CHAPTER

12

PORTFOLIOS

Systematic collections of student work into portfolios can serve a variety of instructional and assessment purposes. The value of portfolios depends heavily on clarity of purpose, the guidelines for inclusion of materials, and the criteria to be used in evaluating portfolios.

Portfolios of work have been used as the basis for assessment with increasing frequency in the past 20 years. They have been defined and used by individual classroom teachers for use in their day-to-day instruction and assessment of student progress. They have also been used as the basis for determining grades and for reporting student achievement and progress to parents. Portfolios of work may span more than a single school year and provide information to teachers about student achievement as students move from one grade to the next. Sometimes portfolios have been adopted as an approach to assessment by entire schools. In some instances, such as the case of Central Park East Secondary School described later in this chapter, they have become a primary basis for satisfying requirements for graduation from high school. They have sometimes been used by high school graduates as part of their applications to college or submitted to employers when applying for jobs. There are even examples of district- and statewide adoptions of portfolios as a means of assessment for purposes of school or system accountability.

Although the focus in this chapter is on portfolios of student work, it is worth noting that portfolios of work have also been used in college admissions, student evaluation in higher education, job employment, and the evaluation of teaching. The National Board of Professional Teaching Standards (NBPTS), for example, bases its decisions about the certification of accomplished teachers primarily on portfolios of work that teachers applying for NBPTS certification prepare during a school year. Those portfolios contain videotapes showing a teacher interacting with students in the classroom, examples of problems assigned to students, samples of student work in response to those assignments, and teacher commentary on the portfolio entries.

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At an earlier career stage, teachers in some states are now required to submit portfolios that include videotapes of their teaching and other examples of their work as teachers as part of their initial certification. Some highly regarded teacher preparation programs have made substantial use of portfolios of teaching in their preservice teacher preparation and evaluation of student teachers. Because of the widespread interest in portfolios as a means of assessing teaching performance, a number of states have joined together in a project called the Interstate New Teacher Assessment and Support Consortium (INTASC) to develop a common, portfolio-based teacher assessment system. Like the NBPTS assessment system for accomplished teachers, the INTASC portfolios include videotapes of teaching, examples of student work, teacher feedback on that work, and teacher commentary and reflections on their teaching.

The INTASC and NBPTS portfolios are more elaborate and expensive to construct and to score than portfolios of student work that a teacher would have students construct. The stakes associated with the decisions that are based on the portfolio assessments are also quite different for the teacher certification examples than for a third-grade teacher, for example, who uses student portfolios of writing to plan instruction and provide helpful feedback to students on their work. When compared to the latter use of a portfolio of student work, however, the teacher certification examples illustrate that portfolios come in many different forms, including electronic or digital, and may be used for many different purposes. In a summary of testing for employment, credentialing, and higher education, Sackett, Schmitt, Ellingson, and Kabin (2001) point out that ethnic differences are reduced when using portfolios and other more realistic assessments instead of traditional tests. Presumably, the reduced gap between ethnic groups is due to the ability of portfolios to reflect more than cognitive abilities and skills, such as effort or persistence.

WHAT QUALIFIES AS A PORTFOLIO OF STUDENT WORK?

It has long been common to collect student work in folders. A student portfolio is also a collection of pieces of student work, but it differs from a folder of work in several important ways. A portfolio is a collection of student work selected to serve a particular purpose, such as the documentation of student growth. Unlike some folders of work, a portfolio does not contain all the work a student does. Instead, a portfolio may contain examples of "best" works or examples from each of several categories of work (e.g., a book review, a letter to a friend, a creative short story, and a persuasive essay). Pieces of work for a portfolio must be selected with care to serve the intended purposes of the portfolio.

A student portfolio is a **purposeful collection** of pieces of student work. Portfolios are sometimes described as portraits of a person's accomplishments. Using this metaphor, a student portfolio is usually a self-portrait, but one that often has benefited from guidance and feedback from a teacher and sometimes from other students. With the flexibility of student portfolios, teaching, learning, and assessment are often enmeshed in a single activity. Although the use of portfolios can be time consuming and require substantial effort on the part of students and teachers, the benefits to instruction and learning as well as assessment can make it worth the time and energy.

POTENTIAL STRENGTHS AND WEAKNESSES OF PORTFOLIOS

Portfolios are believed to have a number of potential strengths (see the box "Potential Strengths of Portfolios"). The ease with which portfolios can be integrated with instruction has made them particularly appealing to teachers. Portfolios also foster student skills in evaluating their own work. Self-evaluation is a critical skill in developing independent learning ability and one that is often emphasized and reinforced by asking students to include some form of self-evaluation and thoughtful reflection on each entry in their portfolios.

Communicating with parents about student progress is an important and challenging goal for any teacher. Thoughtfully selected collections of student work in portfolios can provide parents with concrete examples of what students are accomplishing. They can also provide the focus for discussion among teachers, students, and parents. Sometimes students are asked to take the lead in conferences with parents, and using the portfolio to shape the discussion can have positive effects for both parents and students. Moreover, three-way conferences involving teachers, students, and parents with students taking the lead in explaining their portfolios to parents can give teachers an unusual opportunity to see how students and parents interact about the work.

Realizing these potential strengths and others listed in the box depends heavily on the effort that goes into clarifying the purposes to be served by portfolios. It depends on the quality of the guidelines for determining what should be included in portfolios and the criteria for evaluating them. Of course, achieving these valued results also depends on the actual uses that are made of portfolios.

Although the potential strengths of portfolios make them attractive both as aids in instruction and as assessment devices, portfolios also have weaknesses. They can be quite

Potential Strengths of Portfolios

Because portfolios consist of products of classroom instruction, they can be readily integrated with instruction.

Portfolios provide students with opportunity to show what they can do.

Portfolios can encourage students to become reflective learners and to develop skills in evaluating the strengths and weaknesses of their work.

Portfolios can help students take responsibility for setting goals and evaluating their progress.

Portfolios can provide teachers and students with opportunities to collaborate and reflect on student progress.

Portfolios can be an effective way of communicating with parents by showing concrete examples of student work and demonstrations of progress.

Portfolios can provide a mechanism for student-centered and student-directed conferences with parents.

Portfolios can give parents concrete examples of a student's development over time as well as their current skills.

time consuming to assemble. The investment of student time in constructing portfolios may be well spent, but teachers need to guard against any tendency for the portfolio demands to foster busywork that contributes neither to student learning nor to better assessment.

