

Models of Good Practice in Assessment

Though all five facets of the PAA process model are equally important, assessment still plays the role of an “acid test” in accreditation circles. As such, this appendix provides examples of campuses that are conducting assessment so that (1) general education outcomes and major outcomes are assessed together, and (2) general education and major outcomes can be assessed at the highest levels of undergraduate education (largely in the senior year).

The PAA group looked at institutions or programs that measured up well on the eleven criteria of “good practice” covered in Chapter 4. Using the contacts of regional and specialized accreditors, a total of 34 programs were reviewed for inclusion in this appendix. To make them as comparable as possible, each institution or program was asked to respond to the same five points:

- Give a brief description of the senior assessment.
- What are the general education outcomes and field-specific outcomes that are required to be integrated by the student in performing this assessment activity?
- How are students, in explicit and cumulative ways, prepared for this senior assessment in prior semesters?
- How is this senior assessment a learning experience for students?
- What is the breadth of faculty collaboration in the assessment activity?

At the final project meeting, PAA selected the twelve programs that exemplified the PAA criteria in Chapter 4. Of the twelve, the first seven occur in specialized professional programs, the next three illustrate general education or all-college capstones that include the major, and the final two represent culminating experiences in certain majors that include institutional general education outcomes.

The examples come from a mix of small, medium, and large institutions. Each model write-up includes a description of the (mostly) senior assessment experience, information on how major and general education outcomes are integrated into that experience, information as to how students are prepared earlier in their college years for the experience, and program contact information.

Portfolio Assessment
Teacher Education at Alverno College

Candidates for student teaching at Alverno College engage in a portfolio assessment experience the semester before they complete their student teaching. This is a culminating experience, one toward which they have been working since the beginning of the program. The purposes of the portfolio assessment are to give candidates an opportunity to demonstrate their readiness for student teaching by showing how they plan, teach, assess, and give feedback—and how they assess their own teaching. Both Alverno faculty and an educator from the P-12 sector give feedback on the portfolio. There are eight general areas of ability that the Alverno faculty identified as essential attributes to be attained by every student who graduates from the institution. For education majors, these eight attributes are clustered and aligned with the five abilities required of professional teachers:

<u>Education “Abilities”</u>	<u>College’s “Attributes”</u>
Diagnosis	Analysis Problem Solving
Coordination	Analysis Problem Solving Effective Citizenship
Communication	Communication Social Interaction
Conceptualization	Analysis Valuing Developing a Global Perspective
Integrative Interaction	Social Interaction Valuing

Students regularly work on lesson plan development and self-assessment according to the frameworks used in the portfolios, so that they prepare for the portfolio assessment in every class they take. New learning also occurs in doing the portfolio in two ways. First, students write reflections on what each lesson shows about them as developing teachers. They also write a detailed analysis of a videotaped lesson in terms of the double list of abilities above. Second, a professional in their field publicly critiques the portfolio. In these ways, students advance from just reflecting on their own performance to a deeper understanding of effective teaching.

Portfolio assessment involves all members of the education department, members of the departments that prepare secondary teachers, and professionals from local P-12 systems.

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Senior Assignment in Business
Southern Illinois University Edwardsville (SIUE)

The core of SIUE’s assessment program rests with the Senior Assignment (SRA). The SRA is defined as a scholarly engagement between student and professor that results in a product. Because the product is visible, it, and the curriculum that produced it, can be assessed. Students are observed while doing the SRA and examined on or asked to defend the product. The SRA is a culminating experience that provides a concrete experience of integration for students and an authentic indication of student learning to the faculty.

The SIUE School of Business identified four sets of attributes that their graduates should possess, with each set containing five further specifications of the general attribute. Each of the graduating seniors should:

1. demonstrate skills acquisition
2. demonstrate liberal knowledge
3. possess business goals
4. possess business skills.

Elsewhere, outcome 2 might be considered to be outside of business—an outcome for which general education faculty “out there” are responsible. At SIUE, in contrast, Business School professors are responsible for all of the outcomes listed above and are involved in teaching formal general education classes.

