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ABSTRACT

The second annual Affiliates' meeting of the National Center for Restructuring Education, Schools, and Teaching brought together 200 people to examine authentic teaching and assessment practices and policies. Nine presentations from the meeting are compiled in this document, illustrating different approaches to developing alternative assessment initiatives in a variety of school settings. Papers include: "The Four Seasons Project: Authentic Assessment in Two New York City Alternative Schools" (Loretta Brady and Julia Cohen); "Assessing Elementary School Children in Mathematics" (Lucy Mahon); "Ethics in the Interdisciplinary Classroom" (Essie Abrahams-Goldberg, Zachary Rubin, and Maria Arguello); "Portfolio Assessment: A Case Study from the Educational Video Center Documentary Workshop" (Steven Goodman, Pam Sporn, and Bill Tally); "Integrating Instruction and Assessment at the International High School" (Anthony DeFazio and David Hirschy); "Developing Authentic Teaching and Assessment: A Case Study of the Nyack Public Schools" (Fred Freelow, and others); "Planning Backwards from Exhibitions" (Joe McDonald); "A Look at the Multiple Forms of Evidence Study: Lessons Learned" (Janet Price, and others); and "Criteria for Scoring the Authenticity of Assessment Tasks" (Fred Newmann). (JDD)

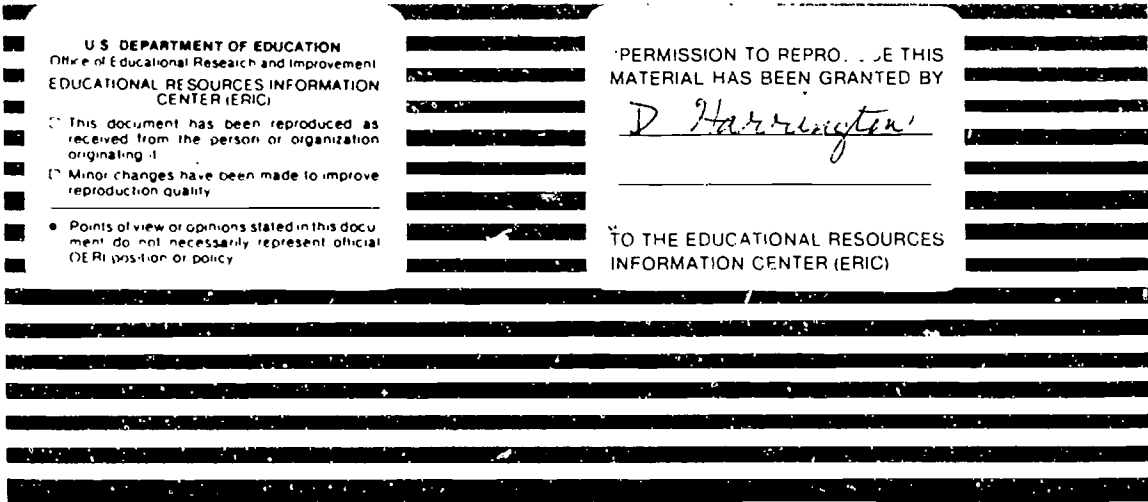
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Authentic Teaching and Assessment: Policy and Practice

Examples from the Field

*The Second Annual NCREST
Affiliates' Meeting
March 19, 1993*



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Policy and Practice*

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***The Second Annual NCREST Affiliates' Meeting
March 19, 1993***

Compiled by Diane Harrington, Janine Ley-King,
and Alice Weaver

May 1994

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Introduction

The National Center for Restructuring Education, Schools, and Teaching (NCREST), founded in 1990, provides information and services to support, connect, and mobilize the school restructuring community -- teachers, administrators, policy makers, parents, and community organizers. The center's mission is to advance the understanding needed to create schools that are:

- *Learner-centered* -- focused on the needs of learners in their school organization, governance, curriculum, and teaching.
- *Knowledge-based* -- informed by professional understandings enriched by teacher learning opportunities and professional development.
- *Responsive and responsible* -- supported by authentic accountability and assessment practices that inspire continuous improvement.

To carry out this work, NCREST documents school restructuring efforts across the country; disseminates information about promising practices; translates research into policy and professional development initiatives; organizes conferences, workshops, and networks that connect school reformers; and maintains an electronic network linking practitioners and researchers. In addition, the center has established a network of more than 50 affiliate organizations representing school practitioners, teacher educators, policy makers, parents, and community organizers to exchange resources, share ideas, facilitate collaborative work, and build new coalitions for change.

On March 19, 1993, NCREST sponsored its second annual Affiliates Meeting, "Authentic Teaching and Assessment: Policy and Practice," at Teachers College, Columbia University. This meeting brought together 200 people to examine authentic teaching and assessment practices and policies. In this booklet, we present the experience and findings shared by our affiliates at that meeting.

In her keynote address to the conference, Ann Lieberman, NCREST co-director and professor of education at Teachers College, Columbia University, observed that "we are focusing on the most significant levers for change, authentic teaching and assessment, how they are practiced, and the policies that are needed to enable these changes to stick." What do we mean when we talk about authentic teaching and assessment? And what does authentic assessment have to do with the work of creating fundamental and comprehensive changes in the ways we think about children, school organization, teaching practices, curriculum, parent and community involvement, and public policy? John Cawthorne, senior research associate for the Center for the Study of Testing, Evaluation, and Educational Policy at Boston College, posed a question that goes to the heart of the authentic assessment debate: "What do we want for our children? . . . [Authentic assessment] is about taking risks and changing on the basis of new information. . . . Change forces us to rethink the way we see the world . . . and that's uncomfortable." He described ways to work communally through

the necessary discomforts of change to reach new understandings and new practices.

As we grapple with new approaches to authentic teaching and assessment, we confront our own capacity to change and to rethink previous understandings of instruction, curriculum, school organization, and governance. As we work to develop performance-based assessment tasks that call for higher-order thinking and problem-solving skills, new modes of inquiry, and flexibility in using multiple learning strategies, what is the vision that drives our efforts? *Authentic assessment is about no less than what we want our children to know and to be in the world.* At the same time, it is about *what we do and who we are.* It requires a rethinking of our basic values and of the purpose of education itself. What is learning? How do children learn best? And how can we better understand what children know and are able to do? How do we engage students in useful, important, and meaningful work, grounded in real-world tasks, demands, and opportunities? At its core, perhaps, authentic assessment is about challenging *all* students to develop their individual strengths and abilities and, through personalized teaching and increasingly self-directed learning, provoking and encouraging a higher standard of performance and competence for each student.

In his closing address on authentic assessment policy, Richard Mills, commissioner of education for the State of Vermont, defined the performance standards needed to support authentic teaching, learning, and assessment: "Very high skills for all students -- no exceptions, no excuses." So how do we think about and shape the policies required for creating stronger authentic assessment initiatives? According to NCREST co-director Linda Darling-Hammond:

Students' strengths and needs, their thinking and learning, are not well tapped by standardized tests. Tests have a great deal to do with how we perceive our own potential as human beings . . . we have to keep this firmly in mind, particularly when we think about the policy frameworks within which assessment occurs, because that human element frequently disappears.

The nine presentations from our March 19 meeting illustrate different approaches to developing alternative assessment initiatives in a variety of school settings. Several examples detail authentic assessment practices in the classroom. One illustrates the movement from standardized tests to an alternative *schoolwide* assessment system for measuring student learning. A case study shows how "bottom-up" authentic teaching and assessment efforts have led to new assessment policies and practices at the district level. The last three pieces focus on how to plan, construct, and evaluate authentic assessment practices and programs.

The purposes of this booklet are twofold: To provide specific examples of authentic assessment practices and structures that are currently being put in place in schools across the country; and to share with you the various approaches to authentic assessment that were discussed by teachers, researchers, policy makers, and teacher educators at NCREST's Second Annual Affiliates Meeting. We hope you will find these examples and case studies helpful in considering new ways of assessing student knowledge and learning, and that you will use whatever information you find most relevant in your own teaching practice. These short summaries are intended simply as starting points for your own explorations and discoveries in

developing authentic assessment materials and programs that fit your teaching needs. We hope they will pique your interest and curiosity, and we encourage you to contact the people and organizations listed for further information.

The Four Seasons Project: Authentic Assessment at Two New York City Alternative Schools

A National Faculty for Authentic Assessment: The Four Seasons Project is a collaboration of the Coalition of Essential Schools, the Foxfire Teachers Outreach Network, Harvard's Project Zero, and NCREST. The aims of the project are to develop assessment practices that are appropriate to the restructuring and redesign work of the partners; to create a "national faculty" of teachers who can work with their colleagues to support performance-based assessment activities; and to prepare materials and presentations for use in the policy dialogue on standards and accountability. NCREST is coordinating and documenting the work of the project. At the March 1993 meeting, presentations were made by teachers from two participating New York City schools: Loretta Brady from School of the Future and Julian Cohen from Central Park East Secondary School. Both demonstrated examples of the ways their schools and students are using portfolios and exhibitions to assess learning.

School of the Future, in New York City's Community School District 2, is an alternative secondary school, which currently includes grades seven through nine. The school was founded with the goal of integrating technology into all aspects of school life. Curriculum is organized around the interdisciplinary study of humanities and math/science. Instead of taking subjects for 45 minutes each day, students and teachers spend two-hour time blocks together, enabling them to work in depth on interdisciplinary projects. Portfolios and exhibitions are used extensively throughout the school to demonstrate student learning.

Gwen Solomon, the school's director, explains the purpose behind the school's interdisciplinary program and the role played by technology in helping students to learn:

The real world and the world of school are very complex and confusing places for adolescents. One way students make sense of things is by understanding the connections among events and ideas in the world. By studying interdisciplinary themes, students see how events are related to one another and how they fit into historical and human perspectives.

Technology is simply a tool that broadens students' ability to learn within an interdisciplinary curriculum because it helps them explore both new and old avenues of information.

In the March workshop, Loretta Brady presented an example of a collaborative student project undertaken during the 1992 presidential election in which seventh- and eighth-grade students analyzed the content and production techniques of campaign ads by the major candidates. More advanced students went further, analyzing how the press presented the candidates. Eighth-graders taught seventh-graders how to use the technology needed for the project, thus reinforcing their own newly acquired computer skills, as well as taking on the important role of teachers and mentors to other students. In the exhibition, or presentation,

phase of the study, students demonstrated their competence and skills in three areas: (1) technology -- using computer software designed to analyze live-action video footage; (2) media analysis -- analyzing the production techniques used in the ads; and (3) content analysis -- analyzing the point of view, issues, and evidence presented. Handout A includes the criteria by which student work was assessed as well as two samples of student written work. As part of the exhibition, students also interviewed each other to help them reflect on and assess their own learning.

Central Park East Secondary School, founded in 1985, serves 450 students in grades 7 through 12. In grades 7 through 10, students follow a core curriculum of math/science and humanities during two extended time blocks. In grade 11, they enter the specially designed Senior Institute. The institute is organized to assist students to prepare 14 performance-based portfolios in the following areas: postgraduate plan, science/technology, mathematics, history, literature, autobiography, school and community service and internship, ethics and societal issues, fine arts/aesthetics, practical skills and knowledge, media, geography, language other than English, and physical challenge. Students are required to complete all portfolios and make major presentations in 7 of these areas in order to graduate.

Julian Cohen presented an example of an exhibition on Columbus, in which students reflected on the Quincentennial of Columbus's voyage to North America, reexamining the history and legacy of Columbus's voyage from different perspectives. Portfolios for this particular exhibition included carefully researched student papers, as well as detailed drawings that examined Columbus's arrival in the Americas from various points of view. In the exhibition, students raised and considered key questions about how and why this particular event is celebrated and commemorated in American history.

