Integrative Learning: Get it Together NKU!

Current campus environment and place to fit

Integrative learning is about “developing the ability to make, recognize, and evaluate connections among disparate concepts, fields, or contexts.”1 According to the Association of American Colleges and Universities (AAC&U) and The Carnegie Foundation for the Advancement of Teaching,

Integrative learning comes in many varieties: connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and, understanding issues and positions contextually. ... integrative experiences often occur as learners address real-world problems, unscripted and sufficiently broad to require multiple areas of knowledge and multiple modes of inquiry, offering multiple solutions and benefiting from multiple perspectives.

The value of integrative learning has been recognized by the AAC&U, particularly through “The Leap Challenge: Education for a World of Unscripted Problems” and through the “Faculty Leadership for Integrative Liberal Learning” project, which received support from the Teagle Foundation and the Andrew W. Mellon Foundation. Integrative learning is also strongly recommended by the Carnegie Foundation for the Advancement of Teaching, the Hart Research Associates report on College Learning and Career Success.

The value of integrated learning is also recognized at NKU. According to our Fuel the Flame strategic plan, we announced our commitment to transdisciplinary approaches in order to provide real-world learning opportunities so that our graduates are well prepared for life, work, and service.2

This kind of integrative learning occurs in capstone courses and through reflective portfolio requirements. We currently offer several interdisciplinary programs that provide opportunities for integration across disciplines. Students also have opportunities to integrate and apply knowledge in study abroad programs, internships, service learning, and many other experiential learning activities.

We also offer learning communities that provide opportunities for integrative learning. Paired or clustered courses expose students to different disciplinary perspectives and sources of knowledge. Common themes or problems can help bind these courses together and set the stage for making connections. When faculty coordinate their efforts in these learning communities, integrative learning become more intentional and explicit. More often than not, these connections

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2 Fuel the Flame, Strategic Directions for Advancing Transdisciplinary Learning
are left to students to find, and faculty need more help and experience in guiding students to those connecting moments.

One place we would hope integrative learning happens is in general education. Our stated goals for General Education say,

The general education program guides students to become independent learners, innovative thinkers, and responsible citizens. The program gives students a foundation of values, knowledge, and skills that empower them to discover their personal potential, communicate effectively, work in diverse communities, and solve problems in a global society. Courses invite students to expand the lifelong practice of asking questions, seeking new points of view, applying principles of reason, adjusting ideas in relation to new situations, and taking reflective action.

But providing foundations across a fragmenting curriculum does not itself address the challenges of integrating and applying knowledge in ways that develop independence, innovation and responsibility. While there exist SLOs that contribute to integrative learning, there is no explicit or intentional mechanism for integration in the general education curriculum. The program remains fragmented across prescribed categories and across disciplinary introductions. We provide foundations and leave it to the student to integrate and apply knowledge. Integrative thinking is not something we systematically ask of students in the curriculum, even though it is something we clearly expect of graduates.

Despite all we do, we are lacking an intentional, systematic approach that guarantees each graduate will have the ability to make connections across the learning they experience and to apply that knowledge to the solving of unscripted, real-world problems they will encounter after college. Moreover, there has been little attention to developing faculty expertise in this area, identifying best practices, assessing the variety of pedagogies that serve integrative learning, and sharing the outcomes with others.

This Quality Enhancement Plan seeks to identify, promote and support sustainable pedagogies and experiences that intentionally target integrative learning. We include a specific pilot project, which we embed in efforts to build support scaffolding and remove barriers to success. Our pilot will focus on selected general education courses and implement a diverse set of pedagogies to give students the skills they can use to integrate learning as they continue through their college career. We provide extensive faculty development, build assessment tools, and strengthen the campus scaffolding that supports multiple opportunities for integrative learning, included both curricular and cocurricular activities.

**Desired student learning outcomes**

Our three wide-view project goals focus on students, faculty and staff, and the campus. The focus on meeting student learning objectives drives the pilot project, but success depends on how well we can develop and support faculty and staff, and the degree to which we can create a campus awareness of, and commitment to, the curricular and co-curricular activities necessary to
expanding and sustaining these efforts.

