

An NCME Instructional Module on

Using Portfolios of Student Work in Instruction and Assessment

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*The term **portfolio** has become a popular buzz word. Unfortunately, it is not always clear exactly what is meant or implied by the term, especially when used in the context of portfolio assessment. This training module is intended to clarify the notion of portfolio assessment and help users design such assessments in a thoughtful manner. We begin with a discussion of the rationale for assessment alternatives and then discuss portfolio definitions, characteristics, pitfalls, and design considerations.*

Educators and critics are currently reciting a litany of problems concerning the use of multiple-choice and other structured format tests for assessing many important student outcomes. This has been accompanied by an explosion of activity searching for assessment alternatives (French, 1991; Jongsma, 1989; McLean, 1990; Mills, 1989; Myers, 1987; Stiggins, 1991; Valencia, 1990; and Wolf, 1988) that will accomplish the following:

1. Capture a richer array of what students know and can do than is possible with multiple-choice tests. Current goals for students go beyond knowledge of facts and include such things as problem solving, critical thinking, lifelong learning of new information, and thinking independently. Goals also include dispositions such as persistence, flexibility, motivation, and self-confidence.
2. Portray the processes by which students produce work. It is important, for example, that students utilize efficient strategies for solving problems as well as getting the right answer. It is also important for students to be able to do such things as monitoring their own learning

so that they can adjust what they do when they perceive they are not understanding.

3. Make our assessments align with what we consider important outcomes for students in order to communicate the right message to students and others about what we value. For example, if we emphasize higher order thinking in instruction, but only test knowledge because testing thinking is difficult, students figure out pretty fast what is really valued.
4. Have realistic contexts for the production of work, so that we can examine what students know and can do in real-life situations.
5. Provide continuous and ongoing information on how students are doing in order to chronicle development, give effective feedback to students, and encourage students to observe their own growth.
6. Integrate assessment with instruction in a way consistent with both current theories of instruction and goals for students. Specifically, we want to encourage active student engagement in learning, and student responsibility for and control of learning. We also want to develop assessment techniques that, in their use, improve achievement and not just monitor it.

Using portfolios of student work for assessment, already an instructional tool in many places, is seen as one potential way to accomplish these things. But, using portfolios will only have these desired effects if we plan them carefully.

Definition of a Portfolio

In consideration of the above values, we offer a definition that is adapted from that developed and refined over a period of 2 years by a consortium of educators under the auspices of NWEA (Northwest Evaluation Association). (For more discussion, see Arter & Paulson, 1991; Paulson et al., 1990; NWEA, 1990.) Our adaptation defines a student portfolio as a *purposeful collection of student work that tells the story of the student's efforts, progress, or achievement in (a) given area(s). This collection must include student participation in selection of portfolio content; the guidelines for selection; the criteria for judging merit; and evidence of student self-reflection.* This definition supports the view that assessment should be continuous, capture a rich array of what students know and can do, involve realistic contexts, communicate to students and others what is valued, portray the processes by which work is accomplished, and be integrated with instruction.

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Series Information

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Purposeful

Without purpose, a portfolio is just a folder of student work. Different purposes could result in different portfolios. For example, if the student is to be evaluated on the basis of the work in the portfolio (e.g., for admission to college), then he or she would probably choose the final version of his or her best work. If the portfolio is to be used to see how students go about doing a project, a complete record of all activities, drafts, revisions, etc., might be kept. Sometimes the purpose for doing a portfolio is to celebrate what has been accomplished. This is a keepsake purpose, and might include personal favorites. On top of all this, add the purposes of large-scale assessment, which may require more standardized samples of work. Because of the potential differences in content and approach, it is essential that users have a clear idea of the purpose of the portfolio.

Student Self-Reflection

Self-reflection is seen as necessary because of the purposeful nature of the selection of work or other displays for the portfolio. To satisfy a purpose, there needs to be a rationale for the selection of the items to be included; this requires an analysis of the work and what it demonstrates. Recording this self-reflection in the form of a "metacognitive" letter or oral report not only documents this type of student performance, but also *encourages* it. Thus, self-reflection is one thing that makes a portfolio instructional.

Criteria for Judging Merit

In some teachers' minds, portfolios and assessment do not mix well, perhaps because assessment seems reductive. Doesn't it seem ironic, they will argue, to go to all the trouble of expanding and humanizing our view of student performance via portfolios only to shrink that view back down via some rating scale? No one wants portfolios used to trivialize student performance, but it is easy to take an overly simplistic view of what assessment is and does.

When the decision is made to include or exclude some item from the portfolio, that decision is based on criteria of one kind or another. The question is, "Are the criteria fully and carefully defined and open to all or are they nebulous and guarded so that students must guess what is being sought?" Even if students select their own pieces for inclusion, they are probably using some sort of internal criteria, however intuitive or fuzzily defined. Why not put those criteria in writing and share them as a way of identifying and discussing what is most valued by students and teachers alike?