As stated in the Central Park East Secondary School (CPESS) Graduation Handbook (see Handout B), "The fundamental aim of CPESS is to teach students to use their minds well and prepare them to live productive, socially useful, and personally satisfying lives." The "habits of mind" that shape the school's academic program include: *helping students to learn to critically examine evidence; to be able to see the world through multiple viewpoints; to make connections and see patterns; and to imagine alternatives.* These habits of mind are clearly reflected in the portfolios and exhibitions that students must present, such as the exhibition on Columbus, to satisfy the rigorous graduation requirements of the Senior Institute and receive a CPESS diploma (see Handout C). At CPESS, measures of student learning are based on a wide range of skills and use multiple indicators of performance, such as oral and written presentations as well as student artwork and dramatic presentations. Cohen discussed the need for students to have alternative ways of expressing themselves and demonstrating their knowledge, using the example of one student who was not a good writer but was extremely articulate in his oral presentation to the graduating committee. Had his work been evaluated solely on the basis of his writing, teachers would not have seen or been able to assess his true mastery and understanding of the subject. By using multiple indicators to "grade" student work, Cohen said, teachers are able to see students in new and fuller ways.

For more information about the *Four Seasons Project* and participating schools, contact Terry Baker at NCREST, Box 110, Teachers College, Columbia University, New York, NY 10027, (212) 678-3763.

Quick Time Media Analysis Project
 Political Advertising Campaigns
 Group Assignment Planning Sheet

Group Members: _____ Period _____
 _____ Date _____

Criteria Checklist and Expectations:

Satisfies Expectations= All of the following are complete and add new insights and information into the advertiser's message and issues.

WRITTEN WORK

<p>I. ANALYSES</p> <p>___ SUMMARY</p> <p>___ Describe all Images, Sounds and Transcript</p> <p>Group Member Responsible is _____</p>	<p>___ MEDIA ANALYSIS</p> <p>___ Sound and Images (Political Ad Techniques)</p> <p>___ Language (Rhetoric: Tricks of Speech)</p> <p>Group Member Responsible is _____</p>	<p>___ CONTENT ANALYSIS -</p> <p>___ Point of View</p> <p>___ Significance of Issues</p> <p>___ Evidence</p> <p>___ 2 Sources Cited</p> <p>Group Member Responsible is _____</p>
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II. Each member keeps his or her own Tech. Project Log of daily entries in journal. Explain tech. problems, questions, and describe the highlights and trouble spots in your peer-teaching as you learn to master this technology from each other.

HYPER CARD WORK

- ___ 1. At least 1 Quick Time cut from a Political Commercial
- ___ 2. At least 3 buttons somewhere to reveal the SUMMARY, MEDIA ANALYSIS and CONTENT ANALYSIS of the commercial, especially of your cut.

Needs Improvement= Essays were incomplete or add little new information or few insights into the ad and its issues.

Excellent Work or Exceeds Expectations= You have researched more sources, added more buttons of further view points or information, or have a deeper analyses of the ad's implications, connections, and assumptions.

Each of our group members is aiming for the following grade on his/her essay:

Member _____ Essay Grade _____

Member _____ Essay Grade **12** _____

Content Analysis

How can we tell whether an ad is truthful or not? This requires research. And we have done a few readings.

By reading the CNN Guide to 1992 Election, we found out that Clinton raised taxes and fees 128 times. However, tax reduction was not included. This shows that the ad is only giving half of the information. Maybe Clinton did raise taxes on all of the issues/topics, but it didn't say whether he reduce or not.

Also, in the ad, it was said that Clinton increased the sales tax by 33%. But from the information CNN gave, he raised taxes in 1991, and it went education trust fund.

Our second source Ross Perot's Bitter Tonic, helped us to understand the fact about Clinton using 220 billion dollars in government spending was the truth. The plan used 220 billion dollars on education, an 80 billion for infrastructure, communications and the environment.

Funding for drug treatment, police, all these funding requires money. And he needs more than 220 billion. How else can he get the money besides taxing? Does that mean a tax increase for us?

In this advertisement, we believe there is much truth in what George Bush says about Clinton. We believe because of the fact that Clinton lies. We notice this by the advertisement Clinton had about himself. He said that he had helped 17,000 people from welfare to middle class. There's evidence for and against him, but we think, overall, the ad does not show the whole truth and would rather make Clinton look like a big spender and a big taxer who does not get enough done for the money.

Media Analysis

The ad my group and I are doing is two faces of Clinton. This is a negative ad because it's trying to say that Clinton is a liar and he can't be trusted. I felt like this candidate was no good, it seems like he can't make up his mind, that's why I think he's arguing with himself.

This ad uses language that is a scare tactic because the commercial is trying to scare he can't be trusted. Categorical- stating your view so forcefully as if implying that only ignorant fools would try to disagree.

This commercial is attacking the opponent because this is saying that Clinton can't be trusted. And attacking himself because I thought this commercial is about Bill Clinton.

It's not really tricks that they use, they sort of tell lies, but if they do use tricks, they try to put a conversation, and then say something that are not really going to do, a sort of trick that Bush used was READ MY LIPS.

This ad shows how Bush can't even debate the issue that he lied about taxing. They made it seem like he lies no excuse.

INTRODUCTION: CPESS HISTORY AND AIMS

Central Park East Secondary School was founded in 1985 as a public school in Community School District 4 in New York City. It operates in partnership with District 4, the Alternative High School Division of the Board of Education and the Coalition of Essential Schools. It began with seventh graders and a grade was added each year. The enrollment at its full size is now 450 students.

The fundamental aim of CPESS is to teach students to use their minds well, and prepare them to live productive, socially useful and personally satisfying lives. The school's academic program stresses intellectual development. Five "habits of mind" are stressed. (1) helping students to learn to critically examine evidence, (2) to be able to see the world through multiple viewpoints - to step into other shoes. (3) to make connections and see patterns, (4) to imagine alternatives (what if? and else?) and finally (5) to ask, "what difference does it make, who cares?" These five are at the heart of all our work, along with sound work habits and care and concern for others: habits of work and habits of heart. The curriculum affirms the central importance of students learning how to learn, how to reason, and how to investigate complex issues that require collaboration, personal responsibility and a tolerance for uncertainty. Students graduate only when they have demonstrated an appropriate level of mastery in each area.

The school is guided by the principles of the Center for Collaborative Education and the Coalition of Essential Schools, which are included in this Handbook.

There is a common core curriculum for all students grades 7-10, organized around **Mathematics/Science** and the **Humanities**. This four year program is divided into Division I and Division II. At the end of Division II (10th grade) students enter the Senior Institute. The Senior Institute represents the final years of high school and serves as a transition to adulthood. Each student, together with their Advisor, draws up a personal program of study designed to prepare the student for graduation. The primary responsibility of the student in the Senior Institute is to complete the required **14 Portfolios** which, together with a series of more traditional exams, and a Senior Project are the basis for receiving a diploma.

The Portfolios reflect cumulative knowledge and skills in each area. The work collected in each Portfolio is the outcome of courses, seminars, internships and independent study that students are engaged in during the normal course of their years in the Senior Institute. Some work may also be the outcome of courses taken in Division I or II. Students present their completed portfolios, each of which represents a range of work in an area of study, to a four-person Graduation Committee for evaluation and oral defense. **Graduation is thus dependent on demonstrated knowledge and mastery of skills.**

Senior Institute students bridge the world of school and the world of college/work. Their experiences during their six years at CPESS - community service, internships, regular courses, college-based courses, Advisory trips, etc. - are designed to develop a sense of responsibility toward others, learn about adult occupations, and provide the tools to build and change their lives and their community.

The tone at the school deliberately stresses high expectations and trust, as well as fairness, generosity and respect for diversity. Each student has a faculty Advisor and belongs to an Advisory of no more than 15 students throughout their years at CPESS. The Advisor's role shifts somewhat as they enter the Senior Institute, but the Advisor remains the adult who knows each student best and who works with the student's other teachers and family. The Advisors in the Senior Institute also act as tutors for independent study, as college and career counselors and as members of the all-important student's Graduation Committee.

Divisions I, II and the Senior Institute are different from the traditional junior and senior high school years. In the Appendix to this Handbook is a model copy of the CPESS Transcript, which is important to examine in connection with the work of the Senior Institute. At the time a student is ready to graduate, this document sums it all up.

THE 14 PORTFOLIO AREAS: An Overview

The primary responsibility of the Senior Institute student is to complete the fourteen Portfolio requirements listed below.

These Portfolios reflect cumulative knowledge and skill in each area as well as the specific CPESS habits of mind and work. Students will present the work in all 14 Portfolio areas to their Graduation Committee for review and acceptance. They will meet for a full review on their seven "majors", to present, discuss and defend their work. There are therefore two stages to keep in mind - preparation of the Portfolio materials in collaboration with their Advisor and others, and then presentation and defense. In some cases Portfolio work will need to be expanded, modified and re-presented for final approval. Students may also choose to present work a second time to earn a higher assessment.

It is important to remember that a majority of the work done in connection with a Portfolio can and should be the outcome of the courses, seminars, internships and independent study that a student has engaged in during the normal course of his/her Senior Institute years. In addition, some of the material may be an outgrowth of work initiated in Divisions I or II, or where appropriate even work completed prior to entering the Senior Institute.

Portfolios include work in fourteen areas: seven "majors" and seven "others." There is no one way to complete these requirements, nor one way to present them. Just as individuals are different, the individual Portfolios will reflect these differences. A Portfolio is a term covering all the ways in which a student exhibits his/her knowledge, understanding and skill.

For example, work completed to meet one requirement can be used to fulfill other requirements as well. CPESS recommends intradisciplinary studies wherever possible. While the final review will be based on individual accomplishment, almost all Portfolio requirements can be based on work done in collaboration with others as well as group presentations. Such collaborative work is encouraged, since it often enables a student to engage in a much more complex and interesting project.

Quality and depth of understanding, the good use of CPESS" five "habits of mind", and the capacity to present convincing evidence of mastery as relevant to each particular field are the major criteria used by the Committee. However, Portfolio work must reflect a concern for both substance and style. For example, written work must be submitted in clear, grammatical English that reflects the expected proficiency level of a high school graduate re spelling, grammatical errors and legibility. Errors should be eliminated before the Portfolio is presented to the Committee. (Written work must generally be submitted in typewritten form, for example.) The same care in preparation and presentation applies to all other forms of work. Portfolio work should represent a student's best effort. The same holds true for the manner of presentation.

Different characteristics are more or less relevant to each Portfolio area. Each academic discipline, for example, has developed its own "scoring grid" to help students and Graduation Committee members focus objectively on the appropriate criteria. Over time the criteria for acceptable performance will be more fully developed - both through the creation of more such "grids" as well as through the compilation of past student work that demonstrates accepted levels of skill. Students are expected to become familiar with the criteria by which they are measured, both the scoring grids and former student work.

The following are the 14 Portfolio areas:

1. Post Graduate Plan:
2. Science/Technology*
3. Mathematics*
4. History*
5. Literature*

6. Autobiography
7. School and Community Service and Internship
8. Ethics and Societal Issues
9. Fine Arts/Aesthetics
10. Practical Skills & Knowledge
11. Media
12. Geography
13. Language Other Than English
14. Physical Challenge

Senior Project: One of the above Portfolio topics or items will be separately assessed as a final Senior project.

Each student is required to make a major presentation in seven of the 14 areas described above. These include the four starred Portfolios, and at least 3 others chosen in cooperation with his/her Advisor. Grades of Distinguished, SatPlus, Sat or MinSat will be used to grade work presented as part of the Portfolio, as well as for the Portfolio area as a whole. In the seven "minor" Portfolio areas, a student may choose a pass/fail grade. Permission to do so, however, must be arrived at in consultation with his/her Advisor.

Assessing Elementary School Children in Mathematics

In addition to teaching mathematics education at Bank Street College of Education, Lucy Mahon works with teachers at PS 234, a local public elementary school. PS 234 is a member of the Coalition of Essential Schools and is also affiliated with the Center for Collaborative Education (CCE) in New York City. The school's commitment to education reform is reflected in its connections with both organizations. About two years ago, the school began to focus on changing its approach to teaching mathematics. The staff took a training course with Marilyn Burns, who has done important work in K-3 math education. This course helped give the teachers a common language with which to talk about what makes good math education and formed the foundation for Mahon's work in assessing children's understanding of mathematical concepts. Because cooperative learning and group problem solving play an important part in math learning at PS 234 and this kind of learning can frequently lead to conflicts among students, Mahon also offers teachers a two-day workshop in conflict mediation.

