



# The Essentials of College Instruction

ACUE's Course in Effective Teaching Practices

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A Comprehensive Bibliography





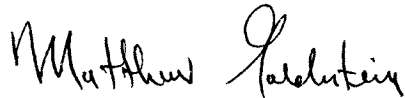
Dear colleagues,

When ACUE was formed and I was asked to chair its advisory board, there was one fundamental principle that my colleagues and I stressed: that our work be guided by the finest research and experience of the most respected scholars and practitioners in the learning and cognitive sciences. We stressed that this overriding maxim always be followed in our work.

As you look carefully through this comprehensive course bibliography, I believe you will agree that we accomplished our objectives. In addition to culling the literature comprehensively, we have collaborated one-on-one with many of the authors as we designed each module. We observed a number of the most successful teachers at colleges and universities throughout the United States and embedded their tools and practice into the course. We also tested our work through pilot projects at a number of participating institutions.

Our work has been methodical, comprehensive, and serious. The ACUE Advisory Board is proud of what the ACUE team has accomplished. I believe you will be as well.

Have a great class.



Matthew Goldstein  
Chairman Emeritus, ACUE Board of Advisors  
Chancellor Emeritus, City University of New York

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### **ACUE and the American Council on Education**

The American Council on Education (ACE) and the Association of College and University Educators (ACUE) have formed an important collaboration to provide professional development and support services to college instructors, with a focus on current and future college faculty whose primary responsibility is to teach or support instruction. ACE is working with ACUE as part of ACE's nearly century-old mission to prepare campus leaders, support the work of colleges and universities, and assist institutions in strengthening student learning, persistence, and completion.

This collaboration advances ACE's historic mission to improve access to postsecondary education and help our institutions of higher education enhance student outcomes through effective college instruction. ACUE and ACE's shared goal is to dramatically expand the use of effective teaching practices to benefit students, faculty, and institutions. Students and institutions will benefit from these professional development services, as measured by stronger student outcomes.



## **PREPARED BY:**

**JULIANNE CANDIO SEKEL**

Developmental Editor, Association of College and University Educators

# Introduction

## **What are the essential instructional skills and knowledge that every college educator should possess?**

This was the question ACUE set out to answer as it embarked on a mission to develop and credential higher education faculty through a world-class program of faculty development and support.

## **The answer is embodied in ACUE’s Course in Effective Teaching Practices—a scalable, online, and facilitated course that helps faculty develop approaches to teaching proven to help students succeed.**

Over 14 months of research and development, ACUE consulted with the nation’s leading subject matter experts, surveyed over 1,000 faculty members, worked with over a dozen pilot partner colleges and universities, and conducted a comprehensive literature review. ACUE held faculty focus groups, partnered with teaching and learning centers, and engaged in conversations with college and university leaders nationwide to identify the essential evidence-based teaching approaches that promote student success.

ACUE’s Course in Effective Teaching Practices is a first-of-its-kind online program for faculty development that prepares faculty to learn—and apply—these evidence-based practices. The Course’s innovative online approach is designed for scale and impact—so that many faculty can learn about and enhance their teaching practice.

## **Nationwide, ACUE’s Course is the only program that leads to a Certificate in Effective College Instruction endorsed by the American Council on Education (ACE).**

Through an innovative use of instructional videos, ACUE’s Course showcases exemplary classroom demonstrations and features interviews with over 70 award-winning college educators and subject matter experts. Its design has been informed by the latest research in cognition and adult learning that ensures Course-takers learn, and put into practice, the effective techniques shown to help students succeed.

What follows is a bibliography of the research that informs ACUE’s Course. It includes over 350 citations from the scholarship of teaching and the cognitive sciences. The bibliography is organized according to the Course’s five units of study:

- Designing an Effective Course and Class
- Establishing a Productive Learning Environment
- Using Active Learning Techniques
- Promoting Higher Order Thinking
- Assessing to Inform Instruction and Promote Learning

This bibliography is a compendium to *Why Today’s College Students Need Effective Instruction More Than Ever: Faculty Development, Evidence-Based Teaching Practices, and Student Success*, which presents the value of effective instruction and its impact on student success.

**ACUE is committed to providing faculty with a course of study that is informed by the latest research in the cognitive and learning sciences. ACUE’s research is ongoing, with improvements and revisions made to the Course in Effective Teaching Practices as new findings are made available. The citations that follow represent research to date.**

# ACUE's Course in Effective Teaching Practices

## **Unit 1. Designing an Effective Course and Class**

- Module 1a. Establishing Powerful Learning Outcomes
- Module 1b. Aligning Assessments With Course Outcomes
- Module 1c. Aligning Activities and Assignments With Course Outcomes
- Module 1d. Preparing an Effective Syllabus
- Module 1e. Planning an Effective Class Session

## **Unit 2. Establishing a Productive Learning Environment**

- Module 2a. Leading the First Day of Class
- Module 2b. Promoting a Civil Learning Environment
- Module 2c. Connecting With Your Students
- Module 2d. Motivating Your Students
- Module 2e. Engaging Underprepared Students
- Module 2f. Helping Students Persist in Their Studies
- Module 2g. Embracing Diversity in Your Classroom

