teachers new to the Pittsburgh dissemination program were introduced to the use of reflection, they first discussed the aims and intentions of reflection. Next, they considered a range of reflection strategies developed by the core teachers. Then they met with a group of other middle or high school teachers to brainstorm strategies that would help students think reflectively about their work. Finally they were asked to try one new reflection strategy with one class and discuss the results at their next meeting a month later.

Sharing their experiences in such discussions, teachers gain new insights into reflection strategies that can be adapted to other classroom situations. At the same time, they are encouraged to pioneer innovative approaches suitable to particular projects or student populations. Most PROPEL core teachers found it beneficial to introduce students to reflective thought by modeling and encouraging dialogue in the classroom: providing structured opportunities for peer dialogue, group discussions, and class critiques. In the context of these activities, teachers can begin posing questions that engage students in thinking about issues of process, content, ideas, and intentions. Soon, students will learn to ask their own questions — of themselves and of others.

Moving on to written reflection, students will be able to draw upon the habits of mind and the vocabulary acquired when discussing work with others in order to record their discoveries, ideas, and experiences. In those Pittsburgh classrooms where journal writing became a regular and rewarding experience, PROPEL teachers often found students willing and able to exchange ideas they might be uncomfortable speaking about in public.

DOMAIN PROJECTS

The integration of reflective dialogue throughout the studio process is but one aspect of the domain project model. As teachers familiarize themselves with the goals and guidelines of domain projects, they can begin to pull from their own approaches to lessons ideas consistent with PROPEL. They can also begin to clarify what they are already doing and consider how domain projects differ from their current lesson designs. This reflective process can be carried on individually, but may best be done among colleagues. Collegial discussion can also facilitate the adaptation of current lesson plans to domain project formats or may stimulate the generation of entirely new domain projects.

When lesson plans are adapted to accord with PROPEL principles and the domain project format, certain changes typically occur, such as the following, frequently cited by Pittsburgh PROPEL teachers:

* Teachers report that they have developed more diverse strategies to encourage student reflection and have worked to integrate the reflective component throughout the studio process.

* They have broadened the perceptual component beyond a focus on the product to address broader concerns and values, such as resources, processes and purposes.

* Teachers have begun to develop and refine more long-term projects composed of several, interrelated investigations. Moreover, they tend to better understand the value of making explicit for themselves and their students the connections not only between lessons but from project to project throughout a course.

* They emphasize the need to help students build on what they have already done and learned.

* Finally, they have recognized the importance of loosening control and giving students more time to do their own research. This may mean encouraging students: to seek sources which will help them develop an idea; to come to their own understanding of the concept or theme of a unit; to be freed from the belief that everyone's work should somehow resemble the teacher's version of the project.

When students are given this more active role in the studio process, and when new importance is placed on student reflection and self-assessment, students can gradually be brought into the portfolio process and into more meaningful self-assessment. As Bev Bates

said while commenting on the effects of PROPEL in her classes:

> *Students learn through self discovery, rather than total teacher-*
> *directed lessons...In addition, as students felt they were an integral*
> *part of what was going on they gave a more honest assessment of their*
> *own learning.*

PORTFOLIOS

Teachers may prepare for the implementation of portfolios, as they did when considering other elements of PROPEL, by examining which aspects of PROPEL are already in place in their classroom and which might be added or adapted. They can, in this case, compare ways that portfolios can be used and understood — as highly selective presentations for application or competition, as vehicles for classroom management, or in the PROPEL model, as resources to document student growth. Then, thinking about the PROPEL portfolio model, they may begin looking together at student portfolios and the concrete evidence of learning, growth, and exploration embodied in students' preliminary efforts and ongoing reflections. This may then lead them to consider ways of making portfolios a more integral part of the studio experience.

Toward this end, they might ask such questions as: How might we as teachers structure the portfolio process and present it to students so that it becomes not only a resource for retrospective review but also a *source* of useful information about work-in-progress?

Thus, when Pittsburgh dissemination teachers began to discuss PROPEL portfolios, they were asked to each bring a portfolio (or folder) to their next meeting. As the teachers presented the work of their students to the group, they were encouraged to make explicit the objectives of the lessons which inspired the student's work, and also to indicate what they knew of the student's ideas, process, and past experience.