During the March 1993 work group, Mahon shared new strategies for assessing children's understanding of basic mathematical concepts and processes, focusing on such alternative assessment methods as the use of portfolios, math surveys and journals, and cooperative learning opportunities. She also discussed the challenges inherent in reforming math education.

The key to teaching mathematics, as Mahon sees it, is being able to effectively assess where children currently are in their knowledge of math concepts and how to use these concepts, building on what children already know to fill in the gaps. To uncover students' attitudes, feelings, and concerns about math and to assess their existing knowledge base, Mahon uses a variety of assessment methods designed to measure children's grasp of abstract mathematical concepts and the degree to which they can use these concepts in solving "real-life" problems. These assessment strategies include the use of student writings about math, group discussions, simple numerical exercises, and real-life math applications or tasks. Based on what she learns about each child's approach to working with numbers in the beginning of the year, Mahon is able to adjust her teaching plan to spend more time covering the areas students feel less sure about. She discussed the following assessment strategies.

Strategies for Performance-Based Mathematics Assessment

The Math Journal uses children's writings to discover their thoughts, feelings, and ideas about math as they start the school year and to assess their particular strengths, skills, and areas of uncertainty. Children are asked to write about what math means to them and how they think it can be useful. Responses from third-graders at PS 234 ranged from "Math is numbers all over the world; and math is the inspiration of learning. Math made numbers alive. The people that live for math make a wish to themselves that math would live forever," to "Math makes me want my pillow," to "It's one of my favorite subjects. I like it, it's fun. . . . Using rods and other math materials is exciting 'cause you don't know what

answer you'll come up with next." Traditionally, children do little writing or reflecting *about* math and most of that is limited to writing out problems using mathematical notations. But as they keep ongoing records of their feelings and thoughts about the math work they are doing, children become better able to describe and define the mathematical concepts they are learning to use (see Handout A).

The Math Survey (see Handout B) asks children to describe what they know about such processes as addition, subtraction, multiplication, and division, and then to make up their own word problems using each process. From students' responses to survey questions, teachers are able to assess what students really know and to pinpoint gaps in their knowledge. For example, in the question "What do you know about multiplication?" responses ranged from "Multiplication is a fast way of adding," to "Multiplication is a number doubled in other numbers. Example: $4 \times 3 = 12$." These two responses reveal both the clarity and confusion of children's understanding and provide helpful clues for working with each child.

Assessment Discussions at the beginning of the year are good ways to ascertain what students already know about math. In discussing the concept of measurement with fourth-graders, for example, Mahon learned that they were quite comfortable with linear measurement, but less clear about other types of measurement like volume and time. Mahon then adjusted her math curriculum to include those areas where discussion had pointed up the greatest need.

Simple Exercises and Games such as "Rename the Date" are means of gathering information about what children know about algorithms. In this particular exercise, students must express the date through numbers (see Handout C). For example, in October, a third-grader renames the date, the 26th, through basic subtraction: $26 - 0 = 26$; or $27 - 1 = 26$, and so on. At first in playing "Rename the Date," the student is playing it safe and going for the "right" answers. Only five months later, however, the same student is able to express the date more creatively; she uses several algorithms: division ($50/2=25$); addition ($15+10=25$); multiplication ($1 \times 25 = 25$); and a combination of several operations ($7 \times 3 - 1 + 5 = 25$). This kind of exercise teaches children to play with numbers. Although the students seem cautious at the beginning, they allow themselves to experiment more freely, given time and encouragement.

"Real-Life" Math Applications or Tasks such as "The Pretzel Problem" require students to apply mathematical principles to real-life situations. The task here is for children to figure out how many pretzels they need to make if there are six children, each of whom gets five pretzels. Once they get the answer, students must write about how they came up with their solutions. The methods they choose reveal their degree of flexibility in attacking problems. Talking about their methods within smaller collaborative learning groups, as well as with the class, encourages children to verbalize their thinking and problem-solving techniques. Although many students explain their approaches with "I guessed," it is clear from their work that some method was used to solve the problem. Mahon noted that this kind of uncertain answer often comes from the children's lack of language about math. She has found that as students become more comfortable with talking about math, they become more adept at expressing their thought processes; they develop a "math language."

Portfolios. Throughout the year, selected samples of student work and math writings are stored in a portfolio for the purpose of documenting and recording each student's learning and growth. Portfolios, in addition to providing teachers with a record of what each student has done over the year, are a useful way for students to measure how much they have learned and are an important basis for self-assessment and goal-setting. These portfolios follow each child from year to year through grade six.

Challenges and Opportunities

Perhaps the greatest challenges facing the practitioners at PS 234 are standardized tests and state requirements. A tension has developed for teachers who have adopted an authentic assessment approach. All year long, teachers focus on improving children's deep understanding of math. Then, what Mahon has dubbed "March Madness" appears, because in March teachers often realize that they must cover all the remaining topics that are likely to appear on the year-end standardized tests. Suddenly "coverage" becomes the top priority, causing many teachers to fall back on old methods. The breadth of topics that the state expects to be covered precludes students from constructing a deep understanding of them. The situation at PS 234 exemplifies the tensions that arise when teaching guided by authentic assessment is evaluated by standardized tests.

The alternative assessment methods used at PS 234 are meant to help teachers, parents, and students get a clearer picture of students' math knowledge and understanding. These methods yield an abundance of data to be analyzed and evaluated. Teachers see what they need to spend time on and with whom. Although portfolios yield a wealth of information, such as proof of a student's growth, both teachers and students still need to learn how to evaluate all of this material in a meaningful way. The math teachers at PS 234 are working to create assessment strategies that tie in with the goals they hold for their students as active, engaged, and self-reflective learners. When children look back at their work over the course of a year, they are able to see where they started and how they got to the end point. As children have more opportunities to see and chart their own growth, they become increasingly able to take a more active role in their own learning.

For more information about *Assessing Elementary School Children in Mathematics*, contact Lucy Mahon at PS 234, 292 Greenwich Street, New York, NY 10007, (212) 233-6034.

9/17/92

What is Math?

Math is using numbers to
make other numbers.

Like adding and subtracting
times and division.

Math is using numbers to make
other numbers, like adding and
subtracting, times and division.

September, 1992

MATH SURVEY

Directions: Please answer the following questions on a piece of loose-leaf paper. Write your name, the date, and "Math Survey" on the top of your paper.

1. How do you feel about math?
2. Do you prefer to work alone or with a partner or in a group?
3. What do you know about place value? Write a large number and identify the place value of as many digits as you can.
4. What do you know about addition?
5. Make up a word problem that uses addition.
6. What do you know about subtraction?
7. Make up a word problem that uses subtraction.
8. What do you know about multiplication?
9. Make up a word problem that uses multiplication.
10. What do you know about division?
11. Make up a word problem that uses division.

sep/22/92

Math Survey

- ① Math is my favorite thing in school I like math because it's fun.
- ② I prefer working alone not with a partner.
- ③ I don't know about place value.
- ④ I know like $72 + 72$ it is 144
- ⑤ I had 5 kids coming to my party and then more kids asked me to let them come to my birthday and I said yes so 10 more came to my birthday and ten + five is fifteen.
- ⑥ I know that subtraction is when you take away
- ⑦ then fifteen kids come to my birthday party and ten of them couldn't come so you subtract ten from fifteen and that is five and that's how you get your answers.
- ⑧ I know that multiplication is repeated addition
- ⑨ Jason had 3 eggs Justin has two times as many as Jason so how many eggs does Justin have?
- ⑩ I know that it is repeated subtraction
- ⑪ Justin had 18 balls and he invited 9 kids to his party how many balls can each have?

Ethics in the Interdisciplinary Classroom

The Philadelphia Schools Collaborative (PSC), with funding from the Pew Charitable Trusts, in partnership with Temple University, is helping the city of Philadelphia restructure its 22 comprehensive high schools into charter schools, or "schools within schools." Charter schools, each containing a heterogeneous group of 200-400 students and a core group of teachers, are designed to mesh the academic and personal needs of students while maintaining rigorous graduation standards. Philadelphia's plan is based on a growing body of evidence that small educational communities can enhance academic outcomes for students and provide an important sense of connection among teachers and between teachers, students, and parents. Student assessment strategies may include traditional standardized testing as well as portfolios, exhibitions, or other performance-based assessment methods.

The Abraham Lincoln High School/Temple Connection Charter is one such charter school. A professional development school, the Temple Connection is committed to authentic and innovative teaching and assessment practices: cooperative learning, diverse assessment techniques, and the incorporation of technology through multimedia projects across the curriculum. Written and oral communication skills are emphasized in all content areas.

This work group, facilitated by Essie Abrahams-Goldberg and Zachary Rubin, charter coordinators, and Maria Arguello, head of the science department, focused on the charter's new and evolving ethics curriculum. The integration of ethics into the school's interdisciplinary program has led to teaching and assessment strategies that have proven particularly effective in developing students' mental flexibility, critical thinking skills, initiative, and sense of responsibility for their own learning.

According to Essie Abrahams-Goldberg, "We give students opportunities to discuss and examine values, to understand that everything in life is loaded with choices and consequences." She and her colleagues believe that it is important for students to be able to recognize values in the decisions they make and to acknowledge that social issues are multifaceted and complex. To achieve this end, and to promote cooperative learning, higher-order thinking, reasoning, and problem-solving skills, teachers at the Temple Connection Charter have integrated interdisciplinary ethics projects into their classrooms. The sophomore year, for example, is organized around a central theme: "The Impact of Science and Technology on American Society." Biology drives the curriculum with English and American Studies supporting the concepts presented in biology. The study of bioethics is an intrinsic part of this curriculum. Bioethics, explains Abrahams-Goldberg, is a particularly important area of study because it blends the issues of technology, human rights, and the law. In this new and integrated program, students are asked to analyze arguments used to defend positions on such controversial subjects as euthanasia, *in vitro* fertilization, fetal tissue transplants, and genetic therapy (see Handout A).

Assessment Strategies for the Interdisciplinary Curriculum

In evaluating their students' analytical reasoning abilities, charter teachers realized that students had difficulty taking positions and logically defending them on such topics as sending troops to Somalia. Teachers realized they had to spend more time helping students develop their critical thinking skills: to learn to organize and evaluate ideas, to apply previous knowledge to new contexts and circumstances, to develop evidence and arguments to support their views, and to consider the complexity of factors involved in reaching decisions on important issues.

Position Papers. To strengthen these skills, students in grade ten are now asked to develop position papers for both their mid-year and final projects on a subject related to bioethics -- a central part of the tenth grade's interdisciplinary curriculum. In these position papers, students are expected to clearly formulate and develop evidence to support their opinions and beliefs. In addition to researching, organizing, and writing the paper, students must be prepared to defend their arguments orally, explains Abrahams-Goldberg. "We find that students are unaccustomed to formulating their opinions about issues, [and] position papers are particularly effective in fostering critical thinking skills," adds Zachary Rubin.

Cooperative Learning. Students also work together in small groups on ethics exercises that are relevant to the themes they address in their courses (see Handout A). In this collaborative setting, students have the opportunity to read and analyze newspaper and magazine articles on major social issues and to discuss and articulate their thoughts, feelings, and ethical concerns. Groups are usually required to do some written or other performance-based projects to reinforce what they have learned in these discussions.

The Holistic Scoring Guide. Projects and position papers are also assessed using a "holistic scoring guide" (see Handout B). This rubric provides a numerical scoring key for evaluating students' written work in four distinct areas -- content, organization, style, and mechanics -- thus making expectations clear and giving feedback about students' varying skills and abilities.

To give students further practice in formulating their thoughts and ideas, charter teachers are developing other performance-based projects such as debates, panels, exhibits, and multimedia presentations.

Learning Outcomes

The Temple Connection believes that the examination of ethical questions within the framework of its interdisciplinary programs is a crucial component in developing and enhancing students' critical thinking skills. As students learn to consider the complex ethical issues that cut across subject areas, they become better able to understand the world from diverse perspectives and to make informed choices and decisions about their own lives. The integration of subject content and ethical decision making in Charter Connection classrooms has also provided new possibilities for examining the connection between ethical concerns

and the construction of assessment measures that more clearly reflect and refine students' critical thinking and problem-solving abilities.

