

Portfolios: An Alternative Method of Student and Program Assessment

Susan E. Hannam, HSD, ATC, CHES

ABSTRACT: The use of performance-based evaluation and alternative assessment techniques has become essential for curriculum programs seeking Commission of Accreditation of Allied Health Education Programs (CAAHEP) accreditation. In athletic training education, few assessment models exist to assess student performance over the entire course of their educational program. This article describes a model of assessment—a student athletic training portfolio of “best works.” The portfolio can serve as a method to assess student development and to assess program effectiveness. The goals of the program include purposes specific to the five NATA performance do-

ains. In addition, four types of portfolio evidence are described: artifacts, attestations, productions, and reproductions. Quality assignments and projects completed by students as they progress through a six-semester program are identified relative to the type of evidence and the domain(s) they represent. The portfolio assists with student development, provides feedback for curriculum planning, allows for student/faculty collaboration and “coaching” of the student, and assists with job searching. This information will serve as a useful model for those athletic training programs looking for an alternative method of assessing student and program outcomes.

Student outcomes, or performance indicators, are purportedly not being adequately assessed by standardized or multiple-choice tests.¹⁷ Recently, educators have been searching for a valid way to capture and evaluate the rich array of what students know and can do.^{2,15} Educators have been searching for an alternative assessment method that paints a broader picture of student knowledge, reveals the process by which a student learns, sends a clear message to students and others about what is valued in our programs, contains realistic (practical) contexts, provides continuous feedback, and provides assessment techniques that promote active learning.² In the athletic training room, we observe students growing professionally over a period of time. One method of documenting students’ professional growth over time is through the use of a portfolio. In a student’s senior year, the completed portfolio might also be useful to potential employers as evidence of the student’s abilities.

Traditionally, portfolios have been used in the art, dance, writing, modeling, and music professions.^{2,9,16} During the past several years of education reform, those in teacher education programs have found that a student portfolio is a valuable tool.^{2,16} Portfolio content can serve as a tool to measure student outcomes and is a viable alternative to standardized testing.^{9,13,17} In addition, many faculty members are developing teaching portfolios as a method of assessing classroom teaching effectiveness.^{2,4,13,16} Grady⁹ and others state that the portfolio will only be successful if it has a clear purpose, ties in with program goals, and has a specific plan for assessment.^{2,10,13} The following information explains the portfolio definition adopted by a Commission of Accreditation of Allied Health Education Programs (CAAHEP) accredited athletic training program. The goals of the portfolio, the design, plans for assessment, and the expected content of the portfolio are also discussed.

DESCRIPTION OF THE PORTFOLIO

Several types of portfolios are used in education. The type of portfolio described in this article is a collection of materials representing documented evidence of the scope and progress of the student’s “best works.” Athletic training faculty members regularly assess the development of student knowledge, skill, and attitudes from the evidence collected in the portfolio. This is a showcase portfolio that captures the quality of students’ efforts as well as their progress.¹⁵

Designing the student athletic training portfolio began by examining established entry-level athletic training attitudes, knowledge, and skills,⁷ and by developing an adequate assessment tool. The five purposes specific to the performance domains of athletic training (prevention of athletic injuries; recognition, evaluation, and immediate care of athletic injuries; rehabilitation and reconditioning of athletic injuries; health care administration; and professional development and responsibility)¹¹ provided the framework for selection of portfolio entries. The goals of the faculty in establishing the portfolio project were to create a collection of the students’ “best works” spanning the six-semester clinical program. Our objectives in establishing the portfolio project were fivefold: 1) to assist with the assessment of student progress toward becoming an athletic training professional, 2) to provide feedback in curriculum planning, 3) to allow faculty and student collaboration, 4) to allow for specific “coaching” of the student, and 5) to assist the student with job searching.

Collins⁴ classified four types of portfolio evidence: 1) artifacts, 2) attestations, 3) productions, and 4) reproductions (see Table). An *artifact* is a document produced by the student. For example, an artifact might be a paper written for a course, a lab report, a budget request, or a case study. An *attestation* is a document about the student, prepared by someone else. Attestations include letters of gratitude from a coach, letters of recommendation from a faculty or staff member, student evaluations from clinical experience, or letters of evaluation from an affiliate site. *Productions* are documents prepared

Susan E. Hannam is an associate professor and Co-Director of the Athletic Training Curriculum at Slippery Rock University in Slippery Rock, PA 16057.