Teachers were then asked to think about what they could learn about the student by looking carefully at the work collected over time. What was included in these portfolios? What was missing? How much could you learn about the student's intentions or the teacher's objectives? What else might be included? Through this process, teachers began to understand the value and purpose of a PROPEL portfolio and to realize how it might enrich their knowledge of their students. As core teacher Norman Brown said in this context:

> *...A portfolio in the past for me was just a vehicle or device for*
> *housekeeping. Students shoved their things inside a portfolio and it*
> *went on the shelf. When it came time for grading, I'd look to see what*
> *was missing, what was incomplete. Now it's a whole different*
> *situation...*

Students too, can be introduced gradually to the portfolio process and helped to see the value of keeping drafts, documenting discoveries, discussing work with others, revising, and taking ownership of a journal. As they find increasing meaning in these activities over time, students can benefit from individual portfolio review. They can be asked, for example: to make selections from their portfolios that reveal the processes they

use when they work; where their ideas come from; what resources they used; experiments tried or discoveries made; what changes they attempted; what was hardest and/or easiest for them, etc.

They can, further, be asked to select a piece they are very pleased with and one they are dissatisfied with and investigate the reasons for these reactions. They can be asked to look back through their portfolios and select work that would help them discuss something they have learned. They can focus on how their work has changed over time, and so on. In these last questions, reflection naturally merges with assessment — which is, in turn, aimed at advancing future efforts.

ASSESSMENT

As Arts PROPEL is brought into a classroom, the approach to assessment described above is integrated into and supported by ongoing classroom activities and atmosphere in which students are regularly involved in peer- and self-assessment. In both instances, students respond to a range of criteria which are made both clear and public. Teachers not only assess students according to their knowledge of standards for their age level and experience, but also compare students to themselves by contrasting earlier and later works and considering the students' own level of growth and development.

This approach to assessment typically takes time to implement among teachers as well as students. In Pittsburgh, for example, it required two years of monthly meetings for a new group of teachers in the dissemination project to fully integrate a PROPEL approach to assessment and learning in all of their classes. By this point, they had also each developed domain projects (based on curricular units they already taught successfully) that engaged students in the exploration of a central concept, and integrated reflection strategies and assessment systems. At the conclusion of this period, their students were maintaining and using PROPEL portfolios and the teachers had begun to share and compare the results of portfolio assessments.

As teachers report, however, the effort and time has paid off by giving them a new and expanded view of assessment, and, ultimately, a revitalized attitude toward teaching. Scott Grosh, for one, was discussing his evaluation of student work at the end of a project, saying that he no longer compares all of the finished work, in isolation, to "the batch". Through that process he might well dismiss work as "not really very good." This same work would be differently assessed when viewed in the context of a PROPEL portfolio framework.

Such a framework would naturally incorporate the teacher's general knowledge of the student including his awareness of the intentions of the student as revealed in the student's shared reflections. The framework would also include a broader range of assessment dimensions, among them some which are specifically geared for the project at hand. Under such conditions, the work in question may emerge as "a real effort, a real achievement, the best this student did all year." As Scott said:

> *What PROPEL did for me, apart from clarifying a range of criteria for assessment, was to help me get a better knowledge of individual students and their accomplishments. That is what portfolios are all about.*

DISTRICT SUPPORT

Arts PROPEL can be gradually brought into any studio classroom enabling any teacher to expand his/her understanding of the value of assessment and bring effective innovations to the classroom. Inevitably, however, this approach to teaching and learning takes time to master; and, while teachers can certainly work independently to make PROPEL "their own," they greatly benefit from opportunities to work with others of similar intent. Given the importance of such long-term effort and the value of group engagement, PROPEL thrives best when there is structural support from the educational system.

For a district to make a serious commitment to Arts PROPEL, it should be willing to follow, to some extent, the approach taken in Pittsburgh. The district should, for example, provide the release time and supervisory support necessary to train its teachers. Considerable in-service training is thus required before a teacher can become an effective "PROPEL" teacher.

Even beyond the initial training period, however, PROPEL teachers need the support of their districts to provide ample time and resources for portfolio collection and maintenance, and for on-going teacher-student conferences. Likewise, teachers will continue to benefit from on-going opportunities to meet with colleagues to discuss teaching strategies and assessment criteria.

In the art room as well, certain practical conditions facilitate learning in the PROPEL mode. Teachers need space, materials and equipment for the activities of production, perception, and reflection. Ideally, there should also be some consideration made of general teaching conditions. For example, the number of students within a class as well as the total number of students any one teacher sees directly influences how effectively students' individual growth and development can be monitored and discussed.

It is certainly possible to use PROPEL in less than optimal conditions. Indeed, most current PROPEL teachers have to adapt both principles and practices to classrooms troubled by all the usual shortages and strictures, as well as the special conditions that uniquely shape every educational environment. The value of its principles is demonstrated by the fact of its adaptability and its usefulness in the widest range of situations. Still, it is worthwhile to consider what might be possible if PROPEL were to be implemented with the full range of support.

