



## PART 1

# High-Impact Educational Practices



## A Brief Overview<sup>9</sup>

THE FOLLOWING TEACHING AND LEARNING PRACTICES have been widely tested and have been shown to be beneficial for college students from many backgrounds.<sup>10</sup> These practices take many different forms, depending on learner characteristics and on institutional priorities and contexts.

On many campuses, assessment of student involvement in active learning practices such as these has made it possible to assess the practices' contribution to students' cumulative learning. However, on almost all campuses, utilization of active learning practices is unsystematic, to the detriment of student learning. Presented below are brief descriptions of high-impact practices that educational research suggests increase rates of student retention and student engagement. The rest of this publication will explore in more detail why these types of practices are effective, which students have access to them, and, finally, what effect they might have on different cohorts of students.

### FIRST-YEAR SEMINARS AND EXPERIENCES

Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members' own research.

### COMMON INTELLECTUAL EXPERIENCES

The older idea of a "core" curriculum has evolved into a variety of modern forms such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

## LEARNING COMMUNITIES

The key goals for learning communities are to encourage integration of learning across courses and to involve students with “big questions” that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link “liberal arts” and “professional courses”; others feature service learning (see below).

## WRITING-INTENSIVE COURSES

These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice “across the curriculum” has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

## COLLABORATIVE ASSIGNMENTS AND PROJECTS

Collaborative learning combines two key goals: learning to work and solve problems in the company of others, and sharpening one’s own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to team-based assignments and writing, to cooperative projects and research.

## UNDERGRADUATE RESEARCH

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students’ early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

## DIVERSITY/GLOBAL LEARNING

Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore “difficult differences” such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

## SERVICE LEARNING, COMMUNITY-BASED LEARNING

In these programs, field-based “experiential learning” with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both *apply* what they are learning in real-world settings and *reflect* in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

## INTERNSHIPS

Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefit of supervision and coaching from professionals in the field. If the internship is taken for “course credit,” students complete a project or paper that is approved by a faculty member.

## CAPSTONE COURSES AND PROJECTS

Whether they’re called “senior capstones” or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they’ve learned. The project might be a research paper, a performance, a portfolio of “best work,” or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, in general education as well.

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Excerpt from: *High-Impact Education Practices: What They Are, Who Has Access to Them, and Why They Matter*, by George Kuh (forthcoming, AAC&U, 2008)



# Note



- 10 An extensive literature has established the value of active, engaged, and collaborative forms of learning for students. The effective educational practices described in here reflect more than two decades of work on campus to translate these broad research findings into curriculum and pedagogy. The recommended practices, while not exhaustive, provide a “cornerstone to capstone” framing that potentially fosters active intellectual engagement and practice across the entire educational experience. Research findings on the benefits of first-year experiences, learning communities, diversity learning, service learning, undergraduate research, and collaborative/cooperative learning are summarized in Ernest T. Pascarella and Patrick T. Terenzini, *How College Affects Students (Volume 2) A Third Decade of Research* (San Francisco, CA: Jossey-Bass, 2005). Results of a study testing the active learning findings in liberal arts education are reported by Ernest T. Pascarella, Gregory C. Wolniak, Tricia A. D. Seifert, Ty M. Cruce, and Charles F. Blaich in *Liberal Arts Colleges and Liberal Arts Education: New Evidence on Impacts*, ASHE Higher Education Report vol. 31, no. 3 (San Francisco, CA: Jossey-Bass, 2005). For the value of a common intellectual experience in general education, see Alexander W. Astin, *What Matters in College? Four Critical Years Revisited* (San Francisco, CA: Jossey-Bass, 1993), 331–32, 424–28. For the value of writing-intensive courses, see Richard J. Light, *Making the Most of College: Students Speak Their Minds* (Cambridge, MA: Harvard University Press, 2001), 54–62; Derek Bok, *Our Underachieving Colleges* (Princeton, NJ: Princeton University Press, 2006), 82–101. For experiential learning, see John D. Bransford, Ann. L. Brown, and Rodney R. Cocking, eds., *How People Learn: Brain, Mind, Experience and School* (Washington, DC: National Academies Press, 1999); K. Patricia Cross, *Learning Is About Making Connections, The Cross Papers, Number 3* (Phoenix, AZ: League for Innovation in the Community Colleges, June, 1999). For the role of reflection in service learning, see Patricia M. King and Matthew J. Mayhew, “Moral Judgment Development in Higher Education: Insights from the Defining Issues Test,” *Journal of Moral Education* 33, no. 3, (2002): 247–270; Patricia M. King and Matthew J. Mayhew, “Theory and Research on the Development of Moral Reasoning among College Students,” *Higher Education: Handbook of Theory and Research*, vol. XIX, (2004): 375–440. For “science as science is done,” see Judith A. Ramaley and Rosemary R. Hagggett, “Engaged and Engaging Science: A Component of a Good Liberal Education,” *Peer Review* 7, no. 2 (2005), 8–12; Eugenia Etkina, Jose P. Mestre, and Angela M. O’Donnell, “The Impact of the Cognitive Revolution on Science Learning and Teaching,” in *The Cognitive Revolution in Educational Psychology*, James M. Royer, ed. (Greenwich, CT: Information Age, 2005), 119–64. While the research on capstone experiences is scant, Pascarella and Terenzini report that “[intellectual development] is stimulated by academic experiences that purposefully provide for . . . integration.” *How College Affects Students: Findings and Insights from Twenty Years of Research* (San Francisco, CA: Jossey-Bass, 1991), 619. See also *How College Affects Students, Volume 2, A Third Decade of Research*, 608. For two influential summaries that helped to accelerate campus-based work on engaged and active learning and its assessment, see Study Group on the Conditions of

Excellence in American Higher Education, Involvement in Learning (Washington, DC: U. S. Department of Education, 1984); Arthur W. Chickering and Zelda F. Gamson, eds., *Applying the Seven Principles for Good Practice in Undergraduate Education*, New Directions for Teaching and Learning, no. 47 (San Francisco, CA: Jossey-Bass, 1991). The National Study of Student Engagement provides a set of metrics that enables a campus to indicate the extent to which its students are participating in various forms of active practice, such as extensive writing, integrative learning assignments, and capstone/culminating projects.