Two kinds of student activities occur in the Business SRAs. The first is an assignment to write a memorandum to a department manager in a simulated corporation. The student must review all aspects of a complex business case—markets (domestic and international), legal aspects (court decisions, tax law), accounting and financial contexts, technology, labor relations, and so forth—a genuinely cross-functional analysis. The memorandum is expected to make recommendations in the area of the student’s specialization, after demonstrating a grasp of the total situation. Students then give an oral presentation and defense of the memorandum, and several faculty raters judge the student’s mastery of oral and written communication, application of appropriate knowledge, analytical and critical reasoning, and persuasiveness or effectiveness.

The second is participation in an annual International Business Policy Competition that calls for multidisciplinary student teams to develop an analysis and a set of recommendations in response to simulated quarterly reports. As in the previous case, this simulation asks students to undertake roles and duties similar to what they will encounter after graduation. SIUE faculty use the results of the each set of SRAs to improve its quality in ensuing years. For example, recent assessments have led to a plan to include a more explicit ethical dimension to the memorandum exercise.

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Interactive Qualifying Project **Worcester Polytechnic Institute (WPI)**

WPI takes very seriously its responsibility to prepare its graduates to be problem solvers in an interdisciplinary and international context. In 1970, the institution adopted a project-based structure for its undergraduate programs, which consist mainly of engineering, science, and management areas. The first project, called the Sufficiency, is an independent study in some area of arts and humanities that rounds out and integrates the liberal arts dimension of the degree. The second, called the Major Qualifying Project, constitutes a senior capstone experience in the student's major.

The third, called the Interactive Qualifying Project, is a model of good practice in integrating general education and the major. A team of students completes this project, and it focuses on a complex technological problem as well as on the human and social context in which the problem and any potential solution exist. Students usually do this project, which is worth three courses in the junior year. Its aim is to develop in students the ability to frame, study, and solve problems in ways that are technologically sound but also appropriate to the human, social, economic, and environmental context. Teamwork, communication skills, and integrative thinking figure significantly in these endeavors.

In addition to these project requirements, there is a strong international dimension to the degree as well. WPI has fourteen Project Centers in places such as London, Venice, Bangkok, Zimbabwe, and Australia. Students who do their Interactive Qualifying Project overseas must also add intercultural sensitivity to the list of competencies to be demonstrated.

WPI also recently established the Worcester Community Project Center to bring students living on campus the experience of an off-campus learning environment. Within their project parameters, student teams work with community groups to gain experience in how local governments operate, and the sponsoring agencies receive a useful product from the team's analysis of the agency's issue.

There is a well-organized process for evaluating student performance in the Interactive Qualifying Project. Teams of faculty are recruited in the summer for paid positions where they read the reports from the student teams and rate them on a Likert scale for each of the ABET criteria (a mixture of engineering and liberal arts outcomes). The ratings on the eleven ABET criteria and narrative evaluations of the reports are then entered into a database that faculty can consult in order to improve the quality of any further projects they sponsor. Administrators use the database to design faculty development workshops related to these projects.

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Senior Integrated Design Project
College of Engineering, University of Hartford

The College of Engineering at the University of Hartford has been engaged in deliberate efforts to integrate humanities, sciences, and social sciences into the engineering curriculum. The new senior capstone is the fifth in a series of “Integrated Learning Blocks” that begin in the freshman year. This capstone gives students the opportunity to show that they have mastered the process of solving engineering problems, while at the same time taking into account the larger human, social, political, economic, and environmental contexts.

The capstone focus is an engineering problem that is studied by a team of seniors under the direction of Hartford faculty and one or the other industry partners. The final product could be a new product or process or a new experiment or methodology that would be implemented in industry. The results are shown in the form of a written report that summarizes the student team’s analysis of the problem and the design solution that it proposes. The team makes an oral presentation of its report to an audience of student peers, university faculty, and representatives from business and industry. The oral and written reports must contain sections that address the social, political, economic, and cultural dimensions of the problem and its proposed solution.