Portfolios are time consuming for teachers as well as students. Although students can benefit from the process of constructing a portfolio, they need to have constructive feedback from teachers on the work included in their portfolios and on the portfolios as a whole. They also need guidance about how best to construct a portfolio for a specific purpose and audience. Considerable thought, preparation, and experience is needed to ensure that the benefits of portfolios justify this investment in time by both students and teachers.

Another potential weakness of portfolios arises when they are used as the basis for summative evaluation, such as the assignment of course grades, the certification of achievement, or in school, district, or state accountability systems. For several reasons, ratings of portfolios tend to have relatively low reliability. Part of the poor reliability comes from the difficulty of establishing clear scoring criteria for the large and often diverse sets of materials that may be included. Poor reliability is also due, in part, to a lack of standardization that leads to limited comparability of portfolio entries that different students choose to include. Unfortunately, attempts to deal with these two problems by formulas that convert ratings of individual entries into an overall portfolio rating and by increased standardization and rigid rules for what students must include in their portfolios may undermine the validity and utility of portfolios for their intended purposes.

Perhaps the biggest obstacle to realizing the potential value of effective portfolio use is not a weakness per se but the naive perception that portfolios can be easily created. Because teachers and students are accustomed to keeping work in folders or files, it seems but a simple step to call the folder a portfolio. Unorganized collections of work in folders will not accomplish the goals implicit in the strengths listed in the box. Nonetheless, considerable evidence from surveys, interviews, and teachers' observations shows that far too frequently so-called portfolios are indistinguishable from unorganized collections of work in folders with inadequate specifications of purposes, guidelines for construction, or evaluation criteria.

Careful planning is required to capitalize on the potential strengths of portfolios and minimize their weaknesses. In addition, teachers need to be prepared to commit the time and effort required for implementing the plan and using the results. There are a number of steps in defining, implementing, and using portfolios. The box "Key Steps in Defining, Implementing, and Using Portfolios" lists five of the key steps in the process, starting with the specification of purpose. All five steps are important, but clarity of purpose provides a critical foundation on which to base the other steps.

PURPOSE OF PORTFOLIOS

As with other forms of assessment, the first question to be answered in designing a portfolio is: What is the purpose of the portfolio? Without a clear understanding of purpose, portfolios are likely to be indistinguishable from unorganized collections of materials. Students need guidance in deciding what should and should not be included in a portfolio. They need to understand the purpose and develop skills in distinguishing between samples of their work that best serve the intended purpose and ones that are irrelevant to the purpose or that may even undermine it.

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Key Steps in Defining, Implementing, and Using Portfolios

1. Specify the purpose.
2. Provide guidelines for selecting portfolio entries.
3. Define the student role in selection and self-evaluation.
4. Specify the evaluation criteria.
5. Use portfolios in instruction and communication.

Just as a photographer might select one set of photographs for use in a photography class focusing on light and composition, and quite a different set for a job interview, the selection of pieces of work for a portfolio should be guided by the purpose. Because of the variety of purposes for creating student portfolios, the entries may be quite varied. For example, the purpose of a portfolio might be to display evidence about student growth in writing during the school year. For the purpose of documenting growth, the portfolio obviously must include pieces of work that span a period of time. If the period of interest is the school year, then the collection needs to include examples of student writing completed at the beginning of the year as well as ones completed at intermediate times and toward the end of the year. In contrast, a portfolio that is intended to provide evidence for certifying student achievement might include only examples of the student's recently completed best works.

Arter, Spandel, and Culham (1995) argued that there are fundamentally two global purposes for creating portfolios of student work: student assessment and instruction. These two global purposes need not be mutually exclusive. Indeed, as has been noted in previous chapters, good assessment is an integral part of effective instruction. The emphasis, however, is likely to be different when the primary purpose is assessment than when the sole purpose is instruction.

When the primary purpose is enhancing student learning by having pupils evaluate their own work, for example, there may be little if any concern about the comparability of selections of work from one student to the next. The emphasis is more appropriately placed on teaching students how to make wise choices of the pieces of work to be included and in providing them with examples of how to reflect on the quality of that work. The fact that Donna chooses to include a short story she wrote while Ricardo chooses a book review for his portfolio is of less concern than the basis each student had for choosing the work and their reflections on the work. On the other hand, if the purpose of the portfolio is to provide a partial basis for determining a student's grade, then comparability of the type of work included in the portfolio may be quite important. In the latter case, the teacher may want to specify that all students should include both a short story and a book review that they wrote.

Although the relative emphasis on instruction and assessment is one way of distinguishing the different purposes of portfolios, it is not the only dimension of importance. Other authors have distinguished between portfolios that are intended to display **current accomplishments** and ones intended to demonstrate **progress.** Within either of these general purposes, distinctions can be made between portfolios that contain only examples

of "best work," which are commonly called **showcase** portfolios, and portfolios that document a range of accomplishments, which are commonly called **documentation** portfolios. Showcase portfolios often include only completed products, though this is not necessarily the case. The key feature is that students believe that the work included shows them at their best. Portfolios that emphasize documentation, on the other hand, are generally more comprehensive than a showcase portfolio and may include examples of work that a student considers below par as well as examples that are exemplary. Thus, documentation portfolios would place more emphasis on "typical work."

Another way in which portfolios may be distinguished is the degree to which a portfolio is a dynamically evolving collection of work or a finished collection. Finished portfolios are more likely to be used for summative evaluation purposes, whereas working portfolios, which contain examples of work as it evolves, are more useful for the formative evaluation that guides student learning on a day-to-day basis. Working portfolios often include student questions as well as notes, outlines, initial drafts, revised drafts, the final product, and self-evaluations of the work.

The four characteristics just described as if they were dichotomies—(1) instruction and assessment, (2) current accomplishments and progress, (3) showcase and documentation, and (4) finished and working portfolios—are best thought of as dimensions or continua. The purpose may involve varying degrees of the poles of each continuum. That is, the poles represent relative emphases rather than sharp dichotomies. For example, although the emphasis may be on documentation, there is no implication that there should be an exhaustive inclusion of all work products. Indeed, you would usually want to encourage students to be selective and include examples of work that they believe is high quality (best work). However, with the emphasis on documentation, you would also expect students to include portfolio entries that document work in areas that may not be areas of strength or that they are not particularly proud of and those would not be included in a showcase portfolio.

Recognizing that there are gradations between the poles of the four dimensions and that most portfolios involve a combination of the extremes, it is still useful to highlight aspects of each characteristic.