In fact, criteria give us a schema for thinking about student performance. In the absence of all criteria, how do we know what sort of work a student has accomplished through the year? How does the student know whether to be satisfied, ecstatic, or dismayed? How does the student or the teacher know what goals to set for next time? And how do various audiences know what to make of the performance as a whole?

There are potential benefits for clear criteria. For one thing, those who set the criteria must think very carefully about what it is they value in strong performance, and this helps clarify instructional goals and expectations. Also, to the extent that criteria are shared, students are made part of the evaluation and receive the power that goes with that specialized knowledge—power to recognize strong performance, power to identify problems in weak performance, and power to use criteria to change and improve performance. Finally, clear criteria are a means for us to judge performance.

Guidelines for Selection

Guidelines for selection provide direction on what to place in the portfolio. Such guidelines can represent anything from an extremely structured procedure (e.g., everyone will include an essay comparing the characters in *Romeo and Juliet* to those in

Great Expectations) to a completely unstructured procedure (students can choose whatever they want for their portfolios). A more moderate position would be to specify categories of entries (e.g., everyone will select one research report, one multimedia project, one "best" piece, one paper with all rough drafts, etc.) with students free to select work for each category.

Student Participation in Selection

Although it is possible for someone else (for example, a teacher) to assemble a student's work into a portfolio, the true instructional value and power of doing portfolios comes when students use criteria and self-reflection to make decisions about what they want to show about themselves and why. This implies self-selection of portfolio content.

Portfolios as Assessment Devices

The definition of a portfolio presented above implies assessment. Students cannot assemble a portfolio without using clearly defined targets (criteria) in a systematic way to paint a picture of their own efforts, growth, and achievement. This is the essence of assessment. Thus, portfolios used in this manner provide an example of how assessment can be used to improve achievement and not merely monitor achievement.

Please note that our definition of a portfolio does not preclude the use of portfolios for monitoring achievement, as in large-scale assessment. It does suggest, however, that any use of portfolios for large-scale assessment not interfere with their primary use for instruction. In fact, portfolios contain several features that might make them very attractive for large-scale assessment. For example, portfolios usually contain more than one sample of student work, thus providing a more complete picture of a student's achievement than the typical one-shot essay or speech in an end-of-term performance assessment. Also, since portfolios are generated during the process of instruction, their content might represent work produced in a more realistic context.

Integration of Assessment and Instruction

The process of assembling portfolios of student work has the potential of both encouraging and documenting critical thinking, problem solving, and independent thinking. Portfolios include actual work samples and can be designed to include drafts; therefore, not only can they contain samples of work that reflect real tasks, but they can be used to look at the processes students go through when doing these tasks.

Portfolio as a Story

A useful way to think about a portfolio is as a story-telling device (Arter & Paulson, 1991; Paulson & Paulson, 1991). The purpose of the portfolio is to make sense of student work, to communicate about student work, and to make sense of the work in the portfolio in terms of a larger context. The student work included in the portfolio is that which best tells the story one wants to tell. This requires justification and a rationale for the conclusions drawn, which again imply self-reflection, self-selection, and criteria.

Composite Portfolios

A composite portfolio is parallel to an individual student portfolio except that it tells the story for a group. In its simplest terms, a *composite portfolio contains more than one student's work*. A composite portfolio might be one way to aggregate information for demonstrating what impact a school or program is having on students in general, to demonstrate what is being taught, etc. The topic of composites has been addressed by several NWEA work groups, which developed this definition: a composite portfolio is a purposeful collection of student work that tells the story of a group's efforts, progress, or achievement. This collection must include criteria for selection, criteria for judging merit, and evidence of self-reflection

(Arter & Paulson, 1991). Because of the nature of composites, requirements for their compilation are a little different than for individual student portfolios. This training module does not specifically address composites. For more information, see Arter & Paulson (1991).

Potential Problems When Using Portfolios as Assessment Devices

Just because the use of portfolios *can* have the instructional and assessment advantages listed above, it does *not* mean that use of portfolios automatically *will* have these effects. In actuality, if not done well and interpreted properly, portfolios can mislead as much as, if not more than, the results of fixed-choice tests. For example, consider a situation in which the task was to evaluate how well an instructional area was being taught. A committee of teachers gathered samples of instructional materials and student products to demonstrate what teachers teach and students learn. The resulting collection was very impressive. In fact, it was so impressive that one might not think to ask critical questions such as "Do all teachers do this?" and "Do all students learn this much?" In other words, since the content of the portfolio looked so real, stakeholders might have been misled about what story the portfolio actually told. (Fortunately, the staff members doing the evaluation in this example had the commitment to ensure that results were interpreted properly.)

It is essential that portfolio systems be designed carefully to ensure that stakeholders draw accurate conclusions about what the portfolios show. Portfolios, as performance assessment devices, can run into all the following problems: the work in the portfolio may not really be representative of what the student knows and can do, the criteria used to critique the product may not reflect the most relevant or useful dimensions of the task, the work that a student puts in the portfolio may make the viewer wonder what is authentic about it, there may be aspects of the portfolio process that make a student unable to really demonstrate what he or she knows or can do, and the conclusions drawn from the portfolio can be heavily influenced by the person doing the evaluation (Arter, 1989, 1991; Rothman, 1990; Valencia, 1989).