Students are prepared for this senior project by Integrative Learning Blocks in the previous three years of the engineering curriculum. The Freshman Block calls for collaboration between engineering and humanities faculty on the development of skills in communication, research, data evaluation, and problem analysis in small groups. In the sophomore year the focus is on problem solving skills and discussion of ethical issues and their social context between engineering and non-engineering students. Junior year engineering courses are linked to Western Heritage courses in the all-university curriculum. Collaborative learning and team-building experiences are key parts of these preparatory learning blocks.

Faculty assessment of the senior capstones is done on the basis of work carried out to satisfy the objectives and goals. The presentation part is focused on the written report and its oral presentation, as well as on observation of the process used by the student team to produce the report. Students have had feedback from faculty in previous years on the development of skills needed to succeed in the capstone. The assessment of the team's work by business and industry clients raises the level of seriousness of this capstone project in students’ minds. Engineering faculty put the results of the capstone assessments to good use in revising the structure and the teaching of the earlier Integrated Learning Blocks.

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Synthesis for Professional Nursing Practice
DePaul University

At DePaul University all students are required to complete a capstone course to fulfill a liberal studies general education requirement. The capstone course is designed to integrate humanities and science perspectives within the major discipline. For nursing students this course is “Synthesis for Professional Nursing Practice,” a liberal studies course taught by nursing faculty. Although the main assignment in this course deals with a nursing topic, student performance is assessed in relationship to the ten University Learning Goals for graduates: mastery of content, communication, independence and cooperation in professional practice, multicultural perspectives, religious and ethical foundations, critical and creative thinking, multiple literacies, arts and literature aesthetic, self-reflection and lifelong learning, and historical consciousness. In that way, this seminar course serves as a culmination of the student’s prior courses and includes further development in the professionalization process.

One-half of the grade in the synthesis course derives from the written and oral presentations of a student’s handling of a controversial issue in professional nursing practice. In keeping with the breadth of the ten learning goals, there are clear and explicit expectations that the student presentations will include an historical perspective, an aesthetic dimension, and spiritual or cultural influences. Discussion of topics related to evidence-based practice, health policy development, ethical decision-making, use of technology, and cost containment practices in managed care are some of the specific ways that university goals in the humanities and social sciences show up in these projects. Communication skills and critical thinking skills are assessed whether students are presenting or in the audience.

As was stated in a recent syllabus for this synthesis course, “After participating in this course the student will be able to synthesize information on a specific controversial topic, including a historical perspective, ethical and legal issues, aesthetic and spiritual perspectives.”

The nursing department developed specific assessment criteria for each of the ten learning goals, as a student of nursing would be expected to exhibit them. Assessment rubrics for these criteria are used to assess performance formally at entry into the program and at graduation, as well as throughout student coursework to give criterion-referenced feedback. The assessment process includes student self-assessment using the rubrics prior to faculty assessment using the same rubrics. The synthesis project thus serves both as the formal graduation assessment used to measure capstone student performance, including integration of nursing outcomes with university general education outcomes, and as the primary source of data for program evaluation.

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Nursing Portfolio
Madonna University

Student nurses at Madonna University develop and maintain an educational portfolio during the four semesters of nursing courses. In the Senior Seminar in the final semester, they compose a prologue to the portfolio. In this prologue the student makes explicit connections between the goals of general education at Madonna and the Department of Nursing program outcomes. The student also includes in the prologue a summary of the areas of most significant growth throughout his or her whole baccalaureate experience.

Completion of the fourth term marks the final assessment of the student's progress toward achieving general education goals and nursing program outcomes. The final state of the portfolio is highly organized. Students write individual essays that explicitly address the integration of relevant University general educational goals with the nursing program outcomes. Thus, nursing program outcomes, general education outcomes, and personal goals are woven together in the student's final semester—but as a reflection on what has happened all through the previous semesters. The integration of the undergraduate experience begins when the student begins to put together the portfolio.