For more information about *Ethics in the Interdisciplinary Classroom*, contact Essie Abrahams-Goldberg, Zachary Rubin, or Maria Arguello at the Abraham Lincoln High School/Temple Connection, Rowland and Ryan Avenues, Philadelphia, PA 19136, (215) 335-5653.

Euthanasia: An Exercise in Bioethics

Designed to follow the reading of Dalton Trumbo's Johnny Got His Gun, a required novel in the eleventh grade curriculum, this simulation asks students to examine the issues involved in mercy killing. The simulation was created to personalize the experience of the novel.

Students are divided into small groups with each student assuming one of four identities: doctor/medical establishment, Robert Burnes, the family, or devil's advocate. Students are to examine the questions raised through these particular lenses. The list of facts should be duplicated and pasted to 3x5 cards and distributed to members of each group. Students must then decide which facts are germane to the discussion. Important to know is the United States Army's position: Life is to be maintained. Life supports are not to be removed.

EUTHANASIA

An Exercise in Bioethics

Remember: There are always many solutions to an ethical problem. There is no right solution. Do not write down what you feel, but what you conclude after considering who will be affected by the decision, the values involved and the relative importance of each value.

THE STORY: Robert Burns, 25, a beginning doctor in the United States Army, was sent to represent the United States during the war in the Persian Gulf. He was in the Army as part of an agreement with the government: It paid for his medical schooling; he then served the government. He had been in the Persian Gulf for 24 hours when the tent he and his buddies were occupying was blown up. He survived and was sent to the critical care unit. From there, he was shipped back to the States. He fell into a post-trauma coma. His left foot was amputated after it developed gangrene. The family would like to have him transferred from the Veteran's Hospital to a private care facility.

Questions:

1. What are the military's rights in this situation?
2. What are the family's rights in this situation?
3. What is a coma? What are the possible long-term effects of such a condition?
4. What is gangrene? What alternate treatments aside from amputation are available?
5. What are the costs involved?

Ethical Discussion 1:

1. What ethical dilemma does the army medical team face? List all of the ethical problems that might arise.
2. What ethical dilemma does Robert's family face? List all of the ethical problems that might arise.
3. What is the range of values to be considered? (For example: quality of life, sanctity of life, the good of the country, the good of the family, the responsibility of the army to Robert, the responsibility of the family to Robert, the law...)
4. Examine these values in light of the situation presented and decide which should take precedence. Give reasons to support your ranking.
5. List additional information that you think it would be necessary to know before you choose what would be the most appropriate solution to each dilemma.

To treat a patient in a coma who needs to be on machines costs \$6,000 for the first day.

A private nursing home costs from \$1,000 to \$2,000 per month.

To maintain a patient in a coma on machinery costs \$600 per day in a hospital.

When a person enlists in the military, he or she becomes the property of the military.

Someone wounded in battle and incapable of returning to battle is given an honorable medical discharge.

No one knows when a person in a coma will come "out of it."

A person can remain in a coma for years.

Gangrene is the rotting of tissue in the body caused by failure in the circulation of blood.

A coma is a condition of profound unconsciousness caused by disease, poison or severe physical or nervous injury.

EUTHANASIA

An Exercise in Bioethics

THE STORY: After three months, Robert Burns remained in his post-trauma coma. Although his family had hoped he could be transferred to a private nursing care facility, he contracted pneumonia, thereby lengthening his stay and weakening his health. In addition, he had been fed through a feeding tube in the Veterans Hospital and had developed a secondary infection at this site. His mother, brother, and Robert's fiancée began to worry that brain damage would be inevitable. The doctors could not reassure them. After seven months in the Veterans Hospital, Robert remained in a coma, had experienced three separate bouts of pneumonia, contracted a yeast infection from the antibiotics, and developed unexplained seizures. These seizures continue unabated, raising the probability of brain damage.

Questions

6. What are Robert's chances of coming out of the coma without brain damage?
7. What are the consequences for a physician for committing euthanasia? physician-assisted suicide?
8. In the state of Pennsylvania, what are the laws concerning euthanasia? physician-assisted suicide?
9. How does the cost factor enter into consideration?
10. Who is paying for Robert's care?

Ethical Discussion 2:

6. How have the ethical dilemma(s) for the medical team changed, if at all?
7. At this time, what ethical decisions must Robert's fiancée face concerning his life? her life?
8. Refer to the ranking you did in Ethical Discussion 1. How would this list change? Why?
9. At this point, the quality of life for both Robert and his family must be considered. What issues are involved here?
10. What additional information do you need to choose the most appropriate solution to each dilemma.

EUTHANASIA

An Exercise in Bioethics

THE STORY: Robert Burns has been in a post-trauma coma for one year. He is being treated in a Veterans Hospital. After one year, his condition has stabilized, although he continues to have unexplained seizures. He experiences chronic bed sores, which occasionally become infected. His fiancée has determined that he will not recover and has ended the engagement, but has remained in contact with the family. His mother and brother have requested that all life supports be withdrawn. The military doctors have refused this request. Permission to move Robert from the Veterans Hospital to a private facility has also been denied.

Questions:

11. How do the statistics for recovery from a coma change after one year?
12. What are the effects of continued brain seizures?
13. What are the long-term effects of antibiotics on the body?
14. When such patients die, what are the most frequent reasons?
15. What are the chances Robert will again develop pneumonia and other infections?

Ethical Discussion 3:

11. If you had a loved one in this situation, what would you want for that person?
12. If you were in this situation, what would you want to have happen?
13. What constitutes suicide?
14. If the family chose to sue the government for the right to remove life supports from Robert, what issues would have to be considered?

Summary:

- A. Decide what you think is the most important ethical problem presented in this exercise and give at least three reasons why you have made this decision.
- B. List the essential steps necessary to make an informed ethical decision.

Holistic Scoring Guide

CONTENT	5	Sharp, focused, relevant details; insightful, fully developed ideas; balanced, controlled.
	3	Adequate focus; superficial ideas, lack of original thought; control is lacking.
	1	Confused focus; limited information; stereotyped thinking; boring.
ORGANIZATION	5	Logical order; good introduction; relevant details; smooth transitions; good pace; paragraphing; solid ending.
	3	Introduction and conclusion evident; connections seem forced.
	1	Writing lacks direction; fuzzy connections; confusing or irrelevant details; purpose unclear; paper too short or too long.
STYLE	5	Original, expressive, engaging; good word choice; fresh, flowing.
	3	Some precision and variety in vocabulary; functional, routine manner; lack of detail; use of cliches; lack of energy.
	1	Uninvolved writer; flat, lifeless writing; reader is not moved; reliance on cliches; fuzzy imagery; monotonous patterns; awkward sentences.
MECHANICS	5	Grammar, capitalization, punctuation, usage, spelling paragraphing effectively used; mechanics reinforce organization and structure; paper long enough to make point.
	3	Weaknesses begin to impair writing; punctuation, spelling, etc. may be incorrect; paper too short or too long.
	1	Numerous errors; text difficult to read; extensive editing required; non-standard English used.

Culbertson, Elaine. (1991). *Assessment Implementation Project*. (in press). Pages 13-14.

Portfolio Assessment: A Case Study from the Educational Video Center Documentary Workshop

The Educational Video Center (EVC) is a non-profit media arts center dedicated to empowering inner-city youth through the creative use of media. EVC provides training and support services in documentary production and media criticism to public high school students and their teachers. Through the process of creating documentaries on youth and community issues, students learn research and reporting techniques, sharpen critical media-viewing skills, and gain a more profound understanding of the issues that shape their lives and the world around them. The videos have been broadcast on television stations and used in classrooms across the country.

This work group analyzed and discussed the portfolio assessment work being conducted at the EVC in collaboration with the Center for Children and Technology. The group was led by Steven Goodman and Pam Sporn from EVC and Bill Tally from the Center for Children and Technology. Work-group participants viewed sample documentaries created by New York City high school students at EVC. Participants then explored the creative process of making documentaries in terms of the variety of activities that students are engaged in, the skills they develop, and the methods used to assess them.

Although a completed video project may reveal quite a lot about a student's creative talent, it is often mute about his or her trajectory of growth and learning during the preproduction, production, and postproduction phases. Realizing that they needed a better way to assess students' learning and work throughout the production process, EVC developed a portfolio process for students who are learning to produce their own documentaries. Portfolios are more than assessment tools -- they are a way to show the work and steps involved in the production of a documentary. Documentary production is group work; portfolios serve as a record of who does what work. The portfolio shows a student's home school what she or he has done during the semester. More importantly, students have a record of their own learning and work as part of a team. Ultimately, the process of portfolio assessment helps shape a culture of self-reflection and critique that students can internalize.

Components of the EVC Portfolio

The portfolio requirements have been designed to reflect the knowledge students acquire during the documentary-making process. At the beginning of the semester, EVC teachers give students a handout called "Portfolio Guidelines and Graduation Requirements" (see Handout A). These portfolio guidelines explain the kinds of work samples that make up a student portfolio. Students keep a loose-leaf binder with six different sections. Each section is devoted to an activity or specific step in the video production process. These six activities are: writing, research, technical work, editing, critical viewing, and interviewing and public speaking. Everyone is required to do work in each of these areas and to include at least three

work samples for each category in order to graduate from the program. Students choose what goes into their portfolio, which can include writing from production notebooks, photographs, articles, or videos. The guidelines explain the final evaluation process:

At the end of the term, EVC instructors will evaluate each of your portfolios as either proficient or masterful. Proficiency means that you have met the basic requirements in that area, and can perform the job well. Mastery means that you have performed independently and creatively in the area, making significant contributions to the group, and to the final product.

The cover sheets for each category define what types of work can fulfill the requirements, and what criteria are used to determine whether work is "proficient" or "masterful." For the technical arts category, for example, students must collect at least **three** of the following:

- peer review sheets that show the student has successfully set up the camera, deck, sound, lights, editing equipment;
- rough or final videotape showing camera, sound, and/or lighting work;
- videotape from EVC, TV, or other producers showing camera, sound, lighting, or editing work;
- written critique of a video, including use of camera, sound, lighting, and editing;
- an "autobiography" of a piece of equipment, and how it is used;
- log sheets, video treatment plans, or proposals, showing appropriate use of video terms;
- another kind of demonstration that shows student's technical and artistic skills.

Proficiency in technical work means successfully setting up the camera and deck, and demonstrating control of focus and steadiness as well as using the correct video and production terminology.

Mastery in technical work means successfully setting up all equipment, including camera, deck, sound, lights, and editing decks; mastery of a variety of different camera shots; and providing an independent demonstration of the creative use of videography, lighting, or sound recording.

Since the first experience with portfolios last fall, EVC has revised their method of assessment. To develop a more complete way to describe what students were doing, the center created an additional requirement: Students must now present work in two categories of their choice in order to graduate. Students present their work orally to a panel consisting of EVC staff, students, and teachers. This panel also evaluates the selected portfolios as either proficient or masterful. Student presentations to the panel also help students learn how to assess their own work. The new presentation system is particularly valuable in encouraging student self-assessment -- one of EVC's major goals. Students not only choose which categories to present and which work samples to show and discuss; they comment on and critique their own work. For example, to fulfill part of the technical arts requirement, one student showed a clip from her personal reel that featured her camerawork. She pointed out

that her judgment of lighting was poor at the beginning of the shoot, making the people on camera look dark, so she asked her subjects to move over a few feet. This adjustment resulted in clear, well-lit images. She added that one of her strengths in this clip was the way she kept the camera steady for the whole segment.

At present, EVC is still testing and revising the presentation process. Key issues EVC is examining are:

- how to maintain an ongoing discussion of portfolio projects between students and teachers throughout the semester;
- how to teach students more effective presentation skills; and
- how to help students learn new ways to respond to work that is presented to them when they sit on panels.