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Instructional Purposes

A variety of distinctions may be made within each of the two global purposes of portfolios identified by Arter and her colleagues (1995). For example, when the primary purpose of a portfolio is instruction, the portfolio might be used as a means of helping students develop and refine self-evaluation skills. Learning to evaluate one's own work is an

Four Dimensions Distinguishing the Purposes of Portfolios

Instruction	←	→	Assessment
Current Accomplishments	←	→	Progress
Best Work Showcase	←	→	Documentation
Finished	←	→	Working

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important instructional goal for all students. Skills in self-evaluation are critical for student development as independent learners.

As is true of other important instructional goals, self-evaluation skills require practice and feedback. Well-designed portfolios of student work often include not only examples of student work that the student selects but also self-reflection and commentary on the work. The combination of selected work and self-reflection can provide the teacher with both information about the student's achievement and a window on the student's self-evaluation skills. The portfolio can also be the focus of discussion between a teacher and a student about performance expectations and criteria of excellence, thereby helping the student internalize standards to be used in the evaluation of his or her own work.

Portfolios can also be used as the focus of student-directed conferences with parents and teachers. When a student presents and explains the examples of work in the portfolio to his or her parents, both the teacher and the parents have an opportunity to gain a better understanding of the student's thought processes and awareness of standards for judging the quality of the work. The teacher can then use this understanding of the student to plan and implement future instruction and interventions.

Another important instructional use of a portfolio is in teaching students to communicate with different audiences. For a portfolio designed to be used as the focus of a student-directed conference with parents, the intended audience is obviously the student's parents. Students might be encouraged to think about examples of work that would let their parents see what they have learned. For high school students, potentially important audiences in addition to teachers and parents include employers and colleges. Other students may also be an important audience for the portfolio as a whole or for selected entries in the portfolio. For example, an entry in the portfolio might include an oral presentation to the class. The artifacts that might be included in the physical portfolio could be exhibits or copies of overhead slides that the student prepared for use in the presentation, an outline or notes prepared for the presentation, the student's self-evaluation, and evaluations provided by other students. The entry might also include an audio recording or even a videotape of the presentation.

Assessment Purposes

When the emphasis of a portfolio is on assessment, it is important to distinguish between the **formative** and **summative** roles of assessment. Portfolios of work collected over the course of a semester or a school year can be particularly effective for purposes of formative evaluation of student progress. A simple comparison of essays written in September, November, and February, for example, can provide a teacher with concrete examples of areas where the student has shown considerable progress (e.g., organization and voice) and areas where there has been little improvement (e.g., grammar and punctuation).

A portfolio of work might also be used as a basis for certifying accomplishment. If portfolios are to be used as the basis of assigning grades or certifying accomplishments, then students should be given clear specifications of the contents of the portfolio and the scoring criteria that will be used.

At some high schools, a portfolio of work may provide the primary documentation used to determine the award of diplomas. Central Park East Secondary School in New York

City provides one of the best-known examples of the use of a graduation portfolio. As will be seen, considerable effort has to go into the development of guidelines for portfolios and to the criteria used for judging their quality when they are used for such a high-stakes purpose as high school graduation.

In some states and districts, portfolios are used as part of the system accountability requirements. For example, in Kentucky and Vermont, the state assessment system has included an evaluation of portfolios of student writing. At the district level, Pittsburgh provides a highly regarded example of the use of portfolios of student work as part of system accountability. Such large-scale uses of portfolios for assessment require a higher degree of uniformity of the portfolios and more refined scoring systems than are needed for portfolios designed and used by classroom teachers. Nonetheless, experience with such systems provides useful information for teachers when planning their own portfolios or when working to develop a schoolwide portfolio system. We will return to these examples when considering guidelines for portfolios.

Current Accomplishments and Progress

The distinction between portfolios that emphasize current accomplishments and ones that focus on progress are fairly self-evident. When the focus is on accomplishments, portfolios usually are limited to finished work and may cover only a relatively brief period of time. When the focus is on demonstrating growth and development, the time frame is generally longer. A possibly less obvious distinction is that a portfolio focusing on progress will often include multiple versions of a single piece of work. For example, a writing project might include an initial outline, notes taken while doing background reading for the project, a first draft, a self-evaluation of that draft as well as comments from the teacher or from other students on the draft, possibly a second draft with comments, and a final version of the report or essay.

Showcase and Documentation Portfolios

Showcase portfolios usually should contain student-selected entries. That does not mean that students should not have the benefit of the reactions of other students or of teacher advice on how to select and evaluate the entries of a showcase portfolio; but an important goal of a showcase portfolio is for students to learn to identify work that best demonstrates what they know and can do with a specific purpose and audience in mind. The documentation portfolio, on the other hand, usually is intended to provide evidence about breadth as well as depth of learning. Thus, it needs to be more inclusive and not be limited to areas of special strength for a student.

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Finished and Working Portfolios

The label *finished* may be an overstatement. It simply implies that the work is completed for use with a particular audience. A job application portfolio, for example, is obviously finished as far as the prospective employer is concerned at the time it is submitted. On the other hand, it might be refined before it is submitted as part of another job application. As the name suggests, the intent of a working portfolio is one that is expected to evolve

and should not be held up to the summative evaluation standards that may be appropriate for a finished portfolio. Working portfolios are often used to document day-to-day activities and are most useful for formative evaluation purposes. The working portfolio can provide the teacher with timely information about day-to-day progress and be a means of providing students with formative feedback for use in refining or revising their work. It is critical that students not be penalized for expressing ideas that may be incorrect or that display a lack of understanding in working portfolios. The working portfolio is most useful when students are encouraged to express themselves freely and are given timely feedback on their work. Thus, there are obviously work implications for the teacher, ones that should not be entered into lightly at the peak of enthusiasm about the use of working portfolios.

GUIDELINES FOR PORTFOLIO ENTRIES

The full purpose of a particular portfolio will be a combination of the four dimensions just discussed. Clearly specifying that purpose to students provides the foundation for developing portfolios. Alone, however, the purpose will not give students sufficient guidance. The purpose needs to be accompanied by clear guidelines for the construction of portfolios.

The guidelines need to be specific enough so that students know what is expected without being overly constraining. One of the appeals of a portfolio is its flexibility. Too much specification can stifle student creativity and thwart the goals of self-reflection and being responsible for their own learning. On the other hand, too little specificity leaves students in the dark about what is considered an appropriate entry. When portfolios are used for summative evaluation purposes, the lack of specificity is likely to be a source of unfairness. Students who choose to pursue an activity that is not valued in the criteria used for evaluation or that does not provide the opportunity to display valued skills may be put at a disadvantage in comparison to students who choose other activities.