Types of Portfolio Evidence

Evidence	Description	Examples
Artifact	Document produced by the student	Lab reports, budget, case study
Attestation	Document about the student	Letters of recommendation, staff evaluations
Production	Produced specifically for the portfolio	Reflections (captions) of documented accomplishments
Reproduction	Representation of the student's work as an athletic trainer	Photographs of bulletin board, videotapes

especially for the portfolio. Reflections on documented accomplishments and caption statements about the learning process are examples of productions. A *reproduction* is a representation or an example of a typical event in the student's work as an athletic trainer, which is usually not documented. Examples include photographs of a bulletin board or poster created by the student or a videotape of a class presentation.

Caption statements are the most important part of the portfolio documents because they convert the documents into evidence.³ Caption statements must be present to distinguish a portfolio from a mere collection of student work. In the caption statement, the student articulates precise thinking about how the document assisted in learning. The student reflects on the thinking process (metacognition) while completing the project/assignment. Faculty members encourage comparisons between recent and earlier-documented evidence placed in the portfolio. This gives the evaluator (the faculty/staff or perhaps an external review board) an opportunity to assess whether the student has bridged the gap between theory and practice. For example, students sometimes realize that the work they did was not consistent with their intentions or beliefs.⁴ Students are asked to answer the following questions on a cover page for each portfolio document as caption evidence: 1) What is the document? 2) What is the evidence type? 3) Why is the document evidence? and 4) What did you learn from the experience? Caption statements need not be elaborate. They may be a simple title sheet indicating what the document represents and why it is important.

MATCHING EVIDENCE WITH GOALS

The Figure shows the page on which the five goals, the four categories of evidence (with several specific documents required of everyone), and the academic year of evidence submission are tabulated.

Examples of record keeping are submitted the first semester a student attempts medical record writing. Typically, the best example of an entire rehabilitation record for an injury case and the injury evaluation (eg, SOAP notes) are submitted. In this case, students include a caption for each document explaining why this effort is evidence of their best record keeping to date and describing what they learned by choosing their best work. The rehabilitation record is evidence of achieving the athletic training rehabilitation and reconditioning goals; the SOAP note falls under the health care administration goal. Annual samples of record keeping are submitted when the student determines that he or she has improved in skill. Submissions are kept in the portfolio as reference points for student and faculty/staff collaboration. Medical record-keeping proficiency and im-

provement are readily determined and monitored by this method.

Research papers are required in several athletic training classes. These are submitted with captions. Perceptions of quality are written in the caption statement to address what the student learned. This evidence provides an opportunity for faculty/staff to gain insight into the student's ability to reason and communicate in writing. Research papers often are submitted as rehabilitation and reconditioning evidence if completed for the therapeutic exercise and therapeutic modalities classes, or submitted as recognition, evaluation, and immediate care of athletic injuries evidence if completed for the physical evaluation of athletic injuries class. Because it is a portfolio of best works, students often replace sophomore papers with later papers as their ability to perceive and assess the quality of their work increases (all entries remain in the portfolio for comparison purposes). Students, with the assistance of faculty members, write a caption statement clearly indicating how and where the quality has improved. It appears that the ability to perceive change is initially an outcome of the directed process of faculty/staff collaboration and feedback. Students who develop strong critical thinking abilities appear to naturally develop the ability to perceive improvement.

For reproductions, a blank videotape is purchased and kept by the student at the beginning of the sophomore year. Students tape record all class presentations and the practical portion of examinations. In most cases, vast improvement occurs from one semester to the next. The videotape as reproduction evidence may fulfill a number of goals across the entire program.

Other reproduction entries are made for both Professional Development and Responsibility and Prevention goals. In the sophomore year, students are required to become "mini experts" in one audiovisual area (eg, bulletin boards, overhead transparencies, etc) as part of a formal class. They present the proper use of an audiovisual aide to the class and then they use it to present an athletic injury prevention topic. Photographs of the bulletin board or of their presentation are put in the portfolio. Captions are required.

