Fostering Integrative Learning through the Curriculum[*]

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When college and university educators get serious about integrative learning, they are likely to look first at their institution's curriculum. How well, they may ask, or how poorly is it helping students connect their learning during the college years? Concerns about the fragmented nature of the undergraduate experience rightly raise questions about opportunities for synthesis: where and when are students asked to put the pieces together in order to better understand or solve important problems? Where and when are they encouraged to make links between their academic, personal, and community lives? While no one is so naïve as to imagine that an *integrated* curriculum can, by itself, produce *integrative* learning, which students must do for themselves, there is no doubt that the academic program can do more (or less) to encourage and help students develop the capacity to make and evaluate sound and useful connections between things that they encounter in different courses, disciplines, and domains of life.[1]

There is good news. According to the National Survey of Student Engagement, many students are already getting opportunities in their separate courses to synthesize and organize ideas, information, or experiences, and to apply theories or concepts to practical problems or in new situations. Many students also take part in "enriching educational experiences," such as practicums, field experiences, or internships; community service or volunteer work; and capstone courses and projects in their senior year.[2] And while experiences like these may be more or less connected to students' other courses and academic endeavors, many campuses have designed whole neighborhoods friendly to

integrative learning: for example, lively interdisciplinary programs and centers, or honors programs and learning communities—often accompanied by special attention to academic advising, co-curricular activities, and other student services.

While certain kinds of coursework, enrichment experiences, and special programs increase the chance that students will receive encouragement and guidance for integrative learning, many colleges and universities are trying to be more intentional about helping students—and faculty—understand its value as an overarching educational goal. Getting everyone to think beyond the level of the course is a challenge. Because the havens currently available often house only a few students, or provide only occasional or temporary accommodation, institutions are now asking how to build links into the regular curriculum, and create opportunities for *all* students to integrate their learning at multiple points *throughout* their college careers.

Opportunities for Integration

Like all intellectual capacities, integrative learning has a developmental dimension that can be helped or hindered along the way. Whether one thinks of students' intellectual development in terms of the stages identified by William Perry (1999), or according to some other scheme, it is clear that students need multiple opportunities to practice integration— early, late, and in between. It takes time to master intellectual arts that can be used to make productive, provocative, and memorable connections between disciplines and domains that are usually isolated, separated, or kept apart. According to one perceptive student in a Mathematics and English learning community at the College of San Mateo, "it's about tying things together that don't seem obvious, like running times and gender equity" (Burke and Mach, 2005). To be sure, students may perform in relatively unsophisticated ways at the start, but that is no reason to leave them to their own devices until suddenly asking them to synthesize their learning in a capstone project in their senior year. Success is more likely if integrative learning is not left until the end.

Data from the Catalyst Project at the State University of New York at Oswego suggest that many students enter college with an interest in integration, but that other concerns soon take over as they become accustomed to the divisions of the curriculum and the disruptions of campus life. However, if institutions build on undergraduates' integrative proclivities from the start, affirming integration as an important educational goal, and training them in the necessary skills, then students will have a better chance. Undergraduates can enrich their more specialized educational experiences with insights into how each contributes to a larger picture, and build more sophisticated pictures of the world (and themselves) as their knowledge of particulars broadens and deepens.[3] This is what Andrea Leskes means when she says that integrative learning should take its "place alongside breadth and depth as a hallmark of a quality undergraduate… education" (2004, 4).

Giving *all* students these opportunities is equally important. Integrative learning is not just for students in the liberal arts and sciences, nor is it just for the best prepared or most talented. Indeed, at La Guardia Community College, integrative learning is seen as particularly important for students who are under-prepared, helping them link basic skills courses with the content courses they want so much to pursue in the liberal arts, business, or health professions. Many among LaGuardia's largely immigrant and minority student body "struggle under the load of full-time jobs and full-time class schedules, barely managing to meet the demands of each….LaGuardia seeks to transform the hurried, fragmented nature of our students' education by creating substantial, integrated connections between their courses and helping them link coursework to the rest of their lives" (Arcacio, Eynon, and Clark, 2005, 15).