At a minimum, guidelines should specify (a) the uses that will be made of the portfolio, (b) who will have access to it, (c) what types of work are appropriate to include, and (d) what criteria will be used in evaluating the work. For example, if the portfolio is to be used as the basis for student-directed conferences with parents, students obviously should know that their parents are an important audience. Students need to know if the portfolios are supposed to contain only finished work or if they are supposed to include illustrations of the process of planning, beginning and intermediate stages of the work, and the final product. They need to know the range of acceptable entries. For example, are tape recordings, models, or videos appropriate to include? Or should the portfolio be limited to paper-and-pencil entries?

Although the physical form of a portfolio is secondary to the purpose, there are practical issues concerning storage and philosophical issues regarding the degree to which various media other than paper and pencil should be encouraged or allowed to be part of the portfolio. Concerns for equal access to the means to create videotapes or computer presentations, for example, are important considerations in this regard. These concerns interact with purpose. Unequal access to resources is generally of greatest concern when

portfolios are used for summative evaluation purposes, such as the assignment of grades or to determine awards or other types of honors, because the differences in access to resources may lead to real or perceived unfairness.

Another critical guideline concerns the role of collaboration with others in doing the work. Frequently, portfolios include examples of both independent work and work that is done collaboratively by small groups of students. For some entries, it may be appropriate to include the suggestions of peers or of parents that are used to revise the entry. The guidelines need to be explicit about the ground rules for working independently or obtaining various kinds of assistance from others. The ground rules may be constant for all entries in a portfolio or may vary from one entry to another, but in either case they need to be clearly stated.

The guidelines should define the time line for the portfolio as well as the minimum and possibly the maximum number of entries. The variety of entries in terms of both form (e.g., letter, narrative essay, book review, or persuasive essay) and content (e.g., topics or historical periods) should be specified in the guidelines, making a clear distinction between required and optional entries.

The guidelines may also specify the physical structure of the portfolio (e.g., a binder or a computer disc) and its contents. For example, guidelines might specify that the portfolio include a table of contents, a cover sheet describing each entry, and a self-reflection on each entry. Increased access to and use of computers has led to increased use of electronic portfolios or for parts of the portfolio to be kept and stored electronically. Indeed, it is increasingly likely that students use computers when they type an essay or report in the first place. With a scanner, even handwritten essays and many figures can also be incorporated into an electronic portfolio. Students with access to the internet may readily download a wide array of materials that can be used to illustrate aspects of works.

Students also must be informed about how the evaluation of the portfolio will influence their grades. Both entry-specific criteria in the form of scoring rubrics or checklists and criteria for combining entry-by-entry evaluations into an overall evaluation of the complete portfolio need to be included in the guidelines.

An Example of a Graduation Portfolio

Darling-Hammond, Ancess, and Falk (1995) provide a detailed description of the Central Park East graduation portfolio. The portfolio is the culmination of a student's last 2 or 3 years of work in the Senior Institute, which is a division of the school corresponding to the junior and senior years of high school. The graduation portfolios completed during the 2 or possibly 3 years a student is in the Senior Institute has requirements in 14 categories. These 14 categories are listed in Table 12.1 along with a brief description of each portfolio entry.

Note that the portfolio entries in Table 12.1 are broadly defined. They include not only written materials, but possibly a variety of forms of oral presentations such as a speech, a debate, or a play. Works of art and various types of exhibits such as a science demonstration or a model may also be included. Audiotapes, videotapes, and computer discs may also be used as part of a portfolio entry.

Table 12.1
Required categories of work in the Central Park East Secondary School graduation portfolios

Category	Description
1. Postgraduate Plan	Must describe their purpose for earning a diploma and their short- and long-term career and life plans. Includes indicators of progress such as letters of reference.
2. Autobiography	Written, oral, or other forms (e.g., photos or audiotape of interview of grandparent) may be used to examine family history, student beliefs, and values.
3. School/Community Service and Internship	A formal résumé of their past work and employment experiences, including evidence of accomplishments and what they have learned.
4. Ethics and Social Issues	Demonstration of ability to see multiple perspectives and reason with evidence about social and moral issues using a variety of forms (e.g., an editorial, drama, or debate).
5. Fine Arts and Aesthetics	A performance or exhibition of work in any one of the arts (e.g., dance, sculpture, or music) along with evidence of understanding of an aesthetic area of study.
6. Mass Media	Demonstration of understanding of different forms of mass media and their influence on people and their perspectives.
7. Practical Skills	Evidence of the development of skills in one or more areas, such as technology, health, and citizenship.
8. Geography	Evidence includes performance on a faculty-designed test and a student-designed project (e.g., the construction of map).
9. Second Language or Dual Language	Must demonstrate competence to read and write and to listen and speak in a language other than English.
10. Science and Technology	Must include both traditional evidence (e.g., examinations and projects) as well as the use of scientific methods and understanding of the roles of science in modern world.
11. Mathematics	Evidence includes performance on faculty-designed tests and projects demonstrating conceptual understanding and applications.
12. Literature	Must include list of texts read demonstrating a wide range of genres as well as student essays about literary works or figures.
13. History	Evidence includes performance on state- or faculty-designed tests as well as historical projects demonstrating understanding of history and its relevance for current issues.
14. Physical Challenge	Must document participation in team or individual sport or activity.

Source: Based on Darling-Hammond et al. (1995, pp. 34–36).

Examples of Statewide and Districtwide Portfolio Guidelines

Vermont was the first state to introduce portfolios as the primary state assessment. Portfolios in mathematics and writing were collected statewide for students in grades 4 and 8. The mathematics portfolios required students and teachers to pick five to seven "best"

Criteria Used for Rating Mathematics Portfolios in Vermont

Four Aspects of Problem Solving

- Understanding the problem
- How you solved the problem
- Why—decisions along the way
- So what—outcomes of activities

Three Aspects of Communication

- Mathematical language
- Mathematical representation
- Presentation

Note: For details of 4-point scoring rubrics and examples, see Stecher and Mitchell (1995).

pieces of work. The portfolios were sent to a central location where they were rated by volunteer teachers on a 4-point scale for each of seven different dimensions. Four of the dimensions were related to aspects of problem solving; the other three dealt with aspects of communication (see the box "Criteria Used for Rating Mathematics Portfolios in Vermont").