Lessons Learned from the Portfolio Process

Using portfolios reflectively can help strengthen teaching as well as learning. When EVC asked the Center for Children and Technology (CCT) to study their use of portfolios as measures of genuine student learning, CCT identified several challenges that emerged from the creation of the portfolio system. First, time for reflection competes with time for production, which means that by adding student reflection to the process, time is taken away from work on the documentaries. Second, EVC needs to strengthen its existing curriculum, for example, including the addition of critical viewing as a component of the documentary workshop. Third, there must be greater opportunities for teacher feedback and student revision of projects throughout the semester. Teachers need to make thoughtful, sensitive, and useful comments and suggestions; students need to think about *why* they include certain work in their portfolios. Students and teachers must work together to make portfolios truly authentic measures of learning and not merely places for collecting "stuff." Finally, the assessment criteria must be reliable and easy for students to interpret so that students can understand teachers' expectations and avoid "end-of-semester surprises."

Since the implementation of the portfolio process at EVC, the Video Center has worked to achieve major changes in each of the above areas. In particular, EVC has become more responsive to students' needs by providing more opportunities for communication between students and teachers about student projects and teacher expectations for student work. At the same time, students have become more self-reflective and articulate about their portfolios. While EVC works to refine its portfolio system, interim results indicate that they have made important strides in building an authentic and student-centered system of assessment.

For more information about the Educational Video Center (EVC) Documentary Workshops, contact Steven Goodman or Pam Sporn at the Educational Video Center, 60 East 13th Street, 4th Floor, New York, NY 10003, (212) 254-2848. For more information about the Center for Children and Technology (CCT), contact Bill Talley at the Center for Children and Technology, 96 Morton Street, 7th Floor, New York, NY 10014, (212) 875-4577. Also see "The Tape Is Great! But What Did They Learn?" by Steven Goodman and Bill Tally, *The Independent Film and Video Monthly*, August/September, 1993, pp. 30-33.

EVC Internship, Fall 1992

Portfolio Guidelines and Graduation Requirements

Artists and video makers, when they apply to school or for funding, often show examples of their work in a portfolio or sample video reel. A portfolio is a collection of work that tells others, and reminds you, of what you have done and what you are capable of.

At EVC you will collect work in a folder containing six different sections, or portfolios. Each portfolio represents one important step in the video production process. To graduate, you must collect 20 samples of your work distributed in these different portfolios:

1. Writing Portfolio	3 samples
2. Research/Content Portfolio	4 samples
3. Technical & Artistic Portfolio	3 samples
4. Editing Portfolio	3 samples
5. Critical Viewing Portfolio	3 samples
6. Communication Portfolio	4 samples
Total:	20 work samples

Remember, you choose the work that goes into your portfolios. The work you collect may include writing from your Production Notebook, photos and articles, or video that you transfer to your Personal Reel. At the end of the term, EVC instructors will evaluate each of your portfolios as either proficient or masterful. Proficiency means that you have met the basic requirements in that area, and can perform the job well. Mastery means that you have performed independently and creatively in the area, making significant contributions to the group, and to the final product. The specific ways that you can show proficiency and mastery in each area are listed on the cover sheets of each portfolio. Check these out!

Also to graduate, you must choose two of your portfolios and present them orally to a panel at the end of the term. The panel, which will include staff, students, and teachers, will also evaluate the portfolios as either proficient or masterful. This is your chance to really "show off" what you have done.

Your portfolios and your sample reel are for you. When you leave they will help you to remember everything you have done at EVC, how you have improved, and your individual style of working. They will also help you show college admissions people or future employers what valuable work you have done, and are capable of doing.

Integrating Instruction and Assessment at the International High School

The International High School (IHS), located on the campus of LaGuardia Community College in Long Island City, New York, is an alternative high school serving the needs of limited-English-proficient students who have lived in the United States for less than four years. IHS currently serves 460 students representing 56 countries and 38 different languages. IHS is committed to providing students with a rigorous instructional program that enables them to become proficient and fluent users of the English language. Classes are organized heterogeneously, and students work together in groups to provide them with continuous opportunities to learn from one another. The curriculum at IHS consists of interdisciplinary courses of study in which learning is organized and connected by a common conceptual theme. Specifically, these 13-week full-day programs combine traditional course offerings to teach a general theme, such as "Beginnings" or "Visibility/Invisibility" or "Motion."

Anthony DeFazio and David Hirschy, teachers in the interdisciplinary "Motion" and "Beginnings" programs at IHS, have found that small, thematically based learning communities create natural support groups for each student academically, socially, and emotionally. Planning for the programs leads teachers to work collaboratively to build instruction based on students' interests and needs. In many of the classrooms and programs, teachers have created alternative ways of assessing students to complement IHS's focus on individual achievement and collaborative learning. Hirschy and DeFazio have fully integrated the use of portfolios into the instructional process and have abandoned traditional testing.

This work group focused on the use of portfolios as a way to assess students in interdisciplinary courses of study, addressing the practical and theoretical issues surrounding assessment.

"If we view ourselves as effective educators, we must also view ourselves as learners. We are role models for our students. If we model authority, our students will learn to be authoritarian. If we model self-improvement in an atmosphere of sharing, that is what our students will learn." In support of this statement from IHS's personnel procedures handbook for teachers, each faculty member is required to maintain a portfolio including self-evaluations, peer evaluations, and administrative evaluations. In the *Motion Program*, for example, which combines literature, math/physics, and *Project Adventure* (a course modeled on Outward Bound but designed for the indoors), student assessment uses the same evaluation system -- a combination of self-evaluation and peer evaluation -- used in all faculty portfolios and is based on a portfolio of work developed by the student. Thus, the portfolio process, as practiced by both students and staff, reflects how alternative assessment creates a more democratic and collaborative learning environment throughout the school.

The Portfolio Process in the Classroom

The collaborative nature of class activities in the *Motion Program* provides students with multiple opportunities to study the concept of motion within the contexts of math, physics, literature, and physical education. As students work together on various projects to develop and explore key concepts of motion, movement, and change, they strengthen their English-language skills and expand their existing knowledge of math, science, and literature and of the connections among disciplines. The portfolio expands these small group contacts by asking students (1) to select their best work, (2) to write a personal statement, (3) to write a mastery statement, (4) to engage in self-evaluation, and then (5) to read and react to other students' work. Two students and two instructors read the portfolio and write approximately one page of reactions, evaluate the classwork and the portfolio, and recommend a grade. The final grade is arrived at in conference with the student, peers, and instructors. This process of how the portfolio is developed, read, and evaluated is critical to its success (see Handout A).

According to DeFazio and Hirschy, "In a collaborative group, self-assessment happens very early on and naturally. Students study portfolio materials individually and with others. . . . As they check with each other and share ideas, self-assessment has already started." Given the heterogeneous nature of students and groups in the classroom, *students are encouraged to develop their own personal goals and standards*. Competition and comparison with others is minimized as students develop both internal and class standards. For students and teachers, DeFazio explains, the portfolio process "is a fulfilling experience . . . not just a pat-on-the-back, but the push to go much further."

In the personal statement, students are encouraged to think about their progress as individuals within a group context. Through the mastery statement, students develop higher cognitive skills such as recontextualization, synthesis, and abstraction. Although students may work on the portfolio together, their statements are valued as individual work. In this kind of environment, copying or using another's work is taboo. Individuality, variety, and clarity of expression are valued. "In this way," maintains Hirschy, "students are taking responsibility for their own learning." As one student explains, "When I take a test, I study, I remember until the test, and then I forget it. When I do the portfolio, it is really mine, and I have it for a long time."

Traditional Testing vs. Portfolios

"Traditional testing is both detrimental to the learning process and shakes the self-confidence of our kids," according to Hirschy. In its *Motion Program*, IHS decided to abandon testing as a means of assessment for these reasons:

- Testing does not usually measure creativity.
- Testing usually emphasizes breadth of coverage rather than in-depth cognitive achievement.
- Testing does not model the real world where people's successes often depend on their ability to use the people and resources around them.

- Testing does not measure individual growth or growth of the whole person.

In contrast, Defazio and Hirschy see the portfolio process as integral to genuine student learning and growth because it promotes:

- longer retention
- higher-level cognitive skills
- development of internal standards and self-reliance
- ability to use a range of resources
- creativity and variety in problem-solving approaches
- social skills
- language and presentation skills

Although the process of using student-centered, interdisciplinary projects to integrate instruction and assessment at the International High School requires far more time, thought, and effort from teachers and students than traditional methods of assessment, student success in the *Motion Program* has prompted faculty to currently offer 12 such programs. Ninety-eight percent of students in interdisciplinary courses pass their classes, while grades fall back once students return to more traditional, departmentalized schedules. What is the reason for the school's strong record of success with its ethnically and linguistically diverse student population? "I believe our success in integrating instruction and assessment dignifies the learning process and provides students and teachers with opportunities for continued academic and personal growth," says Hirschy.

For more information about the use of portfolios and *Integrating Instruction and Assessment*, contact Anthony DeFazio or David Hirschy at the International High School, LaGuardia Community College, 3110 Thompson Avenue, Long Island City, NY 11101, (718) 482-5456.

Evaluation Guidelines

Reader's Name: _____

The following categories and descriptions were generated by students to be used in self, peer, and instructors' evaluations. For a person to deserve an A in classwork or portfolio, they should be an A in most of the categories, not necessarily every one. For a person to deserve a B, they should be a B in most of the categories. They may be an A in some and C in some.

Classwork:

Attendance, lateness

- A None except for emergencies
- B 2-3
- C 4-6
- D 7-8
- N.C. 9 or more

Mark _____

Working with others

- Leader, supports others, helps others
- A almost all of the time
- B most of the time
- C sometimes yes, sometimes no
- D rarely, needs improvement
- N.C. not acceptable

Mark _____

The amount of work completed

- Has completed _____ activities.
- A 14-15 activities
- B 12-13 activities
- C 10-11 activities
- D 8-9 activities
- N.C. not acceptable

Mark _____

Concentration

- Works on activities, does not fool around
- A almost all of the time
- B most of the time
- C sometimes yes, sometimes no
- D rarely, needs improvement
- N.C. not acceptable

Mark _____

Understanding of classwork

- Can explain almost all of the work to others
- A almost all of the time
- B most of the time
- C sometimes yes, sometimes no
- D rarely, needs improvement
- N.C. not acceptable

Mark _____

Communication growth

- Progress in the ability to write, speak, and understand English, or consistent mastery
- A excellent
- B good
- C fair
- D poor
- N.C. not acceptable

Mark _____

Classwork Mark: _____

Portfolio:

Personal Statement: Explains clearly and completely.	Mark _____
Mastery Statement: Explains clearly and completely.	Mark _____
Gives specific examples.	Mark _____
Shows what the person has learned.	Mark _____
Is well organized.	Mark _____
Is neat and easy to read.	Mark _____
Explains the connection between classes.	Mark _____

Portfolio Mark: _____

Personal Comments:

Beyond this evaluation, please comment on strong points, areas for improvement, and personal reactions from working with the person.

Classwork: _____ *Portfolio:* _____ *Final Mark:* _____

Self-Evaluation: Considering my work in the class, I would rate my classwork as _____, my portfolio as _____, and my final mark as _____.

Peer Evaluation: Please have two fellow students read your portfolio, and include their reaction sheets. Summarize their comments below.

Faculty Evaluation: Please have two instructors read your portfolio, and include their reaction sheets. Summarize their comments below.

Grade Summary: Use A,B,C, D, or N.C. Do not use + or -.

	<i>Self Evaluation</i>	<i>Peer Evaluation</i>	<i>Peer Evaluation</i>	<i>Faculty Evaluation</i>	<i>Faculty Evaluation</i>
<i>Classwork</i>					
<i>Portfolio</i>					
<i>Final Mark</i>					
<i>Name</i>					

Developing Authentic Teaching and Assessment: A Case Study of the Nyack Public Schools

The Nyack Public Schools, located in Rockland County, New York, serve approximately 2,800 students in three elementary schools, one middle school, and one high school. Forty percent of the student body consists of minority students, including African Americans, Haitian Americans, and Asian Americans. In line with the New Compact for Learning, New York State's school reform initiative, the Nyack School District is engaged in a number of efforts to transform the quality of education in its schools. The district's teacher-driven initiative to implement a whole-language and literature-based program in the elementary grades reflects one such effort.

