

# Capstones and Their Kin as Effective Devices for Learning and Assessing

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with

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"Deep learning" is the kind of integrative learning that lasts beyond the final exam. Ideally, it is the kind of learning that universities, colleges, and community colleges aim to produce. Deep learning takes place over a curriculum, not generally in a single course. Therefore, capstones, senior assignments, culminating experiences, and integrative portfolios are becoming more popular as potential venues for assessing deep learning. In this interactive session, a long-time acolyte of the senior assignment guides participants to uncover foundations and principles, costs, surprises, dos, and don'ts for creating, operating, and monitoring student learning through capstones.



## On the History, Development, and Philosophy of Culminating Senior Experiences In US Higher Education

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### Some references

- Brownwell, J.E., and L.E. Swaner, 2010. Five high-impact practices: Research on learning outcomes, completion, and quality. Washington DC: AAC&U.
- College of Wooster. Independent study. <http://www.wooster.edu/Independent-Study>. Accessed Sept. 20, 2012.
- Cuseo, J.B., 1998. Objectives and benefits of senior year programs. *In* Gardner, J.N., G. Van der Veer, et al., *The senior year experience: Facilitating reflection, integration, closure and transition*. San Francisco: Jossey-Bass.
- Henscheid, J.M., 2000. Professing the disciplines: An analysis of senior seminars and capstone courses. Columbia, SC: Univ. S. Carolina, Nat. Res. Ctr for the First Year Experience and Students in Transition.
- Kuh, G., 2008. High-impact educational practices: What they are, who has access to them, and why they matter. Washington DC: AAC&U.
- Levine, A., 1978. *Handbook of undergraduate curriculum*. San Francisco: Jossey-Bass.
- Southern Illinois University Edwardsville. Senior Assignment. <http://www.siue.edu/innovation/assessment/seniorassignment/> Accessed Sept. 20, 2012.
- StateUniversity.com Education Encyclopedia. Capstone courses in higher education -- Types of courses, the future. <http://education.stateuniversity.com/pages/1812/Capstone-Courses-in-Higher-Education.html>. Accessed Jan. 17, 2012.
- UCLA Report, 2007. Essay 5: Shaping Undergraduate Education via the Capstone Experience. UCLA Report for the WASC Capacity and Preparatory Review [http://www.wasc.ucla.edu/CPR\\_Essay5.pdf](http://www.wasc.ucla.edu/CPR_Essay5.pdf). Accessed Sept. 20, 2012.

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### Some lessons learned for assessing culminating experiences

- Embedded in learning and teaching -- not added on
- Matches departmental or program goals -- part of the discipline(s)
- Departmentally owned -- not imposed artificially
- Viewed by the faculty -- a collective enterprise
- High stakes assessment -- it matters to the institution
- Liberal education component -- subscribes to LEAP
- Engages deeply -- it matters to the student
- Integrative -- crosses ways of knowing
- Produces archival product or behavior -- subscribes to standards of disciplinary peer review
- Potential for sharing -- extends beyond the institution



Capstone or keystone?



## The Senior Capstone Assignment

Each senior is required to complete a Senior Capstone Assignment that demonstrates proficiency in the major and academic breadth commensurate with the University's general education expectations. This requirement arose from the University's belief that the ability to integrate a general education perspective into one's academic discipline is an essential mark of a University educated person. Each Senior Capstone Assignment (SCA) is a scholarly engagement between a senior student and dedicated professor(s) that results in a product. As such, SCAs make the curriculum visible and, therefore, assessable. SCAs foster creativity and self reliance by encouraging each student to gain control over his or her own educational experience, to become something more than a skilled classroom stenographer.

*Rather than asking students to be consumers of knowledge, we ask them to participate in its development in discussions, in essays, in laboratories, in studios, on stage, and in countless other ways. As the culmination of a University education, the Senior Capstone Assignment has as an objective that students trace through in a given field the process by which ideas are created, refined, and expressed, either through their own inventive work or by replication of the work of someone else. Whether through an experiment, the exploration of text(s), quantitative or historical analysis, use of one of the arts, or by means of a practicum, the goal is that each senior gain and reveal through the SCA a baccalaureate-level understanding of how an idea, a work of art, a mathematical proposition, or a scientific conclusion comes into being, and to demonstrate this understanding via the transferable baccalaureate skills. In order for student learning to be assessed, students themselves must be participants in, rather than witness to, the activity of mindfulness.* ---after H. Copeland, 1990

Each academic major has its own version of the SCA that may involve, for example, library inquiry, laboratory experiments, field study, or artistic creativity. Therefore, a given SCA may culminate in an artistic performance, technical design, public speech, written thesis, gallery presentation, or a combination of these with other forms of expression. Individual SCAs differ, but they share in common a challenge to each University student to achieve individual academic excellence. This is what distinguishes baccalaureate education at this University.