The Vermont writing portfolios had great specificity in the required contents. At grade 4, for example, a student's portfolio was supposed to include the following (Koretz, Stecher, Klein, & McCaffrey, 1994a, p. 4):

1. Table of contents
2. Single best piece, which is selected by the student, and can come from any class and need not address an academic subject
3. Letter explaining the composition and selection of the best piece
4. Poem, short story, or personal narration
5. Personal response to a book, event, current issue, mathematics problem, or scientific phenomenon
6. Prose piece from any subject area other than English or language arts

The writing portfolios were scored in two parts: (1) the best piece, and (2) the rest of the portfolio. Four-point rating scales were used for each of five dimensions (purpose, organization, details, voice/tone, and usage/grammar/mechanics) when rating the best piece and the rest of the writing portfolio.

Evaluations of the Vermont portfolios supported two major conclusions. First, on the positive side, the use of portfolios was found to have positive effects on classroom practice. This conclusion was supported by teacher reports of how the work on portfolios affected their day-to-day instructional practices and by independent observations. The professional development gained through teachers working together on the scoring and sharing thoughts on what constitutes exemplary student work was also seen as a major benefit of the effort. Second, on the negative side, there was relatively poor interrater reliability in the central scoring process. Thus, the evaluation by Koretz and his colleagues was mixed, concluding on the one hand that the reliability was inadequate for accountability purposes but that on the other hand the effects on instruction were generally positive (Koretz, Stecher, Klein, & McCaffrey, 1994b).

Another example of a major effort in using portfolios for large-scale assessment comes from Pittsburgh. The Pittsburgh Public School District undertook a districtwide effort to evaluate student writing in grades 6 through 12 using portfolios. The portfolios were

created by having students select four examples of their work using a set of district guidelines. For each example, students were required to include drafts as well as the final version of the writing. They also were required to include a written reflection on the entry and to answer several questions about it and their experience in writing it. Guidelines for selecting the four pieces of writing specified that they should include (a) a piece that the student considered to be "important," (b) a piece that the student considered to be "satisfying," (c) a piece that the student considered to be "unsatisfying," and (d) a "free pick." Students were also required to complete a table of contents, a writing inventory about their experience as a writer, and a "final reflection" in which they were asked to review their writings and "describe changes in their writing and in themselves as writers" (LeMahieu, Gitomer, & Eresh, 1995, p. 12).

All students were expected to complete a writing portfolio using the previously mentioned guidelines. A random sample of 1,250 portfolios was scored along the three major dimensions shown in Table 12.2 using a 6-point scale ranging from "inadequate" to "outstanding" performance for each dimension. Considerable developmental work with teachers and administrators before the districtwide applications went into identifying the

Table 12.2
Dimensions and elements of the Pittsburgh writing portfolio scoring rubric

1. Accomplishment in Writing
   - Meeting worthwhile challenges
   - Establishing and maintaining purpose
   - Use of the techniques and choice of the genre
   - Control of conventions, vocabulary and sentence structure
   - Awareness of the needs of the audience (organization, development, use of detail)
   - Use of language, sound, images, tone, voice
   - Humor, metaphor, playfulness
2. Use of Processes and Strategies of Writing
   - Effective use of prewriting strategies
   - Use of drafts to discover and shape ideas
   - Use of conferencing opportunities to refine writing (peers, adults, readers)
   - Effective use of revision (reshaping, refocusing, refining)
3. Growth, Development, and Engagement as a Writer
   - Evidence of investment in writing tasks
   - Increased engagement with writing
   - Development of sense of self as a writer
   - Evolution of personal criteria and standards for writing
   - Ability to see the strengths and needs in one's writing
   - Demonstration of risk-taking and innovation in interpreting writing tasks
   - Use of writing for varied purposes, genres, and audiences
   - Progress from early to late pieces, growth, development

Source: LeMahieu et al. (1995). Used by permission.

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elements (shown as bullets in Table 12.2) that contributed to the definition of varying degrees of adequacy of the performance on each of the three dimensions.

The portfolios were judged by a relatively small cadre of teachers (12 raters for the middle school portfolios and 13 raters for the high school portfolios) who were trained and calibrated using preselected portfolios as benchmarks or anchors for the scale points on the three dimensions. All portfolios were independently scored by two of the trained raters, and an arbitration process with a third reader was used in cases where differences in scores assigned by the two raters were greater than 1 point. Otherwise, the score for the portfolio was the average of the two independent ratings.

The rating process for the 1,250 portfolios took a total of 815 person-hours over the period of a week. Clearly, this was no trivial undertaking to score the random sample of 8% of the students in the district. The results, however, were exceptional. Relatively high interrater reliability was achieved (reliability coefficients between .74 to .80 for the three dimensions for high school and .84 to .87 for middle school portfolios). The title of the article about the Pittsburgh experience sums up a major conclusion of the effort: "Portfolios in Large-Scale Assessment: Difficult but Not Impossible" (LeMahieu et al., 1995). Like Koretz and his colleagues (1995), LeMahieu and associates also conclude that the portfolio effort had positive effects on instruction. The difference is that they showed that—with sufficient planning, specification of portfolio guidelines, refinement of scoring procedures, and rater training—it is also possible to achieve acceptable levels of reliability for the portfolio ratings.

Examples of Classroom Portfolio Guidelines

Classroom uses of portfolios for assessing student work need not be as comprehensive as a high school graduation portfolio or as tightly defined as a portfolio used in a statewide or districtwide assessment to report on the progress of schools, districts, and the state. It is nonetheless critical for the classroom teacher to be clear on the purpose, the expectations for what should be included in the portfolio, the responsibilities of students for selecting and evaluating their work, and the criteria that will be used in evaluating the work. Sometimes, as in the following example, broad guidelines are available from the state or district to help teachers in implementing a portfolio. Such guidelines can be adapted by each teacher to provide students with more specific instructions for completing their portfolios.

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An Example of a High School Science Portfolio. The California Golden State Exam (GSE) science portfolio consisted of a collection of student work based on a year of study in a high school course in biology, chemistry, or second-year coordinated science. Evaluations of portfolios are combined with other sections of the GSE in the subject area to award recognition to students for their performance on the GSE. The California Department of Education's "Golden State Examination Science Portfolio: A Guide to Teachers" (available at http://www.nwrel.org/assessment/toolkit98/folio.html) provides sample activities and explicates scoring guides for the entries. Sample activities include the following:

1. A problem-solving investigation, such as
   - a student-generated laboratory investigation (e.g., determine the effectiveness of household cleaning fluids for controlling the growth of bacteria—idea contributed to guidelines by Kasey Smith-Penner, Sequoia High School, Redwood City),

- a field experience (e.g., conduct a study of aspects of soil, flora, fauna, or climate on a 1-meter plot of land and relate it to environmental issues in the community—idea contributed to guidelines by Joe Mahood, Aragon High School, San Mateo), or
- a research investigation (e.g., predict the risk of developing an ailment such as cancer or AIDS in student's community—idea contributed to guidelines by Netta Freeman, Paduca High School, Tilghham, Kentucky).