It is often argued that the studio art experience provides students with an essential and unique learning experience. We in PROPEL concur with such arguments. Furthermore, we can develop models of assessment that both document what is learned and provide information back into the system to guide instructional improvements. For this process to happen effectively, however, the arts need not only time, space, and money, but they also need to be valued as an essential part of a child's education.

CHANGES WROUGHT BY PROPEL

Decisions about how to address practical considerations such as time and numbers should, of course, always be considered in light of their contribution to facilitating student

learning and personal growth. In the case of PROPEL, such practical adjustments have facilitated substantial changes in classroom atmosphere and student attitudes, which in turn have yielded a richer and more meaningful educational experience. As a result, Pittsburgh core teachers feel that they will never again teach as they had before. This comes, as we have suggested, from the generative power of PROPEL philosophy, *and* from the structural conditions under which it is implemented, developed, and disseminated.

One cannot underestimate the benefit for teachers of being given long-term opportunities to meet with colleagues, to build rapport and trust as a group of professionals, to have time as researchers and practitioners to evaluate their own teaching practices and to explore the criteria and strategies for meaningful assessment. But valuable as such meetings might be, they require a well defined educational philosophy to provide structure for reflection and innovation. PROPEL has provided such a structure — one that supports the creative efforts of both teachers and their students.

In conclusion, PROPEL theory and practice, combined with opportunities for on-going collegial dialogue concerning its implementation, has led to a common set of changes in PROPEL teachers' classrooms and also in their thinking. Those considering implementing PROPEL in a new setting may find it helpful to review some of these changes, as taken from a conversation between Norman Brown and Karen Price, two PROPEL core teachers.

<u>Karen:</u> PROPEL has really changed how we approach our discipline: how we teach kids, how we deal with kids, even how we structure our curriculum. With the reflection we get back from students we get a lot of insight into what each student is about and you see a little spark. It makes you willing to take the time to work with each student...

It (also) means beginning with the student where the student is. We are not measuring the student against other students. I guess there was a time in both of our careers when we did that. I thought of the product.

<u>Norman:</u> Definitely. I thought of the product. "This is what I think a ninth grader should do." I remember saying to my students: "These drawings are not up to par. I expect better from a ninth grader."

<u>Karen:</u> Now we are starting a student where that student is and we are looking for that growth that occurs over a semester, or if we are fortunate to have them for a year, then the amount of growth that occurs over a year...

<u>Norman:</u> PROPEL came along at the same time I moved from teaching middle school to high school. I was really ready to start thinking about teaching young adults, and not wanting students to just carry out my lesson plans and do teacher pleasing activities. I was more interested in them as individuals... I think

PROPEL really allows individuality to come through. I'm much more open to students taking risks, going off in another direction, trying an idea. Before, I was so product oriented and so concerned with keeping everyone together...

Karen: ...(I came) from a school where you maintained management in your classroom and you had a quiet, structured classroom...PROPEL loosened up my teaching...I'm allowing kids to make decisions and choices in their work. PROPEL has provided a structure that allows for a kind of flexibility...

Norman: There is a lot more freedom in the classroom now and I see a lot of peer interaction—students working with students. It's the opposite of a classroom... where the teacher is concerned with cheating. If you look at someone's paper and you get an idea and get inspired, that's great. And you push the idea farther and that inspires the other person. It goes back and forth, a kind of sharing. Let's open up our ideas; let's open up our sketchbooks; let's open up our portfolios. It becomes almost like a class or group portfolio. When these things occur, that's when it's so exciting to teach.

Norman: ...I think another area that we've both come a long way (in is assessment). When it comes time for evaluation, it's also shared evaluation and students are asked to look and think and give themselves grades. When I first tell students: "You will be responsible for evaluating your own work", students say, "Oh, an easy A". But then when they become a part of the assessment process, it really makes for ownership of the work, it gives things meaning. It provides a kind of opening up.

Karen: It has all become more public—the work, the process. We are making the criteria public, what we base our evaluation on. We take the dimensions (of assessment) and discuss them with the kids...A student who I had his first semester in ninth grade and then again in twelfth said: "Your teaching has changed so much. It was a struggle in here this semester. You were challenging me; making me think"... You open up channels for them. They're not watching you develop something when you model or demonstrate and then being asked to do the exact same thing. You are asking them to make the choices of how their work can be—their particular own style, own personal experience. You are giving them the opportunity to look at their work, to talk about it with a peer, with you, to write in their journals. You are offering them time to do this. Before I'd say: "You have to get this product done; we have to move on, make something else." But now we make time for these things.