Our project goals are to

1. Better use integrative learning to enhance students’ educational experience and promote student success.
2. Design and implement development and support structures for faculty and staff in their efforts to foster integrative learning.
3. Create a proactive and equipped campus environment in which integrative learning that is meaningful, intentional and supported can be expanded and sustained.

These goals are intended primarily to provide support for the student learning objectives. The Liberal Education and America’s Promise (LEAP) project from the AAC&U insists on the value of liberal education for students as well as the nation. More specifically, the AAC&U identifies Integrative and Applied Learning as an Essential Learning Outcome “essential for success in life and work in the twenty-first century.” Their value rubric is based on the premise that

... integrative experiences often occur as learners address real-world problems, unscripted and sufficiently broad, to require multiple areas of knowledge and multiple modes of inquiry, offering multiple solutions and benefiting from multiple perspectives.

We must posit learning objectives that we want every graduate to meet, no matter what path they have taken through general education or in a major or minor. And we want our student learning objectives to respect the diversity of pedagogies and places where integration takes place. Finally, we posit three learning objectives that reflect the institutional character and mission of NKU. The pilot project is intended to prepare students to succeed at the following.

First, students will see connections across courses in different categories in the general education program.

Second, students will connect academic knowledge to relevant experiences outside of academic life.

Third, students will synthesize knowledge, skills and perspectives in their college coursework such that they can apply that understanding to unscripted real-world problems.

**Literature review and best practices**

The AAC&U has explored and endorsed integrative learning as valuable for a 21st century liberal arts education. Well-known is the AAC&U program Liberal Education and America’s

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Promise (LEAP): Excellence for Everyone as a Nation Goes to College.\(^5\)

The LEAP initiative produced “College Learning for the New Global Century,”\(^6\) which sets out “the essential aims, learning outcomes, and guiding principles for a twenty-first-century college education.” Essential Learning Outcomes fall into categories that include Knowledge of Human Cultures and the Physical and Natural World, Intellectual and Practical Skills, Personal and Social Responsibility, and Integrative Learning. They also recommend Seven Principles of Excellence, which comprise a new compact between educators and American society. “Taken together, the Principles of Excellence underscore the need to teach students how to integrate and apply their learning—across multiple levels of schooling and across disparate fields of study. The principles call for a far-reaching shift in the focus of schooling from accumulating course credits to building real-world capabilities.” On their recommendation “the institution creates an intellectual commons where faculty and staff work together to connect the essential outcomes with the content and practices of their educational programs, including general education, departmental majors, the co-curriculum, and assessments.”

AAC&U has introduced a series of Value Rubrics to help clarify and measure outcomes related to the essential learning outcome they have identified. According to the Value Rubric for integrative learning, “Integrative learning is an understanding and a disposition that a student builds across the curriculum and co-curriculum, from making simple connections among ideas and experiences to synthesizing and transferring learning to new, complex situations within and beyond the campus.”

Another LEAP initiative is the “Faculty Leadership for Integrative Liberal Learning” project,\(^7\) in which participating institutions explore “how they could provide ongoing faculty leadership to improve the coherence and integration of their work with students.” In her foreword to the Ferren and Paris report on integrative liberal learning, Carol Geary Schneider argues that “[a]ll students should be given the guidance and support they need to engage with and benefit from high-impact practices that promote broad learning, critical knowledge and skills, and opportunities to connect learning to real-world problems related to careers and citizenship.” The report offers principles and practices of integrative liberal learning, which “aim to counter the many forces pushing students to fragmented and surface learning all too common in curricular requirements and newer online offerings.” The Report also explores principles and practices for faculty leadership. The discussion “demonstrate[s] the need for and value of building meaningful and supportive connections to develop institutional and faculty capacity to support deep student learning.”

Greater Expectations is the result of collaborative effort from leaders in education, the private sector, and public policy. Establishing a model for twenty-first century education, the report offers “a new vision that will promote the kind of learning students need to meet emerging challenges in the workplace, in a diverse democracy, and in an interconnected world.”