At least two attestation records are put in the portfolio each semester following staff evaluations of clinical skills. Captions have not been required for these documents because students verbally reflect on their performance during individual conferences with staff athletic trainers. Other entries that students submit as evidence of their best work include letters from coaches and special event administrators. The letters usually acknowledge and thank them for assistance with special activities/events (eg, assisting with Special Olympics or organizing medical coverage for a tournament).

	Prevention of Athletic Injuries			Recognition, Evaluation & Immediate Care of Athletic Injuries			Rehabilitation & Reconditioning of Athletic Injuries			Health Care & Administration			Professional Development & Responsibility		
	So	Jr	Sr	So	Jr	Sr	So	Jr	Sr	So	Jr	Sr	So	Jr	Sr
ARTIFACTS															
1. Budget															
2. Facility Design															
3. Record Keeping															
4. Research Paper															
5.															
6.															
7.															
REPRODUCTIONS															
1. Video Tape															
2.															
3.															
ATTESTATIONS															
1.															
2.															
3.															
4.															
PRODUCTIONS															
1.															
2.															
3.															

Matching the five domains (goals) with portfolio categories of evidence.

The budget and facility design projects are completed during the senior year. Each student (or pair of students) is given a specific project scenario (college or high school size, number of sports, size of facility, and budget) and each is expected to complete the project with the requested paperwork and with a rationale for design and purchase. Students submit projects separately with a caption statement attached. The caption includes reflective statements on skills specific to the project, procedures employed to complete the project, and learning experiences. Captions are revealing because they often indicate student values and thought processes. Both projects are submitted as evidence of achieving organization and administration goals.

DISCUSSION

Several of our recent graduates indicate that producing the portfolio assisted them in providing evidence of their abilities during job interviews. In addition, the critical thinking skill and disposition scores will be used by above-average students as evidence of their problem-solving ability to employment or graduate school selection committees.

We are entering our third year of using the portfolio. It has served as a valuable tool for discovering the following potential areas of program concern: the quality of students' reflection on their work, and the weakness of the evidence in some of the five goal areas. Specifically, a review of graduating senior portfolios showed that some students had limited exposure and assignments in some goal areas. Students were meeting NATA BOC requirements, but our curriculum did not require sufficient evidence of work in the goals for the

psychology/counseling competencies. We are attempting to develop specific course requirements to meet these goals.

The potential growth for both the student and the program as a result of portfolio use appears unlimited. It is restricted only by the goals and type of portfolio that faculty/staff want to institute. For example, this paper has discussed a portfolio of best works. Other types of portfolios could be created to document competency acquisition, to represent all work completed by students, or to use as a course portfolio. In the initial stages, the process requires time for meeting and explanation. The success of this method of student and program assessment is also contingent upon consistent monitoring of individual student progress. Students seem to thrive on being told about their professional growth. Often, they develop the skills to self-assess as they become more proficient at identifying evidence.

The five objectives for the portfolio developed by the faculty seem to have been met: 1) it has assisted in assessing student progress by providing evidence of student work over time; 2) it has provided invaluable feedback for curriculum planning and preparing for CAAHEP review; 3) it requires faculty/student planning and therefore fosters collaboration; 4) it provides an effective avenue for mentoring students; 5) several students have taken the portfolio with them when interviewing for a position.