Representativeness. The example above about "Do all teachers teach this?" illustrates the issue of representativeness. We have to be sure that what is included in the portfolio provides a complete picture of the phenomenon we are trying to portray. For example, we can't make statements about students' ability to communicate in general if all we've collected are formal speeches presented to a classroom audience. Likewise, we can't say that a composite portfolio shows what typical instruction is like in our district if all we've collected are the best lessons from the best teachers. We should encourage a variety of tasks and formats for possible inclusion in a portfolio so that students have full opportunity to demonstrate performance (Valencia, 1989).

Criteria

We have already made the case for having clear criteria. However, not just any criteria will do; they need to be good criteria. For example, consider the *Informal Writing Inventory* (Giordano, 1986) where the writing sample is assessed by counting the number of errors in conventions. Is this an adequate measure of being able to write? Good criteria represent a conception of what is valued in an expert performance; to develop good criteria, one needs a great deal of content expertise.

Authentic Work and Extraneous Response Requirements

One reason cited for assembling portfolios of student work is that they provide a more authentic view of what students know

and can do. However, this authenticity depends on several factors:

1. What is meant by *authentic*? The content of a portfolio will mirror the emphasis in the curriculum and classroom. For example, if the curriculum emphasizes phonics and teachers concentrate on phonics, then the samples of work for the portfolio are likely to reflect phonics. Is this authentic? Authentic to what? An authentic reflection of classroom work or an authentic representation of ability to read in real life? One must come to grips with this issue before even beginning to discuss authentic tasks.
2. The work assigned to students, and therefore available to be selected for the portfolio, must match the target. For example, if students only do computational worksheets in math, work samples might not be available that show math problem-solving ability. Or, what if students usually do prompted writing in which topics are assigned by the teacher? Do these tasks really represent the target of being able to write in daily life? Would students be motivated to perform on this task the same way as they would for a writing purpose of their own design?
3. The portfolio system must not be viewed as an add-on to the "real" instruction taking place in the classroom. If teachers view the portfolio as not making instruction faster, easier, or better, it is hard to predict what the content might be like.
4. Sometimes students are unable to demonstrate what they really can do because of some part of the task that requires skills that really do not have anything to do with the abilities being examined. Take as an example an "exhibition" in which a group of high school students demonstrated their ability to conduct a symposium discussion. This discussion required reading two very difficult articles and getting words in edgewise in a fairly big group. Would students be at a disadvantage if they are shy or would be able to discuss the issues if the reading were a little simpler? Would personality and reading ability, extraneous to the ability being measured (ability to think), affect performance? These extraneous response requirements can affect the authenticity of the products selected for the portfolio. The point is that portfolios do not automatically imply authenticity.

Differences in Interpretations

Finally, the perception of the significance of a portfolio can change depending on who is doing the analysis. For example, consider a developmental portfolio project for kindergarten students, in which teachers were to select student work samples that demonstrated growth in developmental stages in writing, reading, and spelling. What happens if there is no systematic training in how to do this? Different teachers could come to different conclusions about the growth of students.

Conclusion

Portfolios have the potential to tell detailed stories about a variety of student outcomes difficult to tell using other methods. However, we all have the obligation to make the story reflect reality and not use the format to distort reality. Thus, we must take into account the technical issues described above and admit what stories can be told from a given portfolio and what stories are not possible to tell. It is also important to note that these issues are as important when teachers are using portfolios for classroom purposes as when portfolios are used for some kind of larger scale assessment.

Summary of Current Portfolio Efforts

The bibliography at the end of this article lists references to many portfolio projects. In general, the existing portfolio systems appear to have the following characteristics:

1. They cover a full range of structures from specific items being required for all portfolios (e.g., a particular attitude survey or list of books read) to totally open-ended systems in which students can choose anything they want for their portfolios.
2. Purposes for the portfolio systems vary broadly. The main purposes appear to be instructional (either for monitoring of student progress or as an instructional tool in itself) and communication with parents. Other purposes have included college admission, minimum-competency testing, a celebration of what has been accomplished, passing on information to the next teacher, grading, high school credit, and program evaluation.
3. In terms of content, most portfolio systems are currently in the area of communication—writing or integrated language arts (writing, reading, speaking, and listening). There are some examples of mathematics systems (Equals, 1989; Mumme, 1990) and some discussion of portfolios in other areas such as science (Collins, 1990).
4. Current systems appear to have either the teacher or student as the main stakeholder and parents as another important audience. Other audiences have included school board members, district evaluation staff, state assessment staff, and the general public.
5. Finally, in terms of criteria, some systems describe criteria for assessing the individual entries in the portfolio (such as analytical trait models for writing and math problem solving), but fewer discuss criteria for assessing the portfolio as a whole (e.g., Elliott & Harriman, 1989, and Vermont—see Hewitt, 1989, and Vermont State Department of Education, 1990) or for assessing the student self-reflection in the portfolio.