2. A creative expression entry displaying a scientific result or finding, for example,
   - games,
   - video,
   - art, or
   - poetry.
3. An example of growth through writing, illustrating relevant findings or issues in science, using, for example,
   - current events or
   - original stories.
4. GSE self-reflection sheet, requiring students to
   - identify the scientific concept for the entry,
   - explain why the entry is an excellent way to show the concept, and
   - describe how the entry shows the concept.

An Example of a Primary School Mathematics Portfolio. Leon Paulson developed guidelines for the Multnomah (Oregon) Educational Service District to help give teachers ideas about the development and use of mathematics portfolios for students in the primary grades (Paulson, 1994). His "Portfolio Guidelines in Primary Math" are available at http://www.nwrel.org/assessment/toolkit98/primary.html. Some of the kinds of things Paulson's guidelines encourage teachers to have students include in their portfolios are the following:

- Use of manipulatives—documented for portfolio where feasible by drawings or photographs
- Use of technology—computer and calculators with written or recorded oral statements about results
- Use of group work to solve problems—might include teacher observations or recorded student interactions and statements about individual contributions
- Use of real-world examples—examples of applications of mathematics outside class with written or recorded oral statements about examples
- Use of interdisciplinary problems—examples of mathematics, graphs, and charts from other subject areas
- Use of journals and class publications—keep a mathematics journal in portfolios

Writing Portfolios. In a content area such as writing, it is natural to ask: What is the difference between a traditional writing assessment and a writing portfolio assessment? The answer, of course, depends on what sort of "traditional writing assessment" and what sort of "writing portfolio assessment" you are talking about. Answers given to this question

by Gearhart, Herman, Baker, and Whittaker (1992) for their study of writing portfolios provide a list of differences that are likely to be applicable in varying degrees in comparing writing portfolios to writing assessments where students are given a prompt and asked to write an essay in a set period of time, such as a single class period. Gearhart and her colleagues noted that the writing portfolios that they developed and analyzed differed from such traditional writing assessments in the following five ways.

1. Portfolios contained samples of classroom writing that occurred in a wide range of conditions and that might address a variety of topics rather than responses to prompts under standardized conditions and time limits.
2. Portfolios contained multiple and varied forms of writing samples obtained in varied contexts over a period of time rather than responses to a single or limited number of prompts at a single point in time.
3. Portfolios included considerable variation in the types or genres of writing tasks (e.g., narratives, summaries, or letters) rather than a task from a single genre.
4. Portfolios gave more of a window into the writing process by the inclusion of drafts and repeated revisions rather than only a single draft of an essay.
5. Portfolios contained a variety of supplemental materials, such as notes, student reflections on the writing experience, self-evaluations, and evaluations by others (e.g., teacher, peer, and/or parents), rather than only the written response to a prompt.

All these factors contribute to the richness of the information that a well-planned and well-implemented portfolio assessment can provide. These factors also complicate the challenges of rating the work or using it as the basis of assigning grades. For example, if the portfolio is intended to assess student progress, then the wide variation in types and genres of writing makes comparison extremely difficult. Based on work with writing portfolios in Hawaii, for example, Baker and Linn (1992) found it almost impossible to achieve consistent ratings of progress when "comparing an October folk tale with a December fantasy, a January haiku, a March whale report, a May letter to a pen pal, and a June summary of a field trip" (p. 12). Though still a challenge, it is much easier to evaluate progress by comparing performance within a single genre (e.g., narrative essays) over time.

In addition to the five differences noted by Gearhart and her colleagues (1992), portfolios also differ from traditional essay or performance assessments in that they may include work that has a substantial collaborative component. Including collaborative assessment tasks in a portfolio may enrich the learning, but it raises questions that need to be considered when the work becomes part of the evaluation of an individual student's work: How should the groups be formed—by student choice or by teacher assignment? How much does it matter if the groups are homogeneous or heterogeneous in achievement? Whose work is it, and what specializations may have evolved for the group?

Many examples of portfolios can be found on the internet. A quick search will often lead to good examples in specific content areas. However, portfolios are best when adapted to the local context, and the internet examples should be used only as a starting point for planning and implementing portfolios.

GUIDELINES AND STUDENTS' ROLE IN SELECTION OF PORTFOLIO ENTRIES AND SELF-EVALUATION

Much of the strength of a portfolio depends on students' involvement in the selection of work to include and on their reflections on that work. Hence, it is important to have students involved in the selection of portfolio entries. This does not mean that students can simply include anything they choose. Rather, teachers need to give students clear guidelines for selecting pieces of work. Those guidelines should be based on the purpose of the portfolio and the learning goals that the teacher is trying to foster.

If the goal in a science class is that students should "know and be able to use the experimental method," then the guidelines should ensure that students not only describe the experimental method or respond to questions in an assignment about it but also apply the method to answer a specific question. Guidelines for the portfolio entry might specify that the entry include a description of the problem, a statement of the hypothesis to be tested, the design and data collection procedures to be used, the data collected, the analysis of results, and a statement of conclusions. The guidelines might suggest a range of appropriate problems for experimentation or provide a list of example problems. The student would still have considerable latitude, however, in the choice of the particular problem, in determining the details of the experimental design, in planning the analyses, and in interpreting the data.

In a Spanish-language class, students might be asked to include tape recordings of their conversation with a speaker whose first language is Spanish, an essay written in Spanish, and a translation of a letter from Spanish to English. In each of these categories, the range of topics as well as other characteristics, such as a minimum duration of the recorded conversation or the type of letter, might be specified. The key is to provide students with latitude for exercising their creativity and gaining experience in setting goals, planning, and conducting the work while achieving specific instructional objectives.

In both the science experiment example and the Spanish class example, students have substantial room to define and shape the details of portfolio entries, as well as clear guidelines on the nature of the work to be included. A review of an experiment conducted by someone else or the summary of what is known about a topic clearly would not qualify as an example of a student's use of the experimental method. Similarly, a tape recording of a student reading a passage from a Spanish-language magazine would not meet the requirement for a tape-recorded conversation with a person whose first language is Spanish.