To help to visualize how these portfolio components fit together, an example may be appropriate. Communication is one of the nursing program outcomes. The student begins with general education courses in English composition to improve the ability to write effectively. Later on, a course in “foreign” culture enlightens students on ways of thinking and practicing in other cultures and facilitates the development of cultural sensitivity in communication. In the nursing program, there are courses that address therapeutic communication and communication in family and community situations that provide insights into verbal and non-verbal forms of communication. Therefore, specific communication abilities required for nursing professionals are developed by expanding and further reinforcing the communication skills that were begun in general education courses. To help the student make the link between program outcomes and general education goals, the Senior Seminar syllabus links each program outcome with the appropriate general education goal, the seminar course outcomes, and the course outcome indicators.

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Senior Assessment
Alverno College Division of Nursing

As a general principle, all assessments of outcomes at Alverno deal with both disciplinary knowledge (the major), as well as the eight abilities to be acquired by all graduates from the College (general education). These eight abilities are: communication, analysis, problem-solving, valuing in decision-making, social interaction, developing a global perspective, effective citizenship, and aesthetic responsiveness. The advanced outcomes for student nurses at Alverno, which incorporate the preceding eight abilities, are:

- Uses the nursing process within an analytic framework in meeting health needs of individuals, families, and groups.
- Formulates value judgments reflecting a respect for the dignity and individuality of every person.
- Interacts in an effective goal-directed manner.
- Collaborates as a member of the health team to facilitate the adaptive process.
- Uses adaptation theory in analyzing environmental influences.
- Accepts a commitment to fulfill the responsibilities of a professional practitioner in contemporary society.

Typical of the kind of performance assessments embedded throughout their years of study are two senior-level assessments created by the Nursing Division that require integration of these outcomes in a manner especially appropriate to a nursing graduate. The first is an “In Basket” simulation in which a senior nursing student takes on the role of a public health nurse, preparing to go on vacation, who then gets a call dealing with possible child abuse. The student must immediately generate questions to ask during the site visit and possible interventions to be ready to implement. In addition to that call, she must prioritize and develop care plans for a caseload of families and assign the right personnel to manage the caseload while she is on vacation. The student nurse’s performance is judged by faculty, by professionals from the community, and by the student herself (according to previously published criteria).

The second assessment assigns the task of designing a campus health fair (to be actually conducted on campus) to a group of student nurses. One of the important parts of the design is the development of the criteria that the students will use to judge the degree of success of the health fair. As above, many people provide feedback to students on their performance and, more importantly, on their self-assessments.

These particular senior-level assessments are also learning experiences for students, because they simulate real professional situations and demand “on-your-feet” synthesis of abilities and knowledge. In both their formal self-assessments and feedback, students testify to how much these assessments tell them about their readiness to graduate and enter the ranks of professional nurses.

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Senior Seminar
Saint Joseph's College (IN)

Saint Joseph's College has had an interdisciplinary core curriculum since 1969; all students take the same ten team-taught general education courses (a total of 45 semester hours) throughout an eight-semester period. The final core segment in the second semester of the senior year is a three-credit seminar that engages students, individually or in small groups, in confronting some serious contemporary issue that forces them to integrate what they have learned through their majors with what they have learned in the general education core.

There are four primary points on which student work is assessed. Students must: (1) study a seminar topic from at least two disciplinary perspectives, (2) include the ethical dimension of the topic in their work, (3) demonstrate the ability to do the kind of research appropriate to their topic, and (4) present the results in oral and written forms representative of senior-level work.

Since these senior seminar presentations constitute both a bridge between general education and the major and also a performance that recapitulates a student's entire undergraduate experience, a great deal of attention is focused here in the institution's assessment plan. This is where the college judges its "product." The seminar professor makes the grading and assessment judgment for each of his or her students and also coaches students in making detailed self-assessments of their work. But at least half of the seminar presentations are also judged by a team of four or five "outside" raters: retired professors, administrative staff, and professionals from the local community. (There are rubrics created by the core faculty to help coordinate the outside ratings with the faculty ratings.) How well students are prepared to do this capstone work is important and useful information about the quality of the college's programs, core and the major, that the student has experienced up to this point. The core curriculum committee analyzes the results of each year's assessments of the senior seminar to determine if and where changes need to be made in the freshman, sophomore, and junior years.