Portfolio Design Questions

To avoid the pitfalls discussed above, the remainder of this training module will consider the various design issues that should be addressed when setting up a portfolio system (Arter & Paulson, 1991; Collins, 1990; Macintosh, 1989; Murphy & Smith, 1990; NWEA, 1989; Roettger & Szymczuk, 1990; Vavrus, 1990).

Issue 1: Design Responsibilities

Who should design the portfolio system? Can a portfolio system be mandated, or even designed, from the top down? Or, if it is to work at all, should it be generated by and for the people who will be responsible for assembling it?

There is a considerable amount of concern right now about preempting portfolios for use primarily in large-scale assessment (NCTE, 1991). Putting together innovative and representative portfolios—the sort that really tell who students are as artists, writers, readers, or mathematicians—demands a serious commitment of time and energy. Therefore, if portfolios are mandated from on high, they are likely to be seen as an enormous imposition on both students' and teachers' time, and content is not likely to be valid. But if the driving force behind the project comes from the students and teachers themselves, those same portfolios may be seen as an innovative way to showcase, preserve, or celebrate what's already taking place in the classroom. Thus, a grass-roots effort not only has the potential to improve instruction, but also to produce the rich and valid sources of information needed for better large-scale assessment.

Although teachers are correct in feeling protective about the use of portfolios, they are not the only stakeholders in their use; district staff and the public have a legitimate right to see how students are growing. If teachers do not take the initiative in making better achievement information available for large-scale assessment, then someone else will design the systems and tell teachers what to do. An additional argument for having a more centralized portfolio development project is that there are advantages in having common conceptions across grade levels and schools as to what acceptable performance looks like (i.e., standardization of criteria). Everyone benefits from discussions of what performance criteria should be—the students because they know that the same targets will be described in the same way as they progress across grades, the teachers because they have a clearer view of learning targets, and the district/state because common criteria allow aggregation of information.

Therefore, the question is not really whether it is better to design a portfolio system from the bottom up or the top down. In actuality, it is in the best interests of students, teachers, and district/state staff to actively work together to (a) preserve the instructional power of portfolios, and (b) see how the potentially rich source of information from portfolios can be summarized at higher levels to show others what students are learning.

Issue 2: Purposes

What is the purpose of the portfolio? Who are the audiences? Can portfolios be used for more than one purpose, for example, classroom instruction and large-scale assessment?

Purpose is all-important. As noted above, it affects everything else, including the design of the portfolio, the content, the link to instruction, and even (on some level) how students feel about creating portfolios. Several different purposes are possible—all of them valid. What is important is that the purpose be clearly defined at the outset so that other important decisions will be appropriate.

Can portfolios be used for both classroom instruction/assessment and large-scale assessment? It might seem on first blush that criteria for defining what goes into the portfolio would need to be highly restrictive for large-scale assessment, but this is not necessarily so. Portfolios could be standardized at various levels. Suppose, for instance, that a math portfolio were to be the basis for large-scale assessment. It might be desirable for students to include one example of strong performance on a timed test, one example of a practical application, one example of creative problem solving, and a sample project linking math to another content area—say, science. In this example, the portfolio is standardized as to the types of items to be included and the criteria for assessing them, but the specific samples of performance chosen for inclusion could be as creative and different as the students themselves. Thus, it may very well be possible to impose enough standardization to ensure the equity and comparability needed for large-scale assessment, and still give enough leeway to promote the flexibility needed in the classroom.

Issue 3: The Link to Instruction

What is the relationship between curriculum, instruction, and portfolios? How will students reflect on their work? There are several natural links to instruction. First, we've discussed how the process of assembling a portfolio is a great instructional exercise in using criteria, taking audience into account, self-reflection, etc. Second, the process of developing criteria is an instructional activity because it forces us to think about and articulate what we value.

Third, if we have criteria (targets) for judging performance, we must be able to show where, during instruction, we taught students what they need to know to hit our targets. For example, if we are going to have students self-reflect, we have

to help students develop the skills they need for doing this meaningfully. If their thoughts and comments are to go beyond "I think I did pretty well" or "I think I have more to learn," they need some experience in developing and working with sound criteria that can help them spot strengths and weaknesses in their own self-reflection. They also need to see samples of good self-reflection so that they know what it looks like, and can begin to look beneath the surface to the behaviors and practices that affect such performance.

Fourth, the self-reflection involved in reviewing work to produce a portfolio provides information to students about what they've learned, how they've grown, and what their next target is. Finally, the review of portfolio content and the ongoing conferencing surrounding the production of portfolios provide a great deal of information to teachers for instructional planning.

Considerations. Even though there are some natural links to instruction, there are still some issues to consider concerning how portfolios will fit into the curriculum:

1. Portfolios should reflect attention to the same broad curricular goals that drive everyday instruction.
2. The criteria used to evaluate performance of projects or products included in the portfolio should be the same as those used every day in the classroom.
3. The definition of a portfolio provided in this module implies certain values in instruction that need to be congruent with local values, such as active learning and students' taking responsibility for their own learning.