In this work group, Fred Frelow, director of curriculum, Deena Hellman, director of instructional services, Joanne Niebanck, language arts specialist, and Rosemary King, third-grade teacher, discussed the bottom-up reform efforts that led to the implementation of a whole-language approach to literacy development in the K-6 curriculum. Work group leaders described how their student assessment practices were changed when teachers adopted the whole-language program -- teaching language skills in the context of real-life situations, not isolated from authentic purposes, and supporting the integration of reading and writing across the curriculum.

Implementing Whole Language in the Classroom: A Teacher-Driven Initiative

It began with a small group of teachers who were interested in promoting more positive and useful language experiences for children in their classes. These teachers attended whole-language workshops and experimented with the approach in their classrooms. When their students produced more sophisticated writing, other teachers wanted to learn about the process. Teachers began sharing their knowledge. Principals, in turn, felt the pressure from their teachers to allow more time and opportunity for sharing new knowledge and skills; they passed the pressure upward to administrators at the district level.

A needs assessment indicated that the children's writing required improvement. The assessment showed that teachers, districtwide, were not satisfied with the quality of students' written work. As a result of initial reform efforts, pressures on the system from practitioners, and the needs assessment findings, the district made a commitment to the implementation of the writing process and, eventually, to the implementation of the whole-language approach.

Developing New Measures of Assessment

"As is often the case, changes in instruction led to changes in assessment," explained Fred Frelow. Thus the whole-language/literature-based reading approach necessitated changes in the ways the district assessed children's progress. Teachers thought that (1) the traditional

testing system was not adequate for use with whole-language teaching, (2) traditional means of record keeping were not accurate or reflective of students' progress, and (3) the information reported to parents was not accurate or useful. As teachers worked toward the development of a new assessment process, they had several goals:

- an assessment package that provided teachers with the means to gather the kinds of information they needed to make informed instructional decisions
- record keeping that was simple yet thorough and could reduce the amount of time spent filling out forms at the end of the year
- records that would be useful when communicating with parents and with other professionals

Because of Chapter 1 funding requirements, some teachers were worried about how changing the assessment and testing procedures would affect their compensatory programs. A testing committee of teachers was formed to look into the feasibility of eliminating the CAT (the timed/standardized California Achievement Test) and using an alternative mechanism for identifying children in need. The committee carefully researched the pros and cons of standardized testing in several ways:

- contacting surrounding districts regarding their testing policies and procedures
- disseminating over 40 journal articles regarding assessment
- surveying both parents and teachers to determine their thoughts on standardized testing

Based on this research, the testing committee decided to continue using the CAT and, *at the same time*, to develop student portfolios and then compare the two types of assessment. They found that the portfolios (see Handout A) provided detailed records of student growth over time that were effective for:

- supporting and informing day-to-day teaching
- providing an ongoing record of student growth
- satisfying the need for accountability
- enabling teachers to effectively report to parents

In comparing the results from the new assessment measures with the results from the standardized tests, the committee found that, for the most part, student scores on the alternative assessment tasks correlated with their scores on the traditional assessment (CAT); that is, for the most part those students who did not do well on the authentic assessment did not do well on the standardized tests either. Students whose performances on the two different measures varied widely were analyzed more intensely. Some students, for example, passed the alternative assessment basic vocabulary test and scored badly on the CAT vocabulary test, and some students failed the alternative assessment writing checklist but did well on the language mechanics and language expression sections of the multiple choice CAT. Teachers attributed these disparities in achievement levels to such factors as test anxiety and "bad day" situations. The development and implementation of this alternative assessment have raised many questions regarding the validity of the CAT, which will need to be explored

further, the committee found.

The testing committee prepared a report for the Nyack Board of Education based on the data they had collected on both traditional and alternative assessment measures. This report ultimately led the board to revise its policy on the use of standardized tests as the primary measure of student learning and achievement. The Nyack Board of Education now endorses the use of a combination of standardized tests and authentic assessment measures in evaluating student progress. Presently, Language Arts Portfolios are being used in grades K-2, and report cards for first-grade classes have been revised to reflect the use of the new assessment measures and the district's emphasis on the whole-language process.

Next Steps

The district's next steps will be to look at developing more authentic assessment tasks for elementary, middle, and high school students. The upper grades, in addition, are beginning to look at writing across the curriculum. In working to build a culture in their schools that supported change, the Nyack teachers who initiated the change process came to realize that nothing in the process was set in stone. This was an important piece of advice they had to pass on to the larger group. Bottom-up reform often called for moving in several different directions. When teachers saw they were headed toward a dead end, they would take another direction. According to Fred Frelow, "Teachers [now] feel that the move toward whole language will make the move toward a developmental math program easier. The culture for change exists."

For more information about *Developing Authentic Teaching and Assessment*, contact Fred Frelow or Deena Hellman at the Nyack Public Schools, 41 Dickinson Avenue, Nyack, NY 10960, (914) 353-7055.

Language Arts Portfolio - Grade 1

The Committee on Assessment has affirmed the following reasons for maintaining a portfolio for every child in grades K-2.

- The portfolio allows every teacher to document progress for every child, providing data to support and inform decisions about daily teaching.
- We hope to help teachers, specialists and parents describe the child and his or her program without using standardized tests as the primary source of data.
- The portfolio gives substance to our contention that we take children wherever they are when they enter our district and move them forward as they become competent readers and writers.

Directions for the Language Arts Portfolio:

The Table of Contents, listing the materials to be included, should be attached to the front of the portfolio. The first grade list contains the following items:

- September - October screening
- Writing Samples
- Writing Development Checklist
- Running Record
- Writing Observational Notes
- Reading Observation Checklist
- Reading Observational Notes
- Student Response to Literature
- Oral Language Checklist
- Interest Inventory
- Child Interview
- Taped reading samples

The items marked with a bullet (•) should be in every child's portfolio since they form the basis for all assessment and record-keeping. The items marked with a double asterisk (••) are optional at this time.

1. September-October Screening

The screening materials used on the first grade level include:

- Concepts About Print
- Writing Vocabulary
- Letter Identification Test
- Bedrock Words Test
- Individual Prose Inventory
- Word Recognition Test

Use only those portions of the screening that are appropriate for the individual child and include them in the portfolio.

2. Writing Samples

Writing samples should be examples of free writing done by the student. They should be indicative of the child's daily writing ability and should not be edited by the teacher. If necessary, the teacher can transcribe the story from dictation or rewrite specific words so the sample can be read easily.

Writing samples should be collected four times per year, prior to the end of each marking period. More samples may be included at the discretion of the teacher.

3. Writing Development Checklist

Complete and attach the Writing Development Checklist to each sample.

4. Running Records

Running records are a form of miscue analysis. The teacher observes, records and analyzes any unexpected words the child says in the process of reading aloud a connected text. Running records are used for instructional purposes to evaluate the child's reading behaviors and set directions for teaching, to check the difficulty of a text for a child, and to monitor progress.

Directions for administering and recording running records are included in this packet.

Running records should be done four times per year, prior to the end of each marking period.

5. Reading Observation Checklist *

(Optional) Complete four times a year, preferably prior to the end of each marking period.

6. Oral Language Checklist *

(Optional) Complete three times a year

7. Student Response to Literature Checklist *

(Optional) Complete three times a year.

Checklists

The intent of the checklists is to provide a structured, easy to use format for observing students and maintaining a record of student growth over time. The checklists focus upon these seven aspects of literacy:

- 1. Ownership*
- 2. Reading Comprehension*
- 3. Writing Process*
- 4. Word Identification*
- 5. Language and Vocabulary Knowledge*
- 6. Voluntary Reading*
- 7. Speaking and Listening*

WRITING DEVELOPMENT CHECKLIST

Name: _____ Teacher: _____

	Date	Yes	Comments
<i>Simulated (unconventional) letters</i>			
<i>Letter or number 'strings'</i>			
<i>Simulated writing, no word separations</i>			
<i>Simulated writing with word separations</i>			
<i>Recognizable writing of own name</i>			
<i>Inconsistent left-right, up-down directionality</i>			
<i>Consistent left-right, up-down directionality</i>			
<i>Mixture of conventional and simulated letters</i>			
<i>Consistent conventional letters, not representing sounds</i>			
<i>Initial letters, phonetically appropriate, standing for words</i>			
<i>Initial and final letters, phonetically appropriate, standing for words</i>			
<i>Interior letters, phonetically appropriate</i>			
<i>Readable handwriting</i>			
<i>Readable spelling approximations</i>			
<i>Arbitrary use of punctuation</i>			
<i>Mixture of conventional spelling and approximations</i>			
<i>Arbitrary use of capitals</i>			
<i>Inconsistent use of punctuation</i>			
<i>Consistent use of punctuation</i>			
<i>Consistent spelling</i>			
<i>Consistent conventional use of punctuation</i>			
<i>Fairly consistent conventional spelling</i>			
<i>Consistent conventional sentence structure</i>			

READING OBSERVATION CHECKLIST

Name: _____

Codes: N = Not at this time S = Sometimes M = Most of the time

1	2	3	4
---	---	---	---

Comments

DATE

--	--	--	--

Reading Attitude

Chooses to read

--	--	--	--

Sustains interest

--	--	--	--

Selects appropriate books

--	--	--	--

Shares reading experience
with others

--	--	--	--

Shared Book Experience (Group)

Listens attentively

--	--	--	--

Joins in when able

--	--	--	--

Responds to questions, texts,
and pictures

--	--	--	--

Comprehension

Makes connections from own
experience to what is read

--	--	--	--

Makes predictions about text

--	--	--	--

Gives reason for liking or
disliking the book

--	--	--	--

OBSERVATION NOTES

Name: _____

Date _____

Date _____

Date _____

Date _____

Date _____

Sample of Observational Notes

Student's Name: David

Date: January 3

When he was finished with his journal picture, he surprised me by suddenly starting to write letters on his page: D for David, and then said I for Eliza (later also said Z for Eliza!), B for Benjamin. I had no idea that he knew all those letters, much less that he associated them correctly with names. He is a child full of surprises.

Date: February 15

David is really coming alive and animated. Shows me pictures in books, saying "look!" Fell in love with the paperback book of Katy and the Big Snow (did someone read it to him?) and points out Katy to me on each page. He even showed it to our Katie, as a kind of a joke about the name. Looking at the photos Suzanne had brought, D. excitedly identified every child in the pictures, even those wearing Halloween masks. He put together number puzzles and said the numbers. While he still doesn't contribute to discussions or rarely answers direct questions, I think he is really learning, taking in a lot and finally making some outward response. I don't think I'll recommend retention. He might be better off at school full time next year. Either he will catch up or else he might have to repeat first grade, but he seems to me like a child with real potential who needs the stimulation of other kids and interesting materials. He sure keeps busy, always finding himself something to do!

Date: February 26

David has woken up with a bang! He is practically bubbling with conversation, pretending to read books (telling me what each page says), joining into class discussions (with somewhat irrelevant and sometimes unintelligible contributions, but still...), bringing things to me to show me, or dragging me over to see his newest Lego cars. What a fantastic change in this little boy. His father says he talks constantly at home also, in both Russian and English. When I told the father that was good, and the David is growing up and ready to put on his own clothes, that perhaps he could tell grandmother that, the father evidently told her. Today grandma waited for David to do it himself, which he did fine. David is able to recognize and write some other children's names and he writes letters on his pictures.