Integration by Design

How are institutions arranging curricular (and co-curricular) experiences that encourage and promote integrative learning? Many of the building blocks for curricular

coherence are well-known: learning communities that link courses in order to help students make meaningful integrations of subject matter across disciplines; capstone projects that ask junior or senior students to apply what they've learned to solve an unscripted problem; even full-blown core curricula ranging over four years. Often, a campus will have several useful pieces in place, but still find that these programs need to be enriched—by directly addressing students, as SUNY Oswego is doing by asking new students to think about their learning goals during freshman orientation; by creating better connections between general education and the major, as Philadelphia University is doing by involving both professional and liberal arts faculty in the design and assessment of the capstone project; by better articulating enrichment experiences with other parts of the program, as Michigan State University is doing by connecting study-abroad experiences with students' plans for future academic and vocational choices; or by strengthening key areas, as Portland State University is doing for its core curriculum's middle (sophomore and junior) years.

One of the most obvious sites for curricular integration is the general education program, especially when distribution requirements devolve, as they often seem to, into what Daniel Bell once called a "mishmash" of "only superficially connected" courses.[4] This is what happened at Salve Regina University, in Newport, Rhode Island. According to Stephen Trainor, Salve's dean of undergraduate studies, the university began its process of change with "an undergraduate curriculum of 48 credit units, which were pretty much stand-alone courses, at the end of which we said: Students! You integrate now! That was not good enough. We wanted to help them integrate by design" (2006). In 2001, faculty at Salve proposed a number of new models, and eventually chose a four-year core curriculum, combining four core courses, over the freshman and sophomore years (Seeking Wisdom; What it Means to be Human; Christianity in Dialogue with World Religions; and Philosophy and Responsibility). These are followed by a core complement of 11 courses selected from a relatively small number of offerings in seven subject areas, and a senior capstone designed to integrate the core curriculum with the major and other student experiences.

With four goals and twenty-eight objectives to meet, Salve Regina's core is on the more elaborated end of the continuum of integrated curricula, but more modest models can move undergraduate education in the same direction. For example, faculty at the Massachusetts College of Liberal Arts transformed an older system of distribution requirements into a new core curriculum that moves from direct instruction in basic competencies (composition and critical reading, mathematics, computer literacy and foreign language), to the development of these skills in four subject domains (human heritage, self and society, science and technology, and the creative arts). The new curriculum culminates in an interdisciplinary capstone for the core taken in the junior year, to help students bring things together so that they can use the skills honed in that integrative experience to enhance their junior and senior work in their major.

The idea of integrating an entire curriculum (and not just general education) through a set of cross-cutting skills and abilities also has wide appeal. For some institutions, like Carleton College, these "literacies" are key to creating "coherence out of chaos." Some of Carleton's academic departments have mapped their courses onto a matrix to "identify where and how often students have opportunities to work on key skills." The college is also using its Sophomore Writing Portfolio as a "portal to the curriculum" for faculty and students alike. Assembled by students from their first two years of coursework in at least two of the college's four divisions, these portfolios enable faculty to better understand how students are developing their capacities to observe; analyze complex information; interpret data, texts, or performances; identify and use appropriate sources; and articulate and support a thesis-driven argument. Even more importantly, the Portfolio project has helped to create a common language across campus for talking about these skills and making students "aware of larger learning objectives" (Bierman, Ciner, Lauer-Glebov, Rutz, and Savina, 2005).

Such attention to students' understanding of the kinds of learning they are expected to master across the curriculum is another way of communicating to them the value that the institution places on integrative learning itself.

Integrating Learning, Integrating Lives

No matter how coherently the curriculum is structured, how carefully "literacies" are threaded through coursework, how well co-curricular and community experiences are articulated with academic work, students have to make sense for themselves of what they learn. And, at a number of institutions, educators are providing students with occasions and tools to help them do so. These occasions are important. Like everyone else, students are busy—even those of traditional college age on residential campuses are likely to be holding jobs as well as going to class— and they often compartmentalize their lives as a strategy to get from one experience to another as quickly as possible. Under time pressures like these, it is hard to stop and reflect on what's happening, to think about its meaning for one's intellectual, civic, and vocational aspirations, especially when there are so few cultural models for how to do so productively.

Providing students with structured opportunities for reflection is of growing interest on campuses concerned with integrative learning. While these can take a variety of forms— for example, Michigan State's counseling workshops for study-abroad students, or SUNY Oswego's periodic "catalyst" questions—many educators are exploring the potential of portfolios (especially electronic ones) as an accompaniment to the formal curriculum. What's common to this whole set of approaches is their capacity to encourage integrative learning by helping students develop ways of thinking and talking about intellectual growth.