One Example of Use in Instruction. There is also the consideration of how, functionally, portfolios will be integrated into instruction. Here is one example: Criteria are developed that articulate what is valued in a student performance (students can be involved in this process). For example, in writing you might develop an analytical trait assessment model that defines what good performance looks like in the areas of content, organization, voice, word choice, sentence fluency, and conventions. Criteria for self-reflection might be those listed under Issue #5, below. These criteria are then systematically reinforced with students by defining traits, showing examples of good and poor work on each trait, giving practice on each trait, and having students critique their own (and other students') work and self-reflections. Students also use these criteria and experiences to select entries for a portfolio and justify their choices. Students then use the portfolio in various ways: deciding periodically whether to replace one entry with another that is a better example of some accomplishment, examining the content to look at progress over time, sharing with parents, etc.

Examples of Questions to Prompt Student Self-Reflection. Another common question is how to prompt students to self-reflect. Many people have come up with questions to prompt them to reflect on their work (Thompson, 1985; Lewis, 1989; EQUALS, 1989; Rief, 1990; Howard, 1990; Kilmer, 1990; Ersh, 1990). Some of these are the following:

- Describe the process you went through to complete this assignment. Include where you got ideas, how you explored the subject, what problems you encountered, and what revision strategies you used.
- List the points made by the group review of your work. Describe your response to each point—did you agree or disagree? Why? What did you do as the result of their feedback?
- What makes your most effective piece different from your least effective piece?
- How does this activity relate to what you have learned before?
- What are the strengths of your work? What still makes you uneasy?

Issue 4: Content

What subject area(s) will be covered by the portfolio? Will there be any guidelines for the types of items? When will work be chosen for inclusion? Who makes these decisions? How will you check that tasks are realistic?

After deciding on the general subject area, you need to decide the level at which you will specify the types of things that will go in the portfolio. The issues in deciding on content are the following: (1) what degree of structure or standardization do you want to impose in order to (2) ensure that you get good evidence for what you want to show about student achievement, while still (3) keeping in mind what impact these decisions will have on primary value of the portfolio as a student-owned instructional device? On the one hand, if others besides the teacher and student control content, the sense of ownership diminishes and both students and teachers may begin to view the portfolio as more of an intrusion than a help. On the other hand, if students have complete control, they may not choose items that really show what they know and can do.

Probably the best compromise, therefore, is for students, teachers, and other stakeholders to work together in determining what will be included and to make their decisions in light of some nonrestrictive guidelines. For example, one integrated language arts portfolio system for elementary students requires that each student portfolio contain four self-selected reading samples (one per quarter) assessed using a reading developmental continuum, two reading attitude interviews assessed using a reading attitude continuum, two self-selected writing samples (first and fourth quarters) assessed using a writing developmental continuum, a speaking/listening checklist completed by the teacher, and a student statement (written or oral) explaining why certain pieces were selected for the portfolio and how the student sees him- or herself as a reader and writer.

Another example is a high school writing portfolio for which each student must select five samples of writing of various types (e.g., a poem, personal narrative, persuasive piece, timed writing sample, and literary analysis); each student must write a cover letter explaining why these pieces were chosen and what they show about the student as a writer; and the teacher must include a letter certifying that the work is the student's own. Guidelines like these should not inhibit. They should suggest potential directions that will help the student show what he or she can do in many contexts for many purposes and audiences.

Valencia (1989) suggests that all levels of standardization could occur in the same portfolio: some entries would be required (e.g., an attitude survey, standardized test scores, an essay on a specific topic); some would be student/teacher selected but fall into general categories (e.g., a poem, one piece with drafts, one multimedia piece); and some would be open-ended (students or teachers could add anything they wanted).

Avoiding Pitfalls. There are two pitfalls regarding tasks that were discussed in the introductory section—not having authentic tasks and extraneous interference. A nice checklist for reviewing the tasks assigned to students in order to avoid these problems is from Region 15 schools in Southbury, Connecticut (Hibbard, 1991). Some of the entries include the following guidelines: the task and process parallel tasks in the larger world; the quantity and quality of time and resources for the task are similar to what would be used when the task was done in the larger world; and the task is engaging for the student. One could also add this guideline: the task does not require the student to use skills extraneous to those being assessed (for example, a lot of reading in order to do a math problem).

When Will Work Be Selected for the Portfolio? Will you have requirements for when work will be selected for the portfolio? In some portfolio systems that are intended to show growth, for example, students might be asked to record themselves

reading at the end of each quarter. In other systems, the portfolio might be integrated into instruction in such a way that students are continually reviewing portfolio content to see whether new work should replace work previously chosen for the portfolio.

Issue 5: Assessment

What criteria are used to assess individual portfolio entries and who develops them? Should there be criteria for assessing the portfolio as a whole? Who assesses? How can information be aggregated for large-scale assessment?