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recommendations focus on developing informed, empowered and responsible learners, preparing them for citizenship and work in the new century. Looking at barriers to achievement they note that

[t]he fragmentation of the curriculum into a collection of independently ‘owned’ courses is itself an impediment to student accomplishment, because the different courses students take, even on the same campus, are not expected to engage or build on one another. Few maps exist to help students plan or integrate their learning as they move in and out of separately organized courses, programs, and campuses. In the absence of shared learning goals and clear expectations, a college degree more frequently certifies completion of disconnected fragments than of a coherent plan for student accomplishment.⁸

They urge institutions to graduate “intentional learners who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their lives.”

A review of the literature recommends that our project should be:

- **intentional.** As Huber, et al. tell us, “Integrative learning does not just happen— though it may come more easily for some than for others. Whether one is talking about making connections within a major, between fields, between curriculum and co-curriculum, or between academic knowledge and practice, integrative learning requires work.”⁹

- **sensitive to diverse approaches and needs by including varied pedagogies and experiences, both curricular and co-curricular.** According to the AAC&U, “There is a growing national emphasis on fostering undergraduate students’ integrative learning through multiple forms of engaged educational experiences.”

- **inclusive, or “accessible to all on an equitable basis.”** In “Faculty Leadership for Integrative Liberal Learning” Ferren and Paris highlight two principles that promote inclusive excellence and equitable outcomes. First, “integrative liberal learning should be a powerful experience for all students across all types of institutions and modes of education,” and second, “integrative liberal learning practices take advantage of pedagogies that are challenging, supportive, and adaptable to advance the success for diverse student populations.”¹⁰

- **faculty-driven, with widely available faculty development.** Ferren and Paris report that any effort “to develop, extend, and sustain integrative liberal learning requires not only careful design of learning experiences, but also a reshaping of institutional relationships and infrastructure. Faculty engaged in liberal learning need to know how to build additional professional capacity for this work and reduce the barriers to involvement by others.” They argue for a “robust professional development program” to support a variety

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of efforts at fostering integrative learning--curricular and cocurricular. “Identifying examples of good practice will help new generations of faculty to extend and sustain integrative liberal learning.”

- **driven by assessment.** Ross Miller emphasizes that “if a college or university is committed to integrative learning as an expected outcome, it must create intentional approaches to providing experiences and assessing the quality of student integrative achievement.”

**Actions to be implemented**

The general education program is a good place to focus our efforts to implement integrative learning. As a fragmented distributive model, there is currently no place where students are intentionally directed to synthesize or reflect on their experiences. And there is no place students are exposed to strategies for integrating what they learn in college overall. Courses that target freshmen in general education could serve the function of preparing student to integrate and apply what they learn, help make sense of general education as a program, and see connections between their major and other coursework; it may help some undecided students discover a major or minor field (or fields) of interest. The elements of the pilot project are described below.

The pilot project will identify ten faculty each year who will refine their general education sections to include specifically integrative learning pedagogies. These faculty will partake of numerous faculty development opportunities, aid in assessment, and help disseminate successful strategies. We will expand participation each year, among faculty and students, calling attention to what has worked and deepening our commitment to learning that is connected and applied.

This pilot will take place in the context a developing and intentional campus-wide approach to integrative learning that includes faculty development opportunities to pursue, apply and assess integrative pedagogies, and involves curricular and co-curricular opportunities beyond the pilot.

Participants will begin with inventory of what we are doing with integrative learning. Ferren and Paris suggest that “institutions use a variety of strategies to help students achieve integrative liberal learning outcomes. This list can serve as the basis for an inventory of current activities at your institution and can help you identify areas in which additional opportunities to strengthen integrative liberal learning may be developed.” We want to quickly identify faculty who are experienced with integrative pedagogies or who are specially interested in integrative learning. We will bring them together to learn more about best practices and to develop criteria for pedagogies we want to consider for our pilot program in general education. We will expand participation each year, reaching more students and including more faculty in the design,

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12 Huber, MT and Hutchings, P. (2004) discuss a variety of curricular and cocurricular experiences that promote integrative learning early in the student’s college career. “When experiences like these occur in the first year, students may begin to develop habits of connection-making that can be cultivated and refined in subsequent years.”
development, implementation, and assessment of integrative learning pedagogies and experiences.