Although the senior seminar requires more thorough research and a more professional presentation than any previous work in core, there is ample opportunity for students to learn and to rehearse these skills at the lower levels. In the six-credit segment of core that students take each semester, they constantly see faculty modeling interdisciplinary ways of studying topics and attending to the value dimensions of issues. In core discussion groups, students then are required to talk and write about the texts and issues in an integrative manner. Since Saint Joseph's is a small institution, the faculty for core are the same faculty who teach in the majors, so the common core and the majors tend to become synchronized very quickly.

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Senior Capstone **Portland State University**

The general education program that Portland State adopted in 1994 requires a six-credit senior capstone of every student. This capstone has four main objectives:

- to provide an opportunity for students to apply the expertise learned in the major to address real community issues
- to give students experience working in a team context necessitating collaboration with persons from different fields of specialization
- to encourage students to become actively engaged in addressing community issues
- to empower students to create summation products that represent their learning and meet the needs of community partners.

The “expertise” from the major mentioned above obviously varies from student to student, depending on the major. All students, however, are to exhibit competence in the four general education goals of the institution: communication, appreciation of diversity, critical thinking, and appreciation of social responsibility. Earlier components of the general education program are designed to prepare students to perform as desired in the capstones. The freshman year focuses on inquiry skills in various disciplines; communication, both individual and in groups, is stressed in the second year; and then upper level cluster courses enable students to apply inquiry and communication skills in a more sustained manner to a theme of their own choosing. Finally, students are provided with orientation and training materials within the capstone itself.

Each capstone engages a multidisciplinary team of students, under the supervision of a faculty member and a community partner, in developing solutions to real community issues. Students have to work collaboratively with one another and with people from the community. Some 140 of these capstones are offered each year, 35 in each of the four quarters, so students have real possibilities of finding a topic that fits both their interests and their academic background.

Through observations by faculty and community leaders, study of reflective journals by the students, and open-ended surveys and interviews, assessment results show that students claim and exhibit important learning in teamwork skills, in how to apply their learning to real life problems, and in social responsibility. Integration of the student’s entire undergraduate experience, in applying their learning to solve a real community problem, is the clear theme that emerges from student reflections on the capstone experience. The Capstone Office reports these data to the faculty, to guide course revisions, and the office uses them to plan the faculty development activities needed to improve the program.

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Honors Capstone **Hampton University**

The Honors Capstone at Hampton University is designed to provide an opportunity for students to synthesize their undergraduate experience. In the Capstone Seminar, students discuss research methodology while doing an in-depth study of some topic of interest. Two products are required—a report on the results of the study and an Honors Portfolio.

For the independent study the student must select a topic that is not directly related to his or her major. Because this work will be done independently, each student prepares a work schedule and time for presentation, subject to the professor's approval. The student is required to make an oral presentation of the project using appropriate technology to enhance the presentation.

The Honors Portfolio consists of a minimum of three and a maximum of six pieces of work that span the student's period of study at Hampton. Among these pieces must be at least one piece of writing that involves research. The work in the portfolio need not be all written work. It may include video or audiotapes, art works, computer programs, or any other work that the student can successfully relate to course objectives. There must be a written prologue to the portfolio that explains why each piece is included.

In order to graduate with Honors College endorsement, a student must demonstrate the following:

- The ability to present ideas and communicate effectively in writing
- The ability to speak effectively
- The ability to analyze and synthesize a broad range of material
- The ability to apply research methods to a chosen topic
- The ability to reflect on experiences

The capstone research project and the Honors Portfolio are evaluated with these five criteria in mind. Each student chooses a committee of three people, two members of the faculty and one peer, to evaluate both the independent study product and the Honors Portfolio. This committee reviews and critiques these products and also the public oral presentation and defense of them.