Criteria for Individual Entries. The case for explicit criteria was made earlier. Here we would like to point out that not everything within a portfolio is likely to be assessed in the same way. For instance, a reading portfolio might include a book review—and criteria could be developed for assessing the completeness, originality, organization, and insight reflected in that review. But it might also contain a list of books read outside of school; we might or might not wish to attach criteria (e.g., minimum number) to development of such a list.

Criteria for the Portfolio as a Whole. Assessing individual pieces within a portfolio is not the same thing as assessing the portfolio itself. For instance, in a writing portfolio, one criterion for assessing the quality of an individual essay might be development of ideas or clarity of the organization. But criteria for judging the portfolio itself might include such things as variety in mode or format, diversity of audiences addressed, and dispositions such as perseverance, flexibility, and self-confidence. Criteria will need to be generated for the portfolio as a whole if the portfolio is considered a product in its own right in addition to being a vehicle for collecting products and materials that reflect performance, skill, and attitudes.

Criteria Versus Standards. One caution about criteria is that they are not necessarily the same as standards. Criteria state the characteristics of performance that we value. Standards state the level of performance that we expect for various grades and ages of students. For example, we can use exactly the same criteria to assess writing at grades 5 through 12, but a score of “5” in grade 5 does not mean the same thing as a score of “5” in grade 12; a student needs to produce a better piece of work to get a “5” in grade 12. This is because our “standards” differ for those two grades; we expect more from students in grade 12. We often need both criteria and standards. For example, using our criteria we can trace how much a student has grown, but we might not know how this relates to how much a student should grow. Or, we can know where a student falls developmentally, but we don’t know how “good” this is (whether the student is on grade level).

Aggregation. If you decide you want to aggregate information across students for purposes of large-scale assessment, how will you do this? Possibilities for aggregating portfolio information range from aggregating numbers generated from use of performance criteria (and illustrating the data with sample student performances) to student collaborative efforts in which they develop a composite portfolio that reflects what they, as a group, learned during some period of time. For more discussion of the possibilities and issues, see Arter & Paulson (1991).

Issue 6: Management/Logistics

Who selects the actual work that goes into the portfolio? How are portfolios stored and moved from teacher to teacher? Who has access to portfolio content? To whom does the portfolio belong?

Who Selects? Our definition of a portfolio requires that students have the responsibility for selecting at least some of the portfolio entries. There is some evidence that even very young students are capable of selecting work and reflecting on it (Buell, 1991). In fact, these are the activities that give the

portfolio its power. Depending on the purpose for the portfolio and the age of the students, students might need more or less teacher guidance.

Storage and Transfer. A portfolio that incorporates videotapes, audiotapes, photographs, posters, and so on will quickly outgrow the traditional manila folder. Growing portfolios may require storage in boxes or files. Also, what gets sent to the next teacher? Here’s one idea: Students keep an instructional portfolio during the school year. Then at the end of the school year they develop from this a transfer portfolio for next year’s teacher. This could be viewed as having a different purpose and audience than the instructional portfolio and, therefore, might have different guidelines for what to include. (Having students develop portfolios for different purposes and audiences is also a valuable instructional activity.) Then, periodically, content could be retired from the transfer portfolio, say at the end of grades 3, 6, and 9.

Ownership and Access. It is also important to decide early on who “owns” the portfolio and who will have access to it. Ownership implies some control over what goes into the portfolio and, probably, over where and how it is moved; so this is not a small decision. It is, of course, desirable for students to feel some sense of ownership since the portfolios they create are very real extensions of themselves, but it may also be desirable for schools or districts to retain some control over how portfolio use is managed. As an example of this issue, what happens when teachers want to pass student work on from year to year, but parents also want to keep it? Making photocopies can become overwhelming.

Several groups may feel that they have a right to or a need for information contained in portfolios. Parents will nearly always feel a vested interest, as will next-year teachers. Other potential audiences include counselors, testing specialists, and administrators. In addition to ownership, a key question is the extent to which a portfolio is private versus public information. Again, this is not a trivial question. It has major implications for how portfolio information is gathered and used and what students feel free to include. Will they share private, personal thoughts through writing, surveys, or personal reflection if these things are available on request to anyone who asks? Clearly, if students feel inhibited about what they’re willing to put into the portfolio, its potential to reflect the student’s capabilities fully is compromised.

Finally, what about use of student portfolios in training? For example, if we are to develop criteria about what a “good” portfolio looks like, we need to have samples. Ethics and the right to privacy demand that if we use student work as samples, we need to remove all student identifying information and, ideally, get student permission for such use.

Issue 7: Staff Development

What types of training for teachers and administrators will be needed to prepare them to implement and use portfolios? Teachers need time to explore the possibilities of portfolio development, to get some notion of what portfolios can or should be. Much of this information may come from other teachers who are using portfolios and who have stories of successes and pitfalls to share. In addition, teachers (or others working with portfolios) need to be well-grounded in the development and use of performance criteria so that they can recognize strong performance in writing, reading, science, math—or any area—and effectively work with students in selecting what will be most representative of their performance. They also need to have a great deal of content expertise so that they can develop good criteria and know what to expect from students at various grade levels. Finally, they need to be knowledgeable in the area of assessment so that they can avoid the pitfalls mentioned in previous sections of this module.