To help students reflect on their choice of entries for a portfolio, it is useful not only to have guidelines specifying requirements but also to have students complete a brief form with each entry. An example of such a form is shown in Figure 12.1. In addition to identifying the entry with the student's name and a brief description, the form provides encouragement for students to think about why the particular entry was selected and what they consider its salient features. By including a place for teacher comments on the same form, the cover sheet provides a lasting record in the portfolio of the feedback provided to the student.

A separate form, as shown in Figure 12.2, may provide more explicit guidelines on student reflections on the entry and their self-evaluation of its strengths and weaknesses.

Student Name: ______________________ Date: __________

Description of Entry:

Student Comments:

I chose this item for my portfolio because:

Please notice:

Other Comments:

Teacher Comments:

Teacher Name: ______________________ Date: __________

Strong points of entry:

Some things to consider or areas needing work are:

Other Comments:

Figure 12.1
Sample cover sheet for portfolio entry

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Student Name: ______________________ Date: __________

Description of Entry:

Self-Evaluation of Entry:

What I tried to accomplish:

What I did:

What I learned:

What I am proud of about this entry:

What I need to work on or would do differently next time:

Teacher Comments:

Teacher Name: ______________________ Date: __________

Figure 12.2
Sample self-reflection and evaluation form

The prompts on the form are intended to encourage students to think about what they planned to do and what they actually did, and to evaluate the strong and weak points of the entry. By asking students to say what they might do differently next time, students are encouraged to think about how their work might be improved.

EVALUATION CRITERIA

To specify evaluation criteria, a teacher must be clear in his or her mind about the instructional goals for individual portfolio entries and for the portfolio as a whole. If the instructional goals are not clear already to the teacher, efforts to specify evaluation criteria will either force reconsideration and clarification of goals or risk being irrelevant or even counterproductive. The evaluation criteria should clarify instructional goals not only for the teacher but for students and parents as well.

The clear specification of evaluation criteria enhances fairness. As with any other type of assessment, students need to know what is expected and how their work will be evaluated if a portfolio assessment is to be fair to students in reality and to be so perceived by students and parents. Of course, evaluation criteria are also important to help teachers be consistent and unbiased in scoring portfolios of different students.

The place to start in developing evaluation criteria for portfolios is with the specified purpose or purposes of the portfolio. Analytic scoring rubrics on individual portfolios are useful for formative evaluation purposes. Holistic scoring rubrics may be more appropriate for summative evaluations. The formative–summative distinction is also useful in determining the emphasis of evaluation rubrics for individual portfolio entries and ones designed for evaluating the complete portfolio.

The evaluation criteria for individual entries may be specified using the various types of scoring rubrics and rating scales discussed in Chapters 10 and 11. The narrative scoring rubric used by Wolf and Gearhart (1997) that was discussed in Chapter 10, for example, might be used as the basis for evaluating narrative essays included in an English/language arts portfolio. Accordingly, both the student and the teacher might judge each narrative essay entry in terms of the effectiveness of the development of the essay theme, the characters, the setting, and the plot as well as how effectively the essay communicates.

The sample items of a rating scale for a speech shown in Figure 11.5 in Chapter 11 might be used for rating a videotape of a student presentation. Those items might be completed by the teacher, the student whose presentation was videotaped, and by other students.

Scoring rubrics used at Central Park East Secondary School for evaluating portfolio entries define 4-point scales on each of five dimensions of performance: (1) viewpoint, (2) connections, (3) evidence, (4) voice, and (5) conventions. Viewpoint concerns the degree to which the entry demonstrates a wide knowledge base while maintaining a clear focus. To obtain a score of 4 on the viewpoint dimension, the entry must clearly display an in-depth understanding of ideas and issues and persuasively present a coherent position while acknowledging other views as appropriate.

The connections rubric distinguishes between well-organized and interconnected entries with a clear beginning and end, and ones that do not clearly connect the parts into a coherent whole. The evidence rubric provides the basis for evaluating the degree to

which evidence is used to support arguments and conclusions in a credible and convincing way. The voice dimension is used to evaluate the degree to which the entry is engaging for the intended audience. The overall appearance, format, and appropriate use of sentence structure, grammar, and the mechanics of punctuation and spelling are evaluated by the conventions scoring rubric (for a more complete description, see Darling-Hammond et al., 1995, pp. 36–39).

Guidelines to help teachers implement the portfolio requirements in their classrooms for the California Golden State Exam included descriptions of the score points for each type of entry. Six score levels are defined for each type of portfolio entry, ranging from inadequate performance (1) to exceptional performance (6). An example of one of the descriptions of a score of 5 for the problem-solving investigation is given in the box "Problem-Solving Investigation: Score Level 5."

In addition to evaluation criteria for individual entries, criteria may also be specified for evaluating the structure of the portfolio and for the overall evaluation of the entire collection. The evaluation of structure may include ratings of the organization, the appearance, and the quality of self-reflections.

An overall evaluation of the portfolio that cuts across entries is especially useful for portfolios intended to assess student progress. Specific ratings might be provided on dimensions such as those shown in Table 12.3. Each of the rating scales in the table emphasizes comparisons among portfolio items that were added to the portfolio at different times during the year.

When judgmental scoring is required of assessments for purposes of grading or other summative evaluations, it is good practice to conceal the identity of the student. This can sometimes be accomplished on essay examinations by scoring one item at a time and shuffling the order of the examinations after completing the scoring of each item. With projects or extended reports, it is usually more difficult to conceal the student's identity while grading the work, but it may be possible in some instances by instructing students to put their names only on a cover page or at the end of the work. Such procedures, though seldom foolproof, can also be used when evaluating individual portfolio entries. For global ratings of the portfolio as a whole, however, it is nearly impossible to conceal the student's identity from the teacher when he or she is evaluating the portfolio. Thus, other approaches are needed to guard against unintended biases that arise when a teacher

Problem-Solving Investigation: Score Level 5

"Student work and self-reflection show the student's strong skill in experimental design. Observations and data analysis indicate very good knowledge of the scientific ideas presented. Analyses and conclusions are supported by observations and data and show a high level of reasoning. The entry includes strong evidence that the student worked cooperatively with others. The self-reflection sheet clearly identifies how working with others improved the student's understanding of the scientific ideas presented. The student makes generally valid applications to real-world situations. All aspects of the task and analysis are complete. Written expression is very good and contributes to clear and coherent communication" (California Department of Education, 1994).

