

# Portfolios: Proceed with Caution

**Gloria M. Rogers**  
**Julia Williams**

## Introduction

Portfolios can provide an extremely rich source of data for the enhancement of student learning in ways that locally developed surveys and questionnaires and nationally normed tests cannot. With portfolios, institutions have control over the design, context, format, and analysis that can provide authentic, direct measures of institution-specific student learning outcomes. However, portfolios have been severely criticized by those who initially had a vision for their potential and were later disappointed in the results of the implementation. The source of these failures lies primarily in three elements; the portfolio design, implementation and analysis of data were not carefully thought through before the decision to adopt portfolios was made. In order to ensure successful implementation of a portfolio system, faculty and administrators should consider the following questions before deciding to try portfolios:

- What is the focus of the assessment?
- What is the scope of assessment?
- What learning objectives will be measured?
- What is the role of faculty and students?
- Should the portfolio be electronic or paper based?
- How are the portfolios going to be assessed?
- How are the results going to be linked to the curriculum?

## Focus of assessment

The first consideration needs to be whether portfolio results will be used to assess individual students or student cohorts (e.g., graduating seniors, freshmen, all students in a particular major, etc.). This decision depends on how the results are going to be used and will, as a result, affect other aspects of the portfolio process. For example, if the focus of assessment is individual students for the purpose of pass/fail, grades, or advancement into or out of a program, then the level of specificity of the learning expectation and analysis of results will need to be rigorous (high-stakes assessment). Consideration will also need to be given as to who places artifacts in the student's portfolio. Those who implement portfolios should realize that they must determine the level of involvement of students in their own assessment. If students are asked to make decisions about what to place in their portfolio, for example, they will require instruction and individual guidance in the submission of learning artifacts. In addition, learning outcomes will need to be explicit and rating rubrics clearly written with appropriate scoring levels; all of this information must also be shared with students. If faculty are going to place materials in student portfolios, consideration will need to be made to the alignment of instruction to desired student learning outcomes. Instructional faculty will need to be involved in the development of the scoring rubrics and learning objectives to maximize their "buy-in" into the portfolio process.

## Scope of assessment

Another design consideration is the scope of the assessment. Portfolios can be designed to assess the growth of an individual student over time (longitudinal assessment). This would require ratings of number of student artifacts over time to evaluate individual student progress. These artifacts are generally chosen by the instructor who determines which classroom artifacts are best aligned with the learning objectives of an assignment, test, or project. Another approach is to ask students to submit what they believe to be their best work on given outcomes and their entries scored to determine their level of competence toward

a learning objective (showcase approach). If the focus of assessment is on student cohorts, portfolios of a cohort of students can be sampled (using valid sampling techniques) and scored to determine whether or not program or institutional student outcomes are being met. The rubrics used in assessing cohorts may not have the same degree of specificity as those used in a classroom setting where the results have a higher stake. In addition to these two models, a “hybrid” approach may also be taken. If a showcase approach is to be taken, snapshots of an electronic portfolio can be taken over time to document or benchmark the progress of cohorts toward achieving desired outcomes. This information can be used as formative information to consider improvements that might need to be made in progress toward achieving the desired learning objectives and is an example of how a “showcase” design can also be used in a comprehensive, longitudinal analysis of the growth of a cohort of students.

## **Measurable Learning Objectives<sup>1</sup>**

The development of measurable learning objectives is the most crucial aspect of any assessment process. This is particularly true in the implementation of a portfolio process. Once the focus and scope of the portfolio has been determined, significant time must be spent discussing what desired learning outcomes are going to be assessed. Once there is a consensus on the learning outcomes, rubrics consistent with the desired levels of achievement must be developed and communicated to both students and those involved in instruction. In the case of program or institutional assessment, it is necessary to communicate and achieve consensus from the broader base of faculty. This is not a trivial process but one that will develop a common sense of what is important at the institutional/program level and should be reflected in the core or required curriculum. Once measurable learning objectives have been determined, the rest of the development becomes more apparent.

## **Role of faculty and/or students**

To enhance the likelihood of success during the implementation process, it is important to make the role of faculty and students explicit. It is especially important to answer the question “what’s in it for me?” When designing the portfolio process, be sure that there is a focus on making the process as non-intrusive as possible. Some of the decisions that need to be made include the following:

- Who will make the submissions to the portfolio—faculty or students?
- Who will score the portfolios? How often?
- Will students get “credit” for their portfolio?
- Will the submissions be required as part of a class or program?
- Will students be asked to reflect on the portfolio entries that they make? If so, will they get feedback on the quality of their reflections?
- If portfolios are being used to assess cohorts instead of individual students, will the student get feedback on their portfolio?