We will direct the pilot program to the modification of general education classes, letting faculty and programs volunteer classes for more intentional attention to integrative pedagogies. This will allow us access to students from across the university and yield a varied range of courses to work with. We want to explore a variety of techniques, strategies, and methods.

We will import pedagogies that introduce intentional and metacognitive skills, with activities that ask students to synthesize other knowledge and skills. According to Ferren and Paris, “[i]ntegrative liberal learning catalyzes a process of intellectual and personal growth by providing students with opportunities and guidance to make sense of the world and their place in it. Students develop and shape their identities integrating the disparate parts of their undergraduate experience.”

We will be inclusive in the curriculum so that we attract a diverse group of faculty from across the university. We want buy-in from across faculty and programs, so we won’t endorse a single pedagogy or assignment or course. Participants could modify a whole course around integrated learning, or a section of a course, or a major assignment. Curricular activities might partner with co-curricular activities. We will work early in a faculty group to learn how to use different pedagogies and curricula to address the issues, which means exploring integrative learning as it occurs in both online and face-to-face classes and exploring strategies that involve dedicated classes, modules, or particular assignments.

We will insist on professional development and faculty collaboration. Success for the pilot depends on creating a learning and teaching environment in which integrative learning is valued and can flourish. Integrative learning is intertwined with our wide-spread efforts toward teaching critical thinking, problem-solving, disciplinary relevance and application, information literacy, and informed civic engagement. Faculty development targeting our pilot program will spill over into other pedagogies and practices that enhance integrative learning. As faculty expertise and confidence increases we would expect to see new use of portfolios and capstone courses as opportunities for student reflection and synthesis. We might build a campus-wide network that values, promotes and supports integrative learning experiences for everyone through a searchable database for integrative opportunities that include seminars, classes, events, study abroad, research, experiential learning, civic engagement, service learning, internships, and interdisciplinary research projects.

An advisory board for this integrative learning project will have members representing partnerships across campus among units that provide and support these opportunities.

We will develop this program in phases. Year one we work as a large team with diverse backgrounds and different pedagogies of interest. We identify faculty who have experience or deep interest in integrative learning. Some or all of these “first generation” contributors will be designing new courses or pedagogies for the pilot’s inaugural semester. In year two we begin to

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form small units based on specific pedagogies that have been or appear to be successful (clusters of expertise). In year three we expand beyond the pilot and form faculty development groups that go beyond classroom pedagogy into co-curricular activities.

**We will identify and begin working with an external consultant.** And we will dedicate faculty development funds for travel and access to resources.

**Resources**

This model envisions **two co-coordinators** to share the work of developing curriculum and educating faculty. Dividing the work among two members of the faculty or staff ensures that no one person must bear the entire weight of the QEP and that knowledge is not lost if one person moves into a different role on campus. The two **coordinators would receive two course releases each per year**, one during fall semester and one during spring semester, to plan and lead the proposed project.

The coordinators will choose **10-12 members of the faculty and staff** each year to participate in professional development and education related to the topic. Each participant would receive a single course release (during the year in which they first participate) to develop and/or revise their own curriculum and pedagogy in keeping with the goals of the QEP (including knowledge, content, and activities designed by coordinators to improve student learning).

The coordinators will have access to a **part-time administrative assistant** to manage the logistics of implementation or seek additional release time or summer stipend to do so themselves.

The coordinators will work with an **external consultant** to offer workshops on the topic and speak to the university community.

**Sample Budget**

**YEAR ONE**

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<thead>
<tr>
<th>Item</th>
<th>Activity</th>
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| Two co-coordinators        | ● Develop curriculum related to established learning outcome  
● Implement project  
● One course release per semester 12 credits | $10,000 |
| 10-12 participants         | ● Participate in professional development related to topic  
● Revise pedagogy for one course based on new knowledge  
● Integrate into one Gen Ed course  
● One course each release per year | $30,000 |
<p>| Part-time administrative help for | ● Support coordinators                                                   | $20,000 |</p>
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**Assessment and evaluation**

Assessment is critical. We want to know whether we are making progress on our project goals and on the student learning objectives we set out for achievement. And we need a process by which we take the results of assessment and modify future endeavors. Details for an assessment will be an early task for faculty involved. We will develop tools to assess student learning at different levels: assignment, course and program.