The Capstone Seminar is designed as a community of learners that discusses, makes suggestions, provides feedback, and supports its members so there is a fruitful combination of individual and group dimensions to the work of the class. On the one hand, students have to take responsibility for individual research but, on the other hand, they do so with the support of a community. Furthermore, since the topic for the project is outside the student's academic major, each student selects a mentor who has expertise in the field of that topic and receives guidance from that mentor, thus widening the range of faculty contributions to the Honors Capstone.

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Comprehensive Mathematics Project **Saint Mary's College (Indiana)**

Assessment for seniors in mathematics at Saint Mary's is done primarily through the Senior Comprehensive Project. Each student undertakes a semester-long independent study project under the direction of a faculty advisor. Two hour-long preliminary reports are given to the entire seminar group of seniors (seven or eight) doing this project, and everyone in attendance completes a comment form after the talk. The instructor reviews these forms and returns them to the student with additional comments. The student writes a final paper (usually 25-30 pages) that is read by three faculty members and makes a public oral presentation with questioning by a faculty panel. Students are expected to be able to answer questions about any mathematics they have studied that is relevant to the topic of their independent study. In this way, the mathematics faculty intends to make explicit focus on synthesis and independent learning the major emphasis of the senior year.

In addition to knowledge and abilities in the area of mathematics, the general education outcomes that are most directly involved in this senior project are those dealing with oral and written communication, clear thinking about complex problems, and the ability to learn independently. Lower level mathematics courses reinforce the development of these abilities by including writing assignments in every course, and by giving feedback to students on the precision and style of their writing. Oral presentations are also included. Upper level mathematics courses require the foundations developed in the first two years. Synthesis of the material—connecting the pieces presented in class and recognizing the big picture, including relationships to other parts of the undergraduate experience—is accomplished by individuals and also by the group. As students write papers dealing with a sequence of technical issues, they are expected to provide connections between ideas. And as students progress through the major, they are expected to work more and more independently.

The entire mathematics department is involved in these projects. Every student has an advisor, and a team of three faculty members reads the final paper and then asks questions during the oral presentation. The instructor for the senior seminar group sits on each review panel, and every faculty member in the department serves on at least two of these panels each year. At the end of the presentation, the seminar instructor conveys to the student via letter the judgment of her performance. When all the projects for a particular year have been concluded, the department faculty meet as a whole to assess the experience and propose any needed changes.

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Independent Research in Biology **King's College**

The Senior Integrated Assessment in Biological Research at King's College differs from a typical laboratory course in that there is no designated topic or laboratory project. Students must decide on an appropriate topic based on their previous learning. There is likewise no pre-designed protocol for carrying out the project, so students must design their own. Of perhaps greatest significance in this approach is that students must therefore continuously resolve problems as they emerge in the course of doing the project.

An appropriate topic is one for which testable hypotheses can be generated. With guidance from a faculty member, the student then devises and conducts original and independent research that may provide results relevant to these hypotheses. These results are communicated in both written and oral form, with the expectation that these communications conform to the conventions of invited presentations at major conferences in the field of biology.

The general education program at King's College aims to develop seven skills in each student, skills that are conceived as transferable to any major field: critical thinking and problem solving, effective writing, technology competency, effective oral communication, quantitative reasoning, library and information literacy, and moral reasoning. As students progress from semester to semester through their undergraduate experience, these skills are reinforced and developed in both general education and major courses. Thus, the student who begins the culminating research project in biology has been rehearsing the skills required to complete it successfully all through his or her course of studies.

Two other assessment exercises help prepare students for the challenges of the independent research project. Biology majors maintain a portfolio of their work in the major, and they are given frequent feedback on the contents of their portfolios by faculty advisors. There is also a sophomore or junior level "Diagnostic Project" that requires an oral and written report on a smaller scale than that of the senior independent research, but emphasizes the same transferable skills.

In the particular case of the senior research project in biology, students are provided with a detailed list of the criteria by which their work will be judged. This list covers the oral report, the written report, critical thinking, use of the library and information technology, and the various components of quality research in the field of biology.