## **Electronic or Paper**

An important process decision is whether the portfolio will be electronic or paper-based. There are advantages and disadvantages of both. Paper-based portfolios can be difficult to manage, especially at the program or institutional level. Access for students and faculty can be problematic and scoring and analysis time consuming. In addition, if the student would like to maintain her portfolio, there is no easy way for both the student and the institution to keep track of it. However, for classroom assessment, the paper-based portfolio may be easier for student and faculty consultation and review. In comparison to the paper-based portfolio, an electronic portfolio has the following potential advantages:

- Allows for asynchronous use for both student and faculty
- Minimizes administrative processes that can be overwhelming in a paper-based system
- Provides for student-controlled access (other than faculty raters and advisers)
- Provides ability to archive student material in multi-media format

- Offers use of search strategies for easy access to artifacts
- Makes updating entries easy
- Allows faculty scoring results to be automatically logged and aggregated for analysis
- Provides students with feedback on-line

Disadvantages of electronic portfolios include the lack of expertise that may be available to develop the electronic platform. Although most campuses have information technologists and computer scientists working on institutional projects, it is difficult to get the dedicated support that this might require. There are currently a number of commercial products that are available to support a portfolio process. In addition to the cost of obtaining a license for such a system, they are generally limited in their ability to meet the specific needs of the institution and may not produce evidence of learning outcomes that could not be provided by a commercial norm-referenced national examination. Most commercially available systems, for example, only archive portfolio materials but do not provide any systematic way to evaluate them (i.e., no rubrics or evaluation tools are provided). There is also a need for a “technology owner” who is both strong in his/her understanding on the technology but understands the process and politics of outcomes assessment. This is important to interface between the faculty and the developers/maintainers of the software.

## Assessment of Portfolios

It is necessary to have a clear plan on how artifacts are categorized and assessed in a meaningful, focused way that is relevant to the desired student outcomes. Because of the potential time commitment to evaluate portfolios for a number of outcomes, a clear plan needs to be developed on the nature of the rubrics to be used and the format for the scoring process. It is helpful to think ahead of what an assessment report might contain, including the results of portfolio assessment. If you are planning to use portfolios for program assessment the answers to following questions can guide the development of the process:

**Is everything in EVERY student’s portfolio going to be assessed?** The answer to this question will determine the type of feedback process that is built into the system. If the program has a small number of students, it may be desirable to assess every portfolio. However, for a large program it may not be practical or possible to assess every portfolio. If that is the case, consideration should be given to developing a mechanism to sample part of every student’s portfolio. This would require a sampling technique to select a part of every student’s portfolio over time. This method would ensure that every student would have at least part of their portfolio scored by faculty. This is a feature that can be built into an electronic portfolio design.

**Are you going to assess EVERY learning objective EVERY year/semester?** A plan needs to be developed that is both methodologically sound and requires a reasonable degree of effort. Sample portfolios for potential problem areas (i.e., which of the performance objectives appear to be the most problematic for students?) and develop an assessment schedule to maximize the ability to identify areas for improvement early in the process. All outcomes should be assessed with the same rigor but the results of that assessment will differ. When evidence indicates that students are having difficulty demonstrating a desired learning objective at the appropriate level, improvements can be made in the processes designed to promote the objective and new assessments made. Learning objectives targeted for improvement can be assessed more frequently than the objectives that students consistently meet. An electronic portfolio system can automate the search and sampling process.

## Linking results to practice

Having a well-designed portfolio is critical to both efficiency and effectiveness of measuring student outcomes for the purpose of improving the educational process. However, without a mechanism to link the assessment findings to curricular processes, it will be difficult to focus improvements in ways that provide improved outcomes. This reemphasizes the need to have well defined student learning objectives and use them to guide the design of classroom strategies. At the program or institutional level

this is very problematic as faculty do not sense the same kind of “ownership” of program or institutional learning objectives as they do those in their courses. Mechanisms need to be found to keep the broader learning objectives in front of faculty and reinforce their importance. It is recommended that a Curriculum Map be developed that links course program objectives to those that are the focus of institutional or program assessment activity. An analysis of the Curriculum Map by major and learning objective can provide valuable information about the level to which the objectives are being introduced, reinforced, and built upon. It also provides a way to be able to make meaning out of the analysis of the portfolios and directs where improvements can be made. Without this step in the process, the results will provide information but no mechanism to turn the information into recommendations for improvement.

## Summary

Portfolios are being considered as the assessment tool of choice by many institutions struggling with how to provide evidence of student outcomes. Portfolios have been identified as a valuable tool for authentic, direct assessment. However, before making the decision to implement student portfolios for the purpose of assessing student learning, several decisions need to be made. The decision-making process should be inclusive of the stakeholders who are affected by the process. An inclusive process that considers all the steps described above will enable to avoid the common mistakes in designing and implementing a portfolio process.

---

<sup>1</sup> Rogers, Gloria and Jean Sando, "Stepping Ahead: An Assessment Plan Development Guide." Rose-Hulman Institute of Technology, Terre Haute, Indiana 47803-3999, 1996.

Williams, Julia, "The Ability to Communicate Effectively: Using Portfolios to Assess Engineering Communications," International Journal of Engineering Education, Volume 18 number 2, 2002 (in print).

Rogers, Gloria and Julia Williams, "Promise and Pitfalls of Electronic Portfolios: Lessons Learned from Experience" A Collection of Papers on Self-Study and Institutional Improvement, 2001. North Central Association of Colleges and Schools, Chicago, Illinois, April 2001.

Rogers, Gloria, "Strategies for Harnessing Information Technology to Facilitate Institutional Assessment," Invited plenary, 8th International Symposium on Improving Student Learning, *Improving Student Learning Strategically*, Manchester England. September, 2000.

Rogers, Gloria and Timothy Chow, "Electronic Portfolios and the Assessment of Student Learning," *Assessment Update*, Jossey-Bass Publisher, January-February 2000, Vol. 12, No. 1, pp 4-6, 11.