AAC&U has a rubric for integrated learning; we can choose SLOs that are appropriate for the particular class and work to modify SLOs for assignments and courses that best fit our project. We also have readily available survey data from entering freshman and exiting seniors.

The assessment can take several forms, and participating faculty will work with the coordinators to determine the most productive means for gauging the success of the program as well as student learning. Even so, three types of assessment will be incorporated each year of the pilot.

First, students will be asked to respond to a series of short answer questions about their experiences with and understanding of integrative learning. These questions will be offered again at the end of each class in order to identify changes in the ways that students define and explain integrative learning and its components. For example, students might be asked to define terms related to integrative learning or to identify differences among disciplinary approaches to problem-solving.
Second, student work (research, collaborative writing, projects, etc.) will be collected, read, and scored using the AAC&U rubric in order to assess the level at which students able to apply integrative learning to new problems and to draw connections among different disciplines and methods in their work.

Finally, each year, the participating faculty will work together to review and refine the assessment process itself, noting areas for improvement to share with the next group of faculty.

**Timeline**

Upon the adoption of the QEP by the university in Fall 2017, the proposers will serve as or will choose two coordinators to implement the plan. These coordinators meet with QEP chair to learn more about the QEP process and its relationship to SACS accreditation.

The coordinators will thoroughly research their topic, identifying key texts and concepts as well as best practices for teaching. They will use this knowledge to develop curriculum and pedagogy related to their topic, to organize and lead professional development opportunities for participating faculty and staff, and to locate a consultant or speaker to visit campus.

The professional development (PD) for faculty and staff will include education on content and could include an intensive summer workshop, a series of weekly or bi-monthly meetings or mini-workshops, webinars, online classes, or a combination of these strategies. In addition, PD could include syllabus building, assignment scaffolding, and assessment strategies.

Participating faculty and staff will then implement new curriculum and pedagogy into one (or more) courses during the Fall 2018 pilot semester. In addition, each will perform an assessment of their individual classes according to the established assessment plan. Participants will agree to serve as QEP liaisons, sharing their knowledge with their departments and programs and supporting future participants in the program.

**Fall 2017**
- Selection of a final project by the QEP committee
- Announcement and “marketing” of QEP across campus
- Proposers and the QEP chair select project coordinators/co-directors
- Create an assessment plan, including baselines measures
- Coordinators work with QEP chair to further develop an implementation plan
- Research and review relevant literature related to the topic
- Plan PD for participants

**Spring 2018**
- Draft a project literature review
- Develop project curriculum
- Create a call for and select faculty and staff participants
- Introduce participants to project
- Review and refine assessment plan
Summer 2018
- Finalize literature review
- Choose a consultant
- Complete initial project curriculum
- Hold summer workshop for participants to develop curriculum

Fall 2018
- Pilot projects in courses
- Check in with participants

Spring 2019
- Review participant projects
- Collect and analyze data
- Review and refine assessment plan
- Project sharing and travel
- Create a call for and select faculty and staff participants for the following year
- Event for new, current, and past participants
- Introduce new participants to project

Bibliography


Appendix

- AAC&U Statement

This statement was developed jointly in March 2004 by the Association of American Colleges and Universities and The Carnegie Foundation for the Advancement of Teaching, in conjunction with the national project Integrative Learning: Opportunities to Connect.

Fostering students’ abilities to integrate learning—across courses, over time, and between campus and community life—is one of the most important goals and challenges of higher education. The undergraduate experience can be a fragmented landscape of general education courses, preparation for the major, co-curricular activities, and “the real world” beyond the campus. But an emphasis on integrative learning can help undergraduates put the pieces together and develop habits of mind that prepare them to make informed judgments in the conduct of personal, professional, and civic life.

Integrative learning comes in many varieties: connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and, understanding issues and positions contextually. Significant knowledge within individual disciplines serves as the foundation, but integrative learning goes beyond academic boundaries. Indeed, integrative experiences often occur as learners address real-world problems, unscripted and sufficiently broad to require multiple areas of knowledge and multiple modes of inquiry, offering multiple solutions and benefiting from multiple perspectives.