Conclusions

When designed and used well, portfolios can be very beneficial for student learning, teacher professionalism, communication with parents, and measuring certain types of student learning (Buell, 1991). Many places are currently experimenting with such systems at the classroom, district, and state levels with the promise of exciting results.

There is no one "right" way to design a portfolio system because it depends on context, purpose, and audience. In fact, it would be a great mistake to adopt wholesale a portfolio system designed elsewhere because one of the most beneficial effects of designing a system is the bringing together of staff to think through the issues of audience, purpose, content, and criteria. Allowing teachers the time and support to discuss and articulate what is valued in a performance is almost the single, most beneficial part of the process.

When using portfolios for assessment and instruction, we need to be cautious that such assessments are developed and used properly. We can be misled by work portfolios because the content looks so right. We might not notice that the material was not generated in a way to show what students can do or that it is not representative of student work, etc.

This caution is as important for classroom use of portfolios as it is for portfolios in large-scale assessment. If teachers do not understand how they can be misled by poorly conceived tasks and fuzzy criteria and how extraneous performance requirements can affect student performance, then student portfolios of work will be misleading as to what students really know and can do.

Additionally, there is the danger that if we allow users to rush into use of portfolios for instruction and assessment purposes without thinking through their assessment needs, how a portfolio fits into these needs, and what potential problems they might encounter, they could very likely be confused and disappointed when the portfolio assessment does not fulfill their expectations of "fixing" all assessment problems. We want to avoid having people rush headlong into portfolio assessment and reject it later because it didn't work. Portfolios have the potential to be too useful a part of our assessment and instructional arsenal to allow this to happen.

Self-Test

1. For your portfolio system, who will be involved in planning? Who will have primary control over the decisions to be made? What leeway will there be for experimentation? (Refer to "Issue 1" in the module discussion.)
2. Which of the following purposes are of particular importance for the portfolio system you are developing? (Refer to "Issue 2.")
 - ___ To show growth or change over time
 - ___ To show the process by which work is done as well as the final product
 - ___ To create collections of favorite or personally important work
 - ___ To trace the evolution of one or more projects/products
 - ___ To prepare a sample of best work for employment or college admission
 - ___ To document achievement for alternative credit for coursework
 - ___ To place students in the most appropriate course
 - ___ To communicate with students' subsequent teacher
 - ___ To review curriculum or instruction

- ___ Large-scale assessment
- ___ Program evaluation
- ___ Other:

3. What are two major instructional goals for your program? (Refer to "Issue 3.")

How will portfolios be used for classroom instruction/assessment in the system you are designing? What problems (if any) do you anticipate? What issues need to be resolved?

What questions would you consider asking students in order to prompt them to self-reflect on the work they are choosing for their portfolios?

4. What is the general curricular focus of the portfolio system you are planning? (Refer to "Issue 4.")

- ___ Reading
- ___ Math
- ___ Writing
- ___ Integrated Language Arts
- ___ Science
- ___ Social Studies
- ___ Fine Arts
- ___ Cross-disciplinary or interdisciplinary
- ___ Other:

Keeping in mind the classroom goals for students you listed in #3, consider the kinds of things that might go into the portfolios you are designing in order to promote the attainment of those goals and, at the same time provide good evidence of the achievement of those goals. First, what might be required to be included in all portfolios, if anything? Second, list four categories of things that should be included in the work students select for their portfolios. How many samples of each of these things should students select?

Will you allow open-ended choices for the portfolio? How many open-ended items will be allowed?

Who will you get to assist you in finalizing these decisions?

What requirements will you have for when entries are selected for the portfolio, if any?

5. For the portfolio system you are developing, choose one of the types of products that students will be asked to place in their portfolio. What should a good performance look like? What does a poor performance look like? In other words, what are your criteria for judging performance? (Refer to "Issue 5.")

For your portfolio system, which of the following considerations do you think are likely to be important in assessing the portfolio as a whole product?

- ___ Amount of information included
- ___ Quality of individual pieces
- ___ Variety in the kinds of things included
- ___ Quality and depth of self-reflection
- ___ Growth in performance, as indicated in products or materials included
- ___ Apparent changes in attitude or behavior, as indicated on surveys, questionnaires, etc.
- ___ Other:

What criteria will you use to assess the student metacognition or self-reflection in the portfolio?

- Thoroughness
- Accuracy
- Support of statements by pointing to specific aspects of the work
- Good synthesis of ideas
- Self-revelation
- Other:

Who will help develop/select/adapt the performance criteria?

- Students
- Teachers
- Curriculum experts
- Evaluation and assessment experts
- Other:

How will you ensure that your criteria reflect current thinking concerning good performance in the area(s) you chose?

If you intend to aggregate information across students, how will you do this?

6. In your portfolio system, who will select specific work samples for the portfolio? (Refer to "Issue 6.")

- Student only
- Teacher only
- Student and teacher
- Other:

How will storage and transfer occur, if at all?