### Four guidelines for building capstones

Replace, don't add  
 KISS, don't embellish  
 Faculty, not students, set standards  
 Build high stakes assessments

## Some institutions with capstones

LaGuardia Community College, CUNY

Portland State University

The College of Wooster

Philadelphia University

Princeton University

Bryn Mawr College

Augustana College

Brown University

Carleton College

Elon University

Reed College

Miami University

DePaul University

Allegheny College

Haverford College

Kalamazoo College

Washington College

Swarthmore College

Boise State University

University of Hartford

Salve Regina University

Michigan State University

University of California, Los Angeles

Southern Illinois University Edwardsville

California State Polytechnic University San Luis Obispo

### Some integrative portfolios

La Guardia Community College

Florida State University

Clemson University

St. Olaf College

## Some References on Assessment, Capstones, and Practices

- AAC&U. *Capstone assessment*. <http://www.aacu.org/resources/assessment/capstone.cfm> Accessed on Sept. 20, 2012.
- Angelo, T.A., and K.P. Cross, 1993. *Classroom assessment techniques: A handbook for college teachers*, 2nd ed. San Francisco: Jossey-Bass.
- Association of American Colleges and Universities. *Assessing student learning*. Peer Review 9(2) June.
- Australian Office of Learning and Teaching (formerly the Australian Learning and Teaching Council, formerly the Carrick Institute). Accessed on Sept. 20, 2012 at <http://www.olt.gov.au/altc-history>
- Capsim Business Simulations. <http://www.capsim.com/business-simulations/products/capstone.html> Accessed on Sept. 20, 2012.
- Chun, M., 2010. *Taking teaching to (performance) task: Linking pedagogical and assessment practices*. *Change* 42(2): 22-9.
- Diamond, R.M., 1998. *Designing and Assessing Courses and Curricula: A Practical Guide*. San Francisco: Jossey-Bass.
- Eder, D.J., 2001. *Accredited programs and authentic assessment*. In Palomba, C. and T. Banta (eds.), 2001. *Assessing student competence in accredited disciplines*. Sterling, Va: Stylus, p. 192-216.
- Eder, D.J., 2004. *General education assessment within the disciplines*. *J. gen. Education* 53(2):135-57.
- Ewell, P.T., and D.P. Jones, 1996. *Indicators of "Good Practice" in undergraduate education: A handbook for development and implementation*. Boulder, CO: National Center for Higher Education Management Systems (NCHEMS).
- Fong, B., 1994. *Assessing the departmental major*. In Stark, J.S., and A. Thomas (eds.), *Assessment and Program Evaluation*. ASHE Reader Series. Needham Hts., MA: Simon and Schuster, p. 413-21.
- Glassick, C.E., M.T. Huber, and G.I. Maeroff, 1997. *Scholarship assessed*. San Francisco: Jossey-Bass.
- Huba, M.E., and J.E. Freed, 2000. *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning*. Needham Heights, MA: Allyn and Bacon.
- Maki, P.L., 2004. *Assessing for learning: Building a sustainable commitment across the institution*. Sterling, VA: Stylus.
- Marchese, T., 2001. *Brain research and the faculty role*. American Association for Higher Education Annual Conference on Faculty Roles and Rewards, Tampa, February.
- Martell, K., and T.G. Calderon (eds.), 2005. *Assessment of student learning in business schools: Best practices each step of the way*. Tallahassee, FL: AIR.
- National Research Council, 2000. *How people learn*. Washington DC: National Academy Press.
- Sill, D., B.M. Harward, and I. Cooper, 2009. *The disorienting dilemma: The senior capstone as a transformative experience*. *Liberal Education* (Summer)95(3): 50-58.
- Suskie, L., 2004. *Assessing student learning: A common sense guide*. Bolton, MA: Anker.
- Walvoord, B.E., 2004. *Assessment clear and simple*. San Francisco: Jossey-Bass.
- Walvoord, B.E., and V. Anderson, 1998. *Effective grading: A tool for learning and assessment*. San Francisco: Jossey-Bass.
- Wiggins, G., 1998. *Educative Assessment*. San Francisco: Jossey-Bass.