STUDENT RESPONSE TO LITERATURE

Name: _____ Grade: _____ Teacher: _____

	Date	Yes	Comments
<i>Enjoys books and stories</i>			
<i>Seeks book experiences, asks for or goes to books spontaneously</i>			
<i>Is curious about print</i>			
<i>Experiments with written language</i>			
<i>Is able to follow plot, sequences</i>			
<i>Can predict words, phrases</i>			
<i>Knows story comes from print</i>			
<i>Will tell story of familiar text, turning pages</i>			
<i>Knows directional conventions: left/right, top to bottom</i>			
<i>Understand print entities: words letters</i>			
<i>Understands phonetic principle: letters have relation to speech sounds</i>			
<i>Understands consistency principle: same word spelled the same way</i>			
<i>Knows some letter sounds</i>			
<i>Tries spelling approximations</i>			
<i>Approximate reading with familiar text</i>			
<i>Recognizes some words</i>			
<i>Can sound out some words</i>			
<i>Knows some conventions of punctuation</i>			54

ORAL LANGUAGE CHECKLIST

Name: _____

Codes: N = Not at this time S = Sometimes M = Most of the time

Beg K	Mid K	End K	Beg 1	Mid 1	End 1	Beg 2	Mid 2	End 2
----------	----------	----------	----------	----------	----------	----------	----------	----------

DATE

--	--	--	--

Speech Skills

Uses appropriate volume

Articulates clearly

Settings

Talks to teachers

Talks to peers

Talks in small group situations

Talks in large group situations

Uses of Language

Asks for help from peers

Asks for help from adults

Asks questions

Initiates conversations

Relates personal experiences

Responds relevantly to topic

Expresses point of view

Expresses feelings

Can retell a sequence of events from experience

INTEREST INVENTORY

Name: _____ Date: _____

1. *What are some things that are easy for you at school?*
2. *What are some things that are hard for you at school?*
3. *Who are some of your friends at school?*
4. *What are some of the things you choose to do at school?*
5. *If you could spend more time on some activity or work, what would it be?*
6. *What parts of school do you especially like?*
7. *What things at school upset you?*
8. *What do you do when you are upset?*
9. *Of all the things you have done at school, what makes you the most proud?*

COMMENTS:

CHILD INTERVIEW

Name: _____ Date: _____

1. What is your favorite thing to do at home?

2. What is your favorite TV show?

3. Do you watch Sesame Street? Yes _____ No _____

4. Do you have books at home? Yes _____ No _____

5. Do you have a special place for books at home? Yes _____ No _____

6. What is your favorite book?

7. Do other people at home like to read? Yes _____ No _____

8. What do they read?

9. Does someone read to you at home?

Planning Backwards from Exhibitions

The Coalition of Essential Schools supports secondary schools, districts, and states in their efforts to focus on schooling's primary purpose: improving student learning. Rather than provide a specific reform model to implement, the Coalition asks school practitioners to work from a set of common ideas, the Nine Common Principles (see Handout A), to restructure their schools based on the particular needs of their school communities.

These principles place top priority on the "personalization" of teaching and learning, require that schools focus on students and help them learn to use their minds well, emphasize equity and excellence in education for all students, and establish new standards for awarding the secondary school diploma based on a successful final demonstration of mastery for graduation, called an "exhibition." In the words of Coalition founder Ted Sizer, "This exhibition is a demonstration by the student of his or her grasp of the central skills and knowledge of the school's program. . . . The diploma is awarded when earned, so the school's program proceeds with no strict age grading and with no system of 'credits earned' by 'time spent' in class." Essentially, the Coalition conceives of exhibitions as student-designed demonstrations of competency. "The emphasis is on the students' demonstration that they can do important things," says Joe McDonald of the Coalition. In this work group, McDonald discussed specific strategies for implementing the key principles.

Focusing on the notion of Graduation by Exhibition, McDonald suggested an innovative framework for putting in place this new assessment system, which he called "Planning Backwards from Exhibitions." The system is called *Planning Backwards* because instead of starting with traditional curriculum and subject requirements as the basis for what students should know in order to graduate from high school, curriculum is constructed as students plan their exhibitions for graduation.

From his work with ten high schools within the Coalition, McDonald came up with these fundamental questions: What shall we teach? How shall we teach it? And how do we know if anyone is learning? The strategy of *Planning Backwards* provides a way of answering these questions as it calls for schools to consider new conceptions of curriculum, instruction, and assessment.

The *Planning Backwards* strategy follows these four steps:

1. Defining a vision
2. Building a platform
3. Rewiring
4. Tuning

In *Planning Backwards*, the vision is central and must come before an appropriate assessment platform or curriculum can be constructed. In **Defining a vision**, schools focus on where students are now and the kinds of school experiences that students are presently having. Schools then consider what changes they would like to see in the students and the

school and how to achieve these changes.

In **building a platform**, schools build an explicit accountability system for assessing student learning. The accountability platform is supported by the school's vision, specific assessment tasks, standards for evaluating assessments, methods of collective evaluation, benchmarked images of performance, and tuning mechanisms for continually checking with students on their work.

In **rewiring**, schools then ask themselves, "What do we spy from our platform?" Rewiring calls for forming new connections within the school community, working across departments in a more integrated and collegial way, to make exhibition practices more effective by utilizing the feedback, input, and resources of teachers in all subject areas. In the rewiring process, new assessment structures are evaluated and changed as necessary to fit the accountability platform.

In the final or **tuning** step, schools engaged in planning and setting up exhibitions for graduation come together to share their projects and provide feedback to each other on student performances and exhibits. Tuning calls for individual schools to reach out to other schools, forming networks to present, critique, and reflect on their exhibitions. The tuning part of the process provides collective learning opportunities for modifying and refining existing presentations as well as tuning standards. Once the exhibition system has been put in place, tuning is essential for the system to run effectively.

These four steps in *Planning Backwards from Exhibitions* are currently being used by Coalition schools and can be adopted by schools interested in the planning-backwards concept of school change.

As the Coalition has demonstrated in putting this blueprint for school change into practice, creating workable assessment systems based on authentic student achievement is possible. But the process is far from simple, and implementing the graduation-by-exhibition system in individual schools is often a controversial, frustrating, and time-consuming process. Some questions that need to be explored further are whether there will be statewide or national standards for graduation by exhibition, and how these standards will be determined. Will exhibitions be the sole factor in determining students' readiness for graduation? And how will the exhibition standards set by individual and local schools conform with college admission standards and practices?

For more information on *Planning Backwards from Exhibitions*, contact the publications office at the Coalition of Essential Schools, Brown University, Box 1969, Providence, RI, 02912, (401) 863-7989.

The Common Principles of the Coalition of Essential Schools

- 1 • The school should focus on helping adolescents learn to use their minds well. Schools should not attempt to be "comprehensive" if such a claim is made at the expense of the school's central intellectual purpose.**
- 2 • The school's goals should be simple: that each student master a limited number of essential skills and areas of knowledge. While these skills and areas will, to varying degrees, reflect the traditional academic disciplines, the program's design should be shaped by the intellectual and imaginative powers and competencies that students need, rather than necessarily by "subjects" as conventionally defined. The aphorism "Less is More" should dominate: curricular decisions should be guided by the aim of thorough student mastery and achievement rather than by an effort merely to cover content.**
- 3 • The school's goals should apply to all students, while the means to these goals will vary as those students themselves vary. School practice should be tailor-made to meet the needs of every group or class of adolescents.**
- 4 • Teaching and learning should be personalized to the maximum feasible extent. Efforts should be directed toward a goal that no teacher have direct responsibility for more than 80 students. To capitalize on this personalization, decisions about the details of the course of study, the use of students' and teachers' time, and the choice of teaching materials and specific pedagogies must be unreservedly placed in the hands of the principal and staff.**
- 5 • The governing practical metaphor of the school should be student-as-worker, rather than the more familiar metaphor of teacher-as-deliverer-of-instructional-services. Accordingly, a prominent pedagogy will be coaching, to provoke students to learn how to learn and thus to teach themselves.**
- 6 • Students entering secondary school studies are those who can show competence in language and elementary mathematics. Students of traditional high school age but not yet at appropriate levels of competence to enter secondary school studies will be provided with intensive remedial work to assist them quickly to meet these standards. The diploma should be awarded upon a successful final demonstration of mastery for graduation -- an "Exhibition." This exhibition by the student of his or her grasp of the central skills and knowledge of the school's program may be jointly administered by the faculty and by higher authorities. As the diploma is awarded when earned, the school's program proceeds with no strict age grading and with no system of "credits earned" by "time spent" in class. The emphasis is on the student's demonstration that they can do important things.**

7 ● The tone of the school should explicitly and self-consciously stress values of unanxious expectation ("I won't threaten you but I expect much of you"), of trust (until abused), and of decency (the values of fairness, generosity, and tolerance). Incentives appropriate to the school's particular students and teachers should be emphasized, and parents should be treated as essential collaborators.

8 ● The principal and teachers should perceive themselves as generalists first (teachers and scholars in general education) and specialists second (experts in but one particular discipline). Staff should expect multiple obligations (teacher-counselor-manager) and a sense of commitment to the entire school.

9 ● Ultimate administrative and budget targets should include, in addition to total student loads per teacher of 80 or fewer pupils, substantial time for collective planning by teachers, competitive salaries for staff, and an ultimate per pupil cost not to exceed that at traditional schools by more than 10 percent. To accomplish this, administrative plans may have to show the phased reduction or elimination of some services now provided students in many traditional comprehensive secondary schools.

●
Box 1938, Brown University
Providence, RI 02912

A Look at The Multiple Forms of Evidence Study: Lessons Learned

The Multiple Forms of Evidence Study is a pilot reading assessment study sponsored by the Accountability Project, a partnership between the Fund for New York City Public Education and the New York City Public Schools' Office of Research, Evaluation, and Assessment (OREA). The goal of the Accountability Project is to strengthen student assessment and school evaluation practices in New York City. This particular study was born of the belief that responsible and accurate assessment must be broadly based to include multiple forms of evidence of student progress, collected over time and across classroom settings.

The Multiple Forms of Evidence Study sought to answer these three questions: What are the most useful ways for teachers to document student learning? How can classroom evidence inform assessment decisions beyond the classroom? In what ways can such evidence be compared with test results?

This work group, facilitated by Janet Price and Sara Schwabacher from the Fund and John Schoener and Maureen Houtrides from OREA, considered these questions and their policy implications.

The Study

In the spring of 1992, the *Multiple Forms of Evidence Study* engaged 61 teachers in 18 schools in the collection and review of classroom-based assessments of 268 students in grades two through six. Sources of evidence of student progress included:

- teacher observations
- periodic samples of student work and performance
- standardized and classroom test results

Teachers compared those data with the students' test scores on the standardized, multiple-choice reading test administered that spring, the Degrees of Reading Power (DRP), which is given once a year and used to evaluate the effectiveness of schools and districts and to place students in classes for high and low achievers.

The teachers took advantage of a useful feature of this test, which reports student test results in "DRP units" designed to correspond to the relative difficulty of reading matter (see Handout A). Teachers were able to identify actual books their students could successfully read by listening to the children read aloud, discussing the books with children, and evaluating student writing about the books. Teachers then looked up the DRP readability values of those books in published guides and compared them with the children's test scores reported in DRP units.

The findings were dramatic. The children with the lowest scores could read books that

were 10 to 20 DRP units higher on the average than their DRP test scores would indicate. This means that the actual reading performance of many of these children was at least on grade level, although their test scores were well below. Aggregate data indicated that although only 38 percent of the third graders in the study sample scored at or above grade level on the DRP, 60 percent of these same students could read books appropriate for their grade level.

Lessons Learned

What was learned from these findings? The Accountability Project believes the study yielded two critically important lessons.

1. It is inaccurate and potentially harmful to judge individual students or schools on the sole basis of a multiple-choice test given once a year. Even when students' classroom performance is better than the test results would predict, standardized tests, such as the DRP, are often used to "track" students by achievement level and to make other "high stakes" decisions about individual students. The inappropriately low expectations and lack of challenging work engendered by the tests too frequently result in such students' never achieving their full potential.
2. Classroom assessment techniques used by the participating teachers yielded far more information about their students than did the DRP. These assessment practices gave teachers rich and immediately useful information about the reading strategies their students used and which literacy skills should be the focus of further instruction.

According to Janet Price, "Even the best authentic assessment tool is inadequate if it is the only assessment strategy or if it is only employed once a year. Our assessment approach must shift to strategies that systematically tap the everyday evidence of learning in the classroom over time and across settings."