Table 12.3
Overall ratings of mathematics portfolio

Development of Mathematics Understanding	*Unsatisfactory Progress*			*Outstanding Progress*	
• Progress from early to late problem sets	1	2	3	4	5
• Improvement in ability to formulate and solve problems	1	2	3	4	5
• Reduction in errors in computation	1	2	3	4	5
• Increased ability to make connections	1	2	3	4	5
• Improvement in ability to communicate mathematical results to others	1	2	3	4	5
• Increased ability to estimate and to check solutions for reasonableness	1	2	3	4	5
• Increased skills in using charts and graphs	1	2	3	4	5

gives the benefit of the doubt because the teacher "knows" that the student "understands the material based on other observations" or rates the work of a student who rarely does good work more harshly because of this preconception.

One useful safeguard against unintended biases that arise in ratings of portfolios from knowledge of the student's identity is to rescore a portfolio after setting it aside for a period of time and to compare the two sets of scores. Where teachers from different classes collaborate on assessments, it may also be possible to exchange some portfolios so that each teacher scores the portfolios of some of the students from the other class. Comparing the scores assigned to your own students with the scores assigned by another teacher can be useful not only in guarding against unintended scoring biases but also in refining scoring rubrics and enhancing reliability of scoring. Obviously, it is not always possible to have portfolios independently scored by another teacher. Where it is feasible, however, it can be the basis for fruitful discussions between the teachers regarding instructional goals, the adequacy of the evidence collected in the portfolio to evaluate the achievement of those goals, and the evaluation criteria that are used.

When portfolios are used on a schoolwide, districtwide, or statewide basis as part of an accountability system, a more formal scoring process should be employed. Teachers may be brought together and trained to use common scoring criteria. Benchmark or anchor papers for each entry may be identified and used to elaborate the meaning of scoring rubrics and to train teachers to use common scoring standards. Independent audit procedures may also be used where a random sample of portfolios is selected for rescoring at a central site. Although such a training and scoring enterprise requires substantial time and resources,

teachers in locations where this is done have frequently reported that the experience is one of the best professional development activities with which they have been involved.

USING PORTFOLIOS IN INSTRUCTION AND COMMUNICATION

Most appropriate uses are, of course, either the explicit or the implicit focus of the purposes for which portfolios are introduced. Thus, we have already said quite a bit about the primary uses of portfolios for purposes of instruction and assessment. Here we need only add a few specific points about the relationship of portfolios to instruction and elaborate on the idea of using portfolios to communicate to others outside the classroom, especially parents or guardians.

A salient feature of portfolios is the dynamic way in which they evolve over days, weeks, and months. As students work on individual entries, teachers have many opportunities to examine the work and discuss ideas on possible next steps with students. Observations of portfolios in progress provide teachers with a basis for ongoing planning and formative evaluation.

Portfolios also provide an excellent means of communicating with parents. The products and student self-reflections can provide parents with a window into the classroom. It gives them a more intimate basis for seeing aspects of their children's experiences in school. As was previously noted, portfolios can also be used as a vehicle for student-directed conferences of students, parents, and teachers. The specifics of the portfolio provide a framework for meaningful three-way discussions of the student's achievements, progress, and areas to work on next. Parents' comments on the specific entries and overall portfolio can also contribute to and become part of the portfolios.

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SUMMARY

Portfolios come in many different varieties and can serve an equally wide array of purposes. What distinguishes a portfolio of student work from merely a file where student work is collected and stored is that a portfolio is a purposeful collection of student work. Clear definition of purpose is one of the most important steps in planning the uses of portfolios. Clarity of purpose provides the foundation for determining the contents of a portfolio, how entries will be selected, and how the portfolio will be evaluated.

The two primary purposes for using portfolios in the classroom are instruction and assessment. Although most portfolios serve some mix of these two purposes, it is critical that the relative emphasis be clarified before work begins on the construction of portfolios. As with other assessments, it is important to distinguish between using the portfolio for purposes of formative or summative evaluation. The formative uses are readily compatible with portfolios that are intended to be used primarily as an instructional tool. Summative evaluation uses, such as grades and the award of honors, may also contribute to learning, but issues of comparability from student to student and fairness constrain the freedom with which portfolios can be constructed.

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Portfolio purposes can also be distinguished in terms of the emphasis placed on current achievement or progress over time, the use of portfolios as a showcase of best

work or for purposes of documentation, and whether they are finished or working portfolios.

Guidelines should provide students with a sound understanding of what is expected and a reasonable basis for selecting entries. These guidelines obviously need to be congruent with the purposes. They must be specific enough so that students know what they need to do but not so specific that they stifle the creativity and freedom of choice that is reasonable within the constraints of the portfolio's purpose.

Guidelines should specify the contents, types, and minimum number of entries that students are expected to include. The guidelines should be clear about intended audiences and about who has access to the portfolio. Requirements for self-reflection and self-evaluation of both the entries and the portfolio as a whole should be stated in the guidelines. Finally, guidelines should clarify the evaluation criteria that will be used in judging entries and portfolios as a whole.

As is true of any instructional assessment tool, portfolios have both strengths and weaknesses. Some of the most important strengths are the ease with which they can be integrated with classroom instruction; their value in encouraging students to develop self-evaluation skills, take responsibility for their own learning, and become reflective learners; and their effectiveness in communicating with parents and other audiences outside the classroom. Two frequently cited weaknesses or drawbacks are that portfolios are labor intensive for the teacher—requiring considerable time in planning, monitoring, and providing feedback to students—and that they are difficult to score reliably.

LEARNING EXERCISES

1. Suppose you were designing a portfolio for this measurement class.
   a. What are two purposes that might be served by a portfolio for this class?
   b. In what ways would the portfolio need to be different for these two purposes?
   c. Specify guidelines for inclusion of six entries in the portfolio.
   d. Describe scoring guidelines for one of the six entries and for obtaining an overall portfolio score.
   e. Discuss the advantages and disadvantages of using a portfolio for the two purposes you identified.
2. Devise a portfolio to use in assessing student progress and communicating that progress to parents that would be used by students in a subject area and grade level that you would like to teach. Address issues of purpose, audience, who will have access to the portfolio, guidelines for the contents of the portfolio, the appropriate role of collaboration on entries, student self-evaluations and reflections on their work, and the scoring criteria that will be used.
3. Obtain, if possible, examples of one or more student portfolios and guidelines used by the student's teacher to specify how students should construct their portfolios. Review and evaluate the portfolio of work using either the evaluation criteria provided by the teacher or, if there are none, criteria that you specify. Analyze the strengths and weaknesses of the portfolio guidelines.

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