Norman: The richness is really in reflection. When students begin to reflect with one another about what they are doing, then the endless possibilities begin to emerge. Students say: "You want us to just have a constant conversation in our

heads." That's exactly it...You're assessing your own work as you are going. "Whoops, that color is a little too dark; I better lighten it up..." I want my students to...think creatively: let's look at some other options; take a risk; what would happen if I did this...?

Karen: Let's make some critical judgments. Let's look at this and make a decision about it. But it is all based on concepts we have both taught them. There is some groundwork there that is laid before students are offered so many choices... (For example) we are using a lot more of other artists' work and other students' work and (helping students) pull out images and experiences and resources that relate to their work.

Norman: ...When they look at each others' work they can begin to see differences among their drawings and to tell each other how they were created and how they did things. I use a lot more student critique. We make the time to just stop in the middle of a project... and put the work up. Critiques can be fun and students can begin to see how they improve. I think that is the key element in talking about PROPEL. Students keep all of their drawings, all of their sketches. You lay them out and you look at everything. That's probably one of the most rewarding experiences—for a student to see beginning drawings and end drawings and the progression in between. That makes it possible for students to see their growth and evaluate it in an honest sort of way.

Karen: I had one group of students that were all brand new kids...PROPEL was new to them...When it came time for "final exams", I gave them their portfolios back and laid everything out on the tables and moved them around to different positions in the room. I told them, "you can work together"... They could talk to one another while they were...(reviewing their work). The students really buy into it. They appreciate it.

Norman: When I look back at some of my lessons, I see a kind of teacher refinement that comes from these kinds of shared situations...(The feedback from my) students has made the projects better and better and consequently my teaching has gotten better.

Karen: The kids begin to value their work and...(when we have our big art show at the end of the year) a large barrage of parents come in and see the work their children have been doing and they don't mind their children being enrolled in an art class. I'm hoping there is something that will come out of PROPEL that... I can share with a parent and say: "this is why art works, and it works for all children". If everyone taught the way art teachers teach, imagine what would happen in public schools.

REFERENCES

Bolcom, W. (1988). Trouble in the music world. The Michigan Quarterly Review, 27(4), p. 45.

Brandt, R. (1988). On assessment in the arts: A conversation with Howard Gardner. Educational Leadership, 45(4), pp. 30-34.

Camp, R. (1990, April). Thinking together about portfolios. The Quarterly of the National Writing Project and the Center for the Study of Writing, 12 (2), pp. 8-14, 87.

Camp, R. (in press-a). Changing the model for the direct assessment of writing. In M. Williamson & B. Huot (Eds.), Holistic Scoring: New Theoretical Foundations and Validation Research. Norwood, NJ: Ablex.

Camp, R. (in press-b). The place of portfolios in our changing views of writing assessment. In R. E. Bennett & W. W. Ward (Eds.), Construction Versus Choice in Cognitive Measurement. Hillsdale, NJ: Lawrence Erlbaum Associates.

Camp, R., & Levine, D. (1991). Portfolios evolving: Background and variations in sixth- through twelfth- grade classrooms. In P. Belanoff & M. Dickson (Eds.), Portfolios: Process and Product. Portsmouth, NH: Boynton/Cook.

Davidson, L. (1990). Tools and environments for musical creativity. Music Educator's Journal, pp. 47-51.

Davidson, L., Ross-Broadus, L., Charlton, J., Scripp, L., & Waanders, J. (1990). Recent advances in the state of assessment: Arts PROPEL in Pittsburgh. Papers presented at the Music Educators National Convention, Pittsburgh, PA.

Davidson, L., & Scripp, L. (1989). Education and development in music from a cognitive perspective. In D. Hargreaves (Ed.), Children and the Arts. Milton Keynes: The Open University, pp. 59-86.

Davidson, L., & Scripp, L. (1990). Tracing reflective thinking in the performance ensemble. The Quarterly, 1(1&2), pp. 49-62.

Davis, J., & Gardner, H. (in press). The cognitive revolution: Its consequences for the understanding and education of the child as artist. In B. Reimer & R.A. Smith (Eds.), Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press.

Duschl, R. A., & Gitomer, D. H. (in press). Epistemological perspectives on conceptual change: Implications for educational practice. Journal of Research in Science Teaching.

Gardner, H. (1989a). To Open Minds: Chinese Clues to the Dilemma of Contemporary Education. New York: Basic Books.