Many colleges and universities are creating opportunities for more integrative, connected learning through first-year seminars, learning communities, interdisciplinary studies programs, capstone experiences, individual portfolios, advising, student self-assessment, and other initiatives. Often, however, such innovations involve only small numbers of students or exist in isolation, disconnected from other parts of the curriculum and from other reform efforts. But a variety of opportunities to develop the capacity for integrative learning should be available to all students throughout their college years, and should be a cornerstone of a twenty-first-century education.

Students need programs of study that will help them understand the nature and advantages of integrative learning and assist them in pursuing their college experience in more intentionally connected ways. They also need courses designed by creative faculty that model and build integrative skills, and curricula that define pathways that encourage integrative learning within and across fields. Wider collaboration between academic and nonacademic staff, college and community, four-year and two-year institutions, higher
education and K-12 will create further opportunities for integrative learning throughout students’ educational careers.

It is important for educators to work together to build knowledge about integrative learning in its many varieties, and about how it is best encouraged and assessed. Developing students’ capacities for integrative learning is central to personal success, social responsibility, and civic engagement in today’s global society. Students face a rapidly changing and ever more-interconnected world, in which integrative learning becomes not just a benefit ... but a necessity.

• AAC&U Value Rubric

Fostering students’ abilities to integrate learning—across courses, over time, and between campus and community life—is one of the most important goals and challenges for higher education. Initially, students connect previous learning to new classroom learning. Later, significant knowledge within individual disciplines serves as the foundation, but integrative learning goes beyond academic boundaries. Indeed, integrative experiences often occur as learners address real-world problems, unscripted and sufficiently broad, to require multiple areas of knowledge and multiple modes of inquiry, offering multiple solutions and benefiting from multiple perspectives. Integrative learning also involves internal changes in the learner. These internal changes, which indicate growth as a confident, lifelong learner, include the ability to adapt one's intellectual skills, to contribute in a wide variety of situations, and to understand and develop individual purpose, values and ethics. Developing students’ capacities for integrative learning is central to personal success, social responsibility, and civic engagement in today’s global society. Students face a rapidly changing and increasingly connected world where integrative learning becomes not just a benefit...but a necessity.

Because integrative learning is about making connections, this learning may not be as evident in traditional academic artifacts such as research papers and academic projects unless the student, for example, is prompted to draw implications for practice. These connections often surface, however, in reflective work, self assessment, or creative endeavors of all kinds. Integrative assignments foster learning between courses or by connecting courses to experientially-based work. Work samples or collections of work that include such artifacts give evidence of integrative learning. Faculty are encouraged to look for evidence that the student connects the learning gained in classroom study to learning gained in real life situations that are related to other learning experiences, extracurricular activities, or work. Through integrative learning, students pull together their entire experience inside and outside of the formal classroom; thus, artificial barriers between formal study and informal or tacit learning become permeable. Integrative learning, whatever the context or source, builds upon connecting both theory and practice toward a deepened understanding.

Assignments to foster such connections and understanding could include, for example, composition papers that focus on topics from biology, economics, or history; mathematics assignments that apply mathematical tools to important issues and require
written analysis to explain the implications and limitations of the mathematical treatment, or art history presentations that demonstrate aesthetic connections between selected paintings and novels. In this regard, some majors (e.g., interdisciplinary majors or problem-based field studies) seem to inherently evoke characteristics of integrative learning and result in work samples or collections of work that significantly demonstrate this outcome. However, fields of study that require accumulation of extensive and high-consensus content knowledge (such as accounting, engineering, or chemistry) also involve the kinds of complex and integrative constructions (e.g., ethical dilemmas and social consciousness) that seem to be highlighted so extensively in self reflection in arts and humanities, but they may be embedded in individual performances and less evident. The key in the development of such work samples or collections of work will be in designing structures that include artifacts and reflective writing or feedback that support students' examination of their learning and give evidence that, as graduates, they will extend their integrative abilities into the challenges of personal, professional, and civic life.