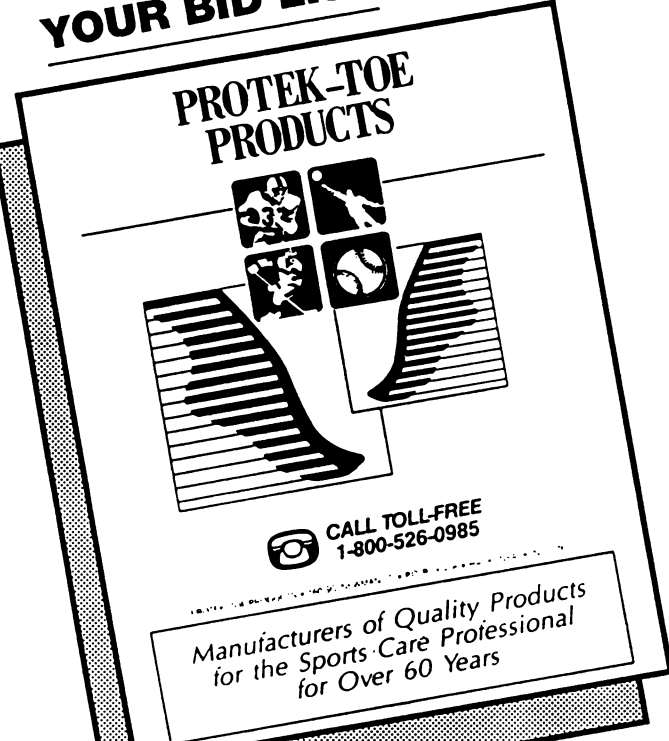
We are beginning to discover the many uses of the portfolio. While there is a paucity of literature on methods of scoring portfolios,^{1,14} we have obtained valuable information to assist both the students and the program. The faculty's objectives for the portfolio must be kept in mind when developing specific assessment criteria.¹⁷ We are now in the process of using Spandel and Culham's¹⁴ suggested process of examining class

sets of portfolios and sorting them into "stacks" (inadequate, adequate, or exceptional) relative to the portfolio goals. Rubrics will be developed by identifying general characteristics of the quality of work found in each stack. Our next steps are to develop more explicit criteria, to train an advisory group of external certified athletic trainers, and to score graduating senior portfolios. The portfolio is one method of assessing the depth of understanding and abilities that students develop over time. Although the process is somewhat time-consuming, the quality of feedback to both students and faculty/staff has been well worth the effort.

REFERENCES

1. Amirman M, Courts P. A stab at scoring portfolios. *Assessment Update*. 1994;6:6-7.
2. Arter JA, Spandel V. Using portfolios of student work in instruction and assessment. *Educ Meas: Issues Pract*. Spring 1992;36-44.
3. Collins A. Portfolios for biology teacher assessment. *J Sch Personnel Eval Educ*. 1990;5:147-167.
4. Grady M. *Fastback 351: The Portfolio Approach to Assessment*. Bloomington, IN: Phi Delta Kappa Educational Foundation; 1992:7-20.
5. Herman JL, Winters L. Portfolio research: a slim collection. *Educ Res*. 1994;52:48-55.
6. National Athletic Trainers' Association Board of Certification, Inc. *National Role Delineation Study*. Philadelphia, PA; FA Davis Co; 1995.
7. National Athletic Trainers' Association Professional Education Committee. *Competencies in Athletic Training*. Dallas, TX: National Athletic Trainers' Association, Inc; 1992.
8. O'Brien K. *Portfolio Development at Alverno College*. Milwaukee, WI: Alverno College Productions; 1990:1-8.
9. Spandel V, Culham R. *Assessing Portfolios*. Portland, OR: Northwest Regional Educational Laboratory; March 1994.
10. Tierney R, Carter M, Desai L. *Portfolio Assessment in the Reading-Writing Classroom*. Norwood, MA: Christopher-Gordon Publishers Inc; 1991:90.
11. Winograd P, Jones DL. The use of portfolios in performance assessment. In: Craig JR, ed. *New Directions for Education Reform*. Bowling Green, KY: College of Education and Behavioral Sciences, Western Kentucky University; 1992;1:37-50.
12. Worthen B. Critical issues that will determine the future of alternative assessment. *Phi Delta Kappan*. Feb 1993;444-454.

**MAKE SURE
WE ARE ON
YOUR BID LIST**



**PROTEK-TOE
PRODUCTS**

CALL TOLL-FREE
1-800-526-0985

Manufacturers of Quality Products
for the Sports Care Professional
for Over 60 Years

*"You can Protek your athletes for the whole game
- when you use **PROTEK-TOE Moleskin**"*

**PROTEK-TOE
PRODUCTS**

Manufacturers of Quality Products
For The Sports Care Professional
For Over 60 Years

**Moleskin • S.T.R. Padding
Wool Felt • Foam Rubber**

PROTEK-TOE PRODUCTS

P.O. Box 458
Hackensack, New Jersey 07602

(800) 526-0985