This study has important implications for the city, the state, and the nation. As President Clinton focuses on national education goals and the New York State Regents consider proposals for curriculum and assessment reform, it is critically important for policy makers to understand that standardized tests alone do not yield a reliable picture of either student achievement or school effectiveness. If our goals are for students to think critically and read and write thoughtfully and clearly, assessments must examine students' abilities to do those things.

The Accountability Project sees the collection of multiple forms of evidence about student progress as serving three purposes:

1. to inform instructional strategies within the classroom
2. to inform instructional and placement decisions about students as they move to new grades or schools
3. to serve as one indicator of overall school effectiveness

If we are to improve assessment practices in our schools, far more professional development opportunities must be provided for teachers and administrators to learn about the new alternative assessment methods and how to implement them.

For more information on the *Multiple Forms of Evidence Study*, contact Maureen Houtrides at the Office of Research, Evaluation, and Assessment, New York City Public Schools, 110 Livingston Street, Brooklyn, NY 11201, (718) 935-3284; or Sara Schwabacher at the Fund for New York City Public Education, 96 Morton Street, New York, NY 10014, (212) 645-5110.

Readability of Prose Samples in DRP Units

34 DRP Units

Bears are big. They need a lot of food. Bears eat meat. They eat bugs. They eat berries. They eat honey. They eat fish, too. Bears feed in the spring. They feed in the summer. They feed in the fall. Bears look for food then. They hunt. They fish. They dig roots. They pick berries. They eat a lot. They grow fat. Soon, winter comes. It gets cold. It snows. But the bears don't need to go out. They don't need food. They are fat enough. They can sleep.

39 DRP Units

A bird's wings are well-shaped for flight. The wing is curved. It cuts the air. This helps lift the bird. The feathers are light. But they are strong. They help make birds the best fliers. A bird can move them in many directions. Birds move their wings forward and down. Then they move them up and back. This is how they fly.

43 DRP Units

Many states are dry in summer. They get hardly any rain. Nearly all their water comes from melted snow. It is stored. It is kept in dammed-up ponds and lakes. It is used during the growing season to water farms and orchards. Farmers buy the water. They are told how much they will be able to get. The amount changes each year. It depends on how snowy the winter was. A farmer needs to know how much he will receive. It allows him to decide which of several crops he ought to plant. The choice is based on how much water different crops need.

47 DRP Units

The part of a beach between high and low tide is called the middle beach. It is home to many plants and animals. But life on this middle beach is hard. There is no protection against the wash of the oncoming waves. Some animals survive by digging holes in the sand. They can stay in their homes under ground. The undertow will not pull them out to sea. They are safe.

51 DRP Units

Most creatures take care to protect their eggs. The walking stick does not. It just drops its eggs, scattering them loosely on the ground. Dozens and dozens drop at a time. As the eggs fall onto dry leaves, they sound like raindrops falling. Many of the eggs do not hatch. But enough do so that the walking sticks will not die out. They have existed on earth since before the era of the dinosaurs.

56 DRP Units

The people of Greece used the alphabet of the Semites. At first the Greeks wrote from right to left and left to

right in alternating lines. The Greek name for this system of writing came from their words for "ox" and "turn." The method reminded them of oxen going back and forth, plowing a field. Eventually, the Greeks wrote only in one direction, as most people do now.

60 DRP Units

The ouija board is a simple rectangular piece of wood. All the letters of the alphabet are set out in a semicircle across a long edge. The ten digits and the words "yes," "no," and "goodbye" appear below. A small heart-shaped piece of wood called a planchette is mounted on casters so it can move easily on the board. When one places his fingertips lightly on the planchette, it slides around. It moves apparently without any conscious control on the part of the operator. Its pointer is supposed to spell out the answers to questions.

64 DRP Units

Wall paintings are especially vulnerable to atmospheric change. Archaeologists know this. Hence they try to discover, before opening a tomb, whether they will find murals. Special tools have been designed for this purpose. One of the most useful is a kind of camera that can be dropped into the ground before the digging starts. If the camera indicates the presence of wall art, scientists can prepare to take steps to preserve the painting as soon as it is reached.

73 DRP Units

Hellenistic literature showed an interest in individual history and psychology, rather than man in general. Theophrastus' *Characters*, with its detailed portraits of such types as the flatterer, appeared during this time. Biography, dealing with the lives of real people, was a flourishing form. And in philosophy the emphasis was on personal conduct rather than speculation about reality.

81 DRP Units

Jefferson's preference for an agrarian society and his idealization of the independent farmer reflected a conviction that representative government required a secure and relatively prosperous economic base to function successfully. He perceived the farmer as economically independent, and thus unlikely to surrender his judgment as a citizen to the influence of demagogues. His dislike and distrust of cities derived from a conviction that urban conditions especially for the poorer classes, forced men into such a bitter struggle for sheer self-preservation that their natural moral sense could not be relied upon to produce social harmony or to guarantee responsible citizenship.

Note: The readability calculations are based upon longer samples.

Criteria for Scoring the Authenticity of Assessment Tasks

How do we know whether a new approach to assessment is more "authentic" than traditional multiple-choice tests? Projects, portfolios of student work, student participation in debates, exhibitions, essays, research papers, dramatic performances, construction of physical models -- all depart from conventional tests, but why should they be considered more authentic? To decide whether these or other techniques are better, more valid, more authentic, or preferable to traditional tests requires a set of criteria for assessment tasks themselves. The Center on Organization and Restructuring of Schools has been working on this problem.

Fred Newmann, center director, contends that criteria for assessment tasks should be derived from more basic criteria for authentic human accomplishment. He has proposed three main criteria to distinguish authentic human achievements from those likely to be judged as trivial, superficial, insignificant, or worthless. These criteria emphasize the production of knowledge, through disciplined inquiry, which has social or aesthetic value beyond educational evaluation or credentialing (Newmann and Archbald, 1992).

Since 1991, the center has studied 24 public elementary, middle, and high schools in the United States that have "restructured" in significant ways. The center is trying to learn about the extent to which these schools promote authentic assessment, and what accounts for their success or difficulties in doing so. The center has collected examples of teachers' assessment tasks and student work, which the teachers in these schools consider to offer valid, significant measures of student achievement in mathematics and social studies. Center staff have scored these tasks according to criteria consistent with conception of authentic human achievement proposed by Archbald and Newmann.

During the workshop, participants discussed their own ideas about criteria for authentic assessment, and Newmann presented those developed at the center. Participants compared the two sets of criteria and used them to evaluate the authenticity of some sample tasks dealing with the Declaration of Independence, U.S. policy in the Vietnam War, and economic competition in the Pacific Rim (see Handout A).

Criteria for Task Authenticity

Some of the center's criteria are presented in excerpt form below. They are presented here as ideas still under development, not as a final scheme recommended for adoption. In 1995, the center intends to publish a more complete version of the criteria.

Assessment tasks are scored on the extent to which they call for depth of

understanding, disciplinary grounding, and connections to experience beyond instruction. Each criterion is scored on a three-point scale.

Depth of Understanding

A rating of high (3), moderate (2), or low (1) will be given on the extent to which the task requires students to organize information, consider alternative solutions, and focus on a manageable topic or question.

Organization of Information. Consider the extent to which the task asks the student to synthesize complex information, rather than to retrieve or to reproduce isolated fragments of knowledge or to repeatedly apply previously learned algorithms and procedures. To score high, the task should call for analysis and interpretation of nuances of a topic that go deeper than surface exposure or familiarity.

Consideration of Alternatives. To what extent does success in the task require consideration of alternative solutions, strategies, perspectives, and points of view? To score high, the task should clearly involve students in considering alternatives, either through explicit presentation of the alternatives or through an activity that cannot be successfully completed without examination of alternatives implicit in the work. It is not necessary that students' final conclusions include listing or weighing of alternatives, but this could be an impressive indicator.

Disciplinary Grounding

To what extent does the task promote students' comprehension of and thinking about ideas, theories, or perspectives considered seminal or critical within an academic or professional discipline? Isolated factual claims, definitions, algorithms -- though necessary to inquiry within a discipline -- will *not* be considered indicators of significant disciplinary content unless the task requires students to apply powerful disciplinary ideas that organize and interpret the information.

- 3= Success in the task clearly requires understanding of concepts, ideas, or theories central in a discipline.
- 2= Success in the task seems to require understanding of concepts, ideas, or theories central in a discipline, but the task does not make these very explicit.
- 1= Success in the task can be achieved without understanding of concepts, ideas, or theories central to any specific discipline.

Connections to Experience Beyond Instruction

Problem

- 3= The question, issue, or problem clearly resembles one that students have encountered or are likely to encounter in life beyond school. The resemblance is so clear that teacher explication is not necessary for most students to grasp it.
- 2= The question, issue, or problem bears some resemblance to real-world experiences of the students, but the connections are not immediately apparent. The connections would be reasonably clear if explained by the teacher, but the task need not include such explanations to be rated 2.
- 1= The problem has virtually no resemblance to questions, issues, or problems that students have encountered or are likely to encounter beyond school. Even if the teacher tried to show the connection, it would be difficult to make a persuasive argument.

Audience

- 4= Final product is presented to an audience beyond the school.
- 3= Final product is presented to an audience beyond the classroom, but within the school.
- 2= Final product is presented to peers within the classroom.
- 1= Final product is presented only to the teacher.

Use of the Criteria

At this stage, the criteria should not be used as a system to judge or evaluate the quality of assessment tasks. It remains to be seen, for example, whether tasks that score high or low on these criteria actually help to promote student work of high or low quality. This in itself is a significant research question that requires additional criteria for assessing the quality of student work. Instead, the criteria should be used primarily to stimulate reflection about standards for authentic assessment tasks and discussion about priorities among these and other possible standards for assessment activities.

For more information, contact Fred M. Newmann, Center on Organization and Restructuring of Schools, University of Wisconsin, 1025 W. Johnson Street, Madison, WI 53706, (608) 263-7575.

Reference

Newmann, F. M., and Archbald, D. A. (1992). "The Nature of Authentic Academic Achievement." In H. Berlak, F. M. Newmann, E. Adams, D. A. Archbald, T. Burgess, J. Raven, and T. A. Romberg (Eds.), *Toward a New Science of Educational Testing and Assessment*, 71-83, Albany, NY: SUNY Press.

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Handout 1: Illustrative Social Studies Tasks

Task 1 (elementary school)

In a study of the **Declaration of Independence**, a 5th-grade teacher instructed students: "Create an outline using the six 'W's' to help you gather and organize your material. The paragraph you will be writing will tell why the document was written and what the document contained. Use various sources in the classroom (text, tradebooks, encyclopedias). I am asking for one long paragraph. . . (and later) . . . Now I'd like you to write a short paragraph telling how you can apply its principles to your life today."

Task 2 (middle school)

In completing a study of the Vietnam war, an 8th-grade teacher gave an assignment: "You are an advisor to President Nixon, just after the presidential election of 1968. Make a recommendation about the United States involvement in Vietnam. You need to convince the president that you have enough information about the Vietnam War so that he will take your recommendation seriously." The assignment required an "introduction that shows an understanding of the war to that point and that states your advice clearly in one or two sentences. The body of the paper should convince the President to follow your advice by discussing the pros of the your advice (give your argument muscle using statistics, dates, examples of events, information from videos and class discussion..), and the cons of your advice. Let the President know that you are aware of how others might disagree with your position, present one/two possible recommendations that other might give. Explain why you do not think they are the best advice. The conclusion should make a final appeal for your solution (Really sell your advice)." Other instructions encouraged students to stay on the topic, to support their views, and "to write as much as is necessary in order to produce a well-developed piece of writing; in other words, write as many paragraphs as you need to explain yourself completely."

Task 3 (high school)

In a U.S. history class, students studied a unit on the Pacific Rim to learn why countries are "gaining economic ground" on the United States. The class was divided into six groups to do research on Japan; Korea (North and South); China; Taiwan; Hong Kong; Singapore. They worked with texts, articles, and a computerized database on the area. Students were required to write a group position paper on "Why is the U.S. losing economic ground to the Pacific Rim?" They were asked to discuss differences in culture, trade policies, government intervention, etc. They were to write a rough draft, have a group editing session, then prepare the final copy.