Who will have ownership of the portfolio?

- The student alone
- The teacher(s) alone
- The student and teacher(s) together
- The school at which the portfolio is created
- Parents
- The student and parents together
- The school at which the portfolio is currently stored and used
- Other:

Who will have access to the portfolios?

- The student and teacher(s) who created it
- Any teacher who needs/wants information provided by that portfolio
- Counselors
- Anyone in the school where the portfolio is housed
- Anyone from the district who shares an interest in the student's educational welfare
- Parents
- Other(s):

7. Imagine that you are planning to initiate your portfolio system during the coming year. Which of the following types of in-service training would be most helpful to you and others that will be involved? (Refer to "Issue 7.")

- Overview of the philosophy/rationale for use of portfolios
- Practical hands-on workshop on designing/assembling portfolios
- Ideas for portfolio management (e.g., ownership, transfer, etc.)
- Training in sound assessment practices, including use of portfolios in assessment
- Training in development and use of sound criteria

- Training in how to teach students good self-reflection skills
- Content area training
- Other:

Answers to Self-Test

Your self-test is performance based. Evaluate your responses using the following criteria:

1. **Completeness.** Look for the following:

- a. Did you answer all the questions? If not, did you have a good reason for not doing so? If you were unable to answer any of the questions right now, do you have a plan for how you will go about answering the questions?
- b. How much would it take to "clean up" your comments if they were going to be used as a discussion piece for a district/teacher committee looking into portfolios?
- c. Did you jot down other issues that should be addressed in addition to those listed?

2. **Quality.** Look for the following:

- a. What would be the reaction of each of the following groups to your plan—teachers, district personnel, students, parents, the school board, others? Did you take their points of view into account? If not, did you note why?
- b. Does your plan promote good instruction? If teachers carried out your design all year, would their students have received a good education?
- c. Does your plan promote good assessment? If your design were carried out, would you have quality information? Would assessment pitfalls be avoided?
- d. Is your plan practical?
- e. Is your plan flexible?

3. **Individuality.** Look for the following:

- a. Does your plan match the curriculum in your classroom or district?
- b. Do your ideas reflect your own personal concept of what a good portfolio can or should be?

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Annotated References

Portfolio Projects

Northwest Evaluation Association (NWEA), 5 Centerpointe Drive, Suite 100, Lake Oswego, OR 97035.

The NWEA sponsors an ongoing consortium effort in the area of portfolios. Interested districts and organizations convene several times a year for ongoing discussions and projects.

Teacher Assessment Project, Stanford University, School of Education, CERAS 507, Stanford, CA 94395.

Products include Elementary Literacy Assessment Center Examiner's Handbook; Portfolio Development Handbook for Teachers of Elementary Literacy; The School Teacher's Portfolio: Practical Issues in Design, Implementation and Evaluation; The School Teacher's Portfolio: An Essay on Possibilities; Biology Candidate's Assessment Center Handbook; Notes on an Exploration of Portfolio Procedures for Evaluating High School Biology Teachers; and Thinking Out Loud: Proceedings of the Teacher Assessment Project Forum on Equity in Teacher Assessment.

Portfolio Assessment Newsletters and Clearinghouses

Arter, J. A. (1991). *Portfolio bibliography*. Northwest Regional Educational Laboratory, 101 S. W. Main, Suite 500, Portland, OR 97204.

This is an annotated bibliography of over 100 articles about portfolios. Some discuss rationale and other issues, while others are examples of portfolio projects. The bibliography is updated several times a year. Updates are also available as part of the Northwest Evaluation Association's newsletter *Portfolio News*.

Portfolio Assessment Clearinghouse. San Dieguito Union High School District, 710 Encinitas Blvd., Encinitas, CA 92024.

This newsletter is published several times a year. It contains information about portfolio projects in the Southwest.

Portfolio News. Northwest Evaluation Association, P.O. Box 2122, Lake Oswego, OR 97035.

This newsletter is published three times a year. It contains information on portfolio projects in the Northwest as well as current updates to the *Portfolio Bibliography* published by Northwest Regional Educational Laboratory.

In Memoriam: T. Anne Cleary (1935-1991)

The fact that Anne Cleary was born in Shanghai of American parents may have been the root of her keen interest in fostering the educational development of international students, especially those from China and Taiwan. And her longstanding research interests in test bias and gender differences undoubtedly stemmed from her deep feelings about fairness, equity, and justice. How ironic it is that her life was taken by the hand of a University of Iowa graduate student from Beijing, a student she had never met who perceived that his nomination for a coveted dissertation prize was handled unfairly.

Anne was still approaching her peak—pursuing multiple research interests, making significant contributions to the development of our campus academic programs, providing leadership in national professional organizations, and nurturing the professional and personal development of students, coworkers, and a variety of other friends.

Anne spent her early years in the Toronto area and then migrated to the Midwest to pursue university studies. After completing her undergraduate work in psychology at Marquette University (1958), Anne attended the University of Minnesota for 2 years and