The electronic portfolio is one of the most flexible of these tools, providing prompts for students to "select, collect, reflect, and connect" their academic work—including graphics, audio, and video—over their whole college career. At Portland State University, a leader in the national e-portfolio movement, students begin such a collection in their year-

long freshman inquiry course, and learn to reflect on it in light of the institution's four general education goals: communication, critical thinking, social responsibility, and the diversity of human experience. Seen as a natural complement to University Studies, PSU's innovative four-year core curriculum, e-portfolios are now being extended into the sophomore inquiry course, and campus leaders are brainstorming ways to carry them forward into the junior and senior years "as a tool for integrating not only general education coursework but the display of disciplinary work as well" (Flower, 2005, 23). To make sure that the advantages extend to all their students, PSU plans to use e-portfolios in sophomore and junior "transfer transition" courses, as a way for incoming students to reflect on how their college work elsewhere relates to PSU's educational goals.

Portfolio programs oriented to integrative learning invite students to go beyond their academic work. At La Guardia Community College, for example, several thousand students are building e-portfolios "designed to help students connect classroom, career, and personal goals and experiences" (Aarcario, Eynon, and Clark, 2005, 16). Many La Guardia students have become interested in creating views for multiple audiences - for their professors and for future employers, but also for family and friends. Some even do multiple iterations, bringing their different interests together as they change and develop over time. This medium has great potential to help students take a more intentional, deliberative and reflexive stance towards their future vocation, providing, as Ellen Lagemann has argued, "the theme that links the different experiences that define an individual's education" (2003, p. 8).

Strengthening the Integrative Potential of the Academic Program

Clearly, there are many ways to strengthen the integrative potential of an academic program, from approaches which focus on the structure of general education, or on ties between general education and the major, to approaches which give students tools that they themselves can use to connect their learning with their lives. Which ones make the

most sense for any particular institution depends on what is already happening on campus, as well as on the strength of its commitment to integrative learning as an educational goal. One of the major lessons from the experience of the Integrative Learning Project, however, is that institutions often seek to enhance integrative learning in conjunction with other initiatives. Indeed, most of the 139 institutions applying to the Integrative Learning Project were "already deeply engaged in a multiplicity of reform efforts in undergraduate education, including innovations in curriculum, instruction, and assessment." And this makes sense: students need multiple opportunities to develop the integrative arts, and all the help they can get from faculty who design and teach courses with integrative learning in mind.

Done well, campus efforts to strengthen integrative learning follow an arc not unlike a student's own. One initiative feeds into another, the latter returns the favor to enrich the first, and so on in spiral fashion over the years. A student portfolio program, for example, provides undergraduates with a place to collect samples of their work and prompts them to connect their learning both to their lives and to institutional goals. And in doing so, it also offers institutions a powerful tool for looking at their programs through the work their students do, and the meaning they actually make of it. Bringing faculty together to read a selection of portfolios becomes an occasion for faculty to gain a better understanding of integrative learning and how it develops, as well as to consider what improvements might be made in the complementary domains of curriculum, pedagogy, faculty development, and assessment.

There have always been and always will be students who integrate learning on their own, students whose minds "just work like that," who have been inspired by an overriding interest or passion that provides a framework for bringing things together, or who have been coached by an influential parent, teacher, professor, or mentor from some other walk of life. And of course, nearly everyone has the ability, at least on occasion, to turn serendipity into sense. But the challenges of the world today place a premium on integrative learning in personal, professional, and civic life (Huber and Hutchings, 2004). Integrating

the curriculum is one of the best ways in which colleges and universities can help

undergraduates practice and hone the necessary integrative arts and skills.

Notes

[1] I am indebted to Andrea Leskes for the distinction between "integrative" and "integrated."

[2] In 2005, the National Survey of Student Engagement (NSSE) reported that 63 percent of first-year, and 72 percent of seniors said that they did quite a bit or very much coursework that involved "synthesizing and organizing ideas, information, or experiences," while 70 percent of first-year and 78 percent of seniors said that they did quite a bit or very much coursework that involved "applying theories or concepts to practical problems or in new situations" (2005, p.43). In that same year, 58 percent of seniors planned to do or had already done a culminating senior experience; 72 percent planned to do or had done community service or volunteer work; and 78 percent planned to do or had already done a "practicum, internship, field experience, co-op experience, or clinical assignment" (2005, p.49). NSSE's subjects for 2005 included "about 237,000 first-year and senior students at 528 different four-year colleges and universities" (2005, p.40).

[3] I am influenced here by Mary Catherine Bateson's view of "spiral learning:" "Lessons [that] are too complex to grasp in a single occurrence spiral past again and again, small examples gradually revealing greater and greater implications" (1994, p.30).

[4] Bell's quote (1968, p.291) is cited in Derek Bok's *Our Underachieving Colleges* (2006, p.262).

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