Gardner, H. (1989b). Zero-based arts education: An introduction to Arts PROPEL. In Studies in Art Education: A Journal of Issues and Research, 30(2), pp. 71-83.

Gardner, H. (1990a). Art Education and Human Development. Los Angeles: The Getty Center for Education in the Arts.

Gardner, H. (1990b, December). The assessment of student learning in the arts. Paper presented at a conference on Assessment in Arts Education, Bosschenhooft, The Netherlands. To be published in the Proceedings, edited by Doug Boughton, Elliot Eisner, and Johan Ligtvoet.

Gardner, H. (in press). Assessment in context: The alternative to standardized testing. In B. R. Gifford & M. C. O'Connor (Eds.), Future Assessments: Changing Views of Aptitude, Achievement, and Instruction. Boston: Kluwer Academic Publisher.

Gardner, H. (1991). The Unschooled Mind: How Children Learn, How Schools Should Teach. New York: Basic Books

Gardner, H. and Perkins, D. (Eds). Art, Mind, and Education. Urbana: University of Illinois Press, 1989.

Gitomer, D.H. (1991). The angst of accountability in arts education. Visual Arts Research.

Gitomer, D.H. (in press). Performance assessment and educational measurement. In R. E. Bennett & W. W. Ward (Eds.), Construction versus Choice in Cognitive Measurement. Hillsdale, NJ: Lawrence Erlbaum Associates.

Gitomer, D., Grosh, S., & Price, K. (in press). Portfolio culture in arts education. Art Education.

Glenn III, J. (1989). Voices in arts education. Cambridge Arts Council Newsletter, 1(3).

Howard, K. (1990). Making the writing portfolio real. The Quarterly of the National Writing Project and the Center for the Study of Writing, 12(2), pp. 4-7, 27.

Mitchell, R. (in press). Testing for Learning. New York: MacMillan Free Press.

Moses, S. (1990). Assessors seek test that teaches. The American Psychological Association Monitor, 21(11), pp. 1, 37.

Resnick, L.B., & Klopfer, L. (1989). Toward the Thinking Curriculum: Current Cognitive Research. Alexandria, VA: 1989 Yearbook of the Association for Supervision and Curriculum Development.

Resnick, L.B., & Resnick, D. (in press). Assessing the thinking curriculum: new tools for educational reform. In B.R. Gifford, and M.C. O'Connor (Eds.), <u>Future Assesments: Changing Views of Aptitude, Achievement, and Instruction.</u> Boston: Kluwer Academic Publisher.

Scripp, L. (in press). Transforming teaching through Arts PROPEL portfolios: A case study of assessing individual student work in the high school ensemble. <u>The Quarterly</u>.

Seidel, S., & Walters, J. (1990). The design of process-folios for authentic assessment. Unpublished manuscript.

Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. <u>Phi Delta Kappan</u>, <u>70</u>, pp. 703-713.

Wolf, D. P. (in press). Assessment as an episode of learning. In R. E. Bennett and W. W. Ward (Eds.), <u>Construction Versus Choice in Cognitive Measurement.</u> Hillsdale, NJ: Lawrence Erlbaum Associates.

Wolf, D. P. (1989). Portfolio assessment: Sampling student work." <u>Educational Leadership</u>, <u>46</u>(7), pp. 35-39.

Wolf, D. P. (1987). Opening up assessment. <u>Educational Leadership</u>, <u>45</u>(4), pp. 24-29.

Wolf, D. P., Bixby, J., Glenn III, J., & Gardner, H. (1991). To use their minds well: Investigating new forms of student assessment. In G. Grant (Ed.), <u>Review of Research in Education</u>. Washington, DC: American Educational Research Association.

Wolf, D. P., & Pistone, N. (1990). Taking full measure: Rethinking assessment through the arts. <u>A College Board Monograph</u>. New York: College Entrance Examination Board Publications.

Zessoules, R., & Gardner, H. (1991). Authentic assessment: Beyond the buzzword and into the classroom. In V. Perrone (Ed.), <u>Assessment in Schools</u>. Washington, D.C.: ASCD, pp. 47-71.

Zessoules, R., Wolf, D.P., & Gardner, H. (1988). A better balance: Arts PROPEL as an alternative to Discipline-Based Arts Education. In J. Burton, A. Lederman, & P. London (Eds.), <u>Beyond DBAE: The Case for Multiple Visions of Art Education.</u> University Council on Art Education.

Portfolio, The Newsletter of Arts PROPEL, volumes 1-6.