## **Unit 3. Using Active Learning Techniques**

- Module 3a. Using Active Learning Techniques in Small Groups
- Module 3b. Using Active Learning Techniques in Large Classes
- Module 3c. Delivering an Effective Lecture
- Module 3d. Planning Effective Class Discussions
- Module 3e. Facilitating Engaging Class Discussions
- Module 3f. Integrating Civic Learning Into Your Course

## **Unit 4. Promoting Higher Order Thinking**

- Module 4a. Providing Clear Directions and Explanations
- Module 4b. Using Concept Maps and Other Visualization Tools
- Module 4c. Teaching Powerful Note-Taking Skills
- Module 4d. Using Advanced Questioning Techniques
- Module 4e. Developing Self-Directed Learners

## **Unit 5. Assessing to Inform Instruction and Promote Learning**

- Module 5a. Developing Fair, Consistent, and Transparent Grading Practices
- Module 5b. Developing and Using Rubrics and Checklists
- Module 5c. Providing Useful Feedback
- Module 5d. Checking for Student Understanding
- Module 5e. Using Student Achievement and Feedback to Improve Your Teaching

# Advising Subject Matter Experts

**Barbara A. Frey, DEd**

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Graduate School of Education  
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Director, Center for Learning  
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Department of Mathematics  
Vanderbilt University

**Edward Prather, PhD**

Associate Professor  
Founding Executive Director, Center  
for Astronomy Education  
University of Arizona

**Elizabeth Barkley, PhD**

Author  
Professor, Music History  
Foothill College

**Jane Muhich, MEd**

Professor  
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Seattle Central College

**Jay R. Howard, PhD**

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**Jerome D. Williams, PhD**

Executive Vice Chancellor & Provost  
Distinguished Professor &  
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Rutgers University–Newark

**John Pollard, PhD**

Associate Professor of Practice  
Department of Chemistry &  
Biochemistry  
University of Arizona

**José Bowen, PhD**

President & Professor of Music  
Goucher College

**Kristen Knepp, PhD**

Postdoctoral Psychology Resident  
Cranberry Psychological Center

**Kristin Webster, PhD**

Assistant Professor  
Department of Mathematics  
California State University,  
Los Angeles

**Linda Nilson, PhD**

Higher Ed. Education Expert &  
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Clemson University (Retired)

**Mary-Ann Winkelmes**

Coordinator of Instructional  
Development and Research  
Associate Graduate Faculty, History  
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Principal Investigator, Transparency  
in Learning and Teaching Project  
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Faculty Director of  
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The Academy  
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Associate Professor  
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**Trudy W. Banta, EdD**

Professor, Higher Education  
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University Indianapolis

**Virginia Anderson, EdD**

Professor Emerita  
Department of Biological Sciences  
Towson University

# Unit 1. Designing an Effective Course and Class

## Module 1a. Establishing Powerful Learning Outcomes

*In this module, faculty learn how to write course learning outcomes that effectively define what students will know and be able to do at the end of a course. The module introduces a set of steps for writing outcomes that are student-centered, actionable, specific, sequenced from foundational to more complex, and aligned—when appropriate—to program, department, and institutional outcomes.*

*To satisfy the module requirements, practicing faculty must apply the recommended techniques to write new learning outcomes or revise their existing learning outcomes.*

### **Advising Subject Matter Expert: Thomas A. Angelo, University of North Carolina at Chapel Hill**

- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.
- Anderson, L. W. (Ed.), Krathwohl, D. R. (Ed.), Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., . . . Wittrock, M. C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives* (Complete ed.). New York, NY: Longman.
- Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *American Association of Higher Education Bulletin*, 39(7), 3–7.
- Fink, L. D. (2013). *Creating significant learning experiences: An integrated approach to designing college courses* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Harrow, A. J. (1972). *A taxonomy of psychomotor domain: A guide for developing behavioral objectives*. New York, NY: McKay.
- Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook II: Affective domain*. New York, NY: McKay.
- Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Twigg, C. A. (2003). Improving learning and reducing costs: New models for online learning. *EDUCAUSE Review*, 38(5), 28–38.

## Module 1b. Aligning Assessments With Course Outcomes

*In this module, faculty learn how to design assessments that most effectively and efficiently allow students to demonstrate mastery of course outcomes. In addition, the module includes techniques to help students prepare to meet assessment expectations.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as revising a course assessment based on the cognitive levels of applicable learning outcomes, developing an assessment blueprint, or creating a course assessment plan.*

### **Advising Subject Matter Expert: Thomas A. Angelo, University of North Carolina at Chapel Hill**

- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. White Plains, NY: Longman.
- Angelo, T. A. (1995). Improving classroom assessment to improve learning. *Assessment Update*, 7(6), 1–2, 13–14.



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- Biggs, J. B., & Tang, C. S-k. (2007). *Teaching for quality learning at university* (3rd ed.). Maidenhead, UK: Open University Press.
- Brown, S., & Race, P. (2012). Using effective assessment to promote learning. In L. Hunt & D. Chalmers (Eds.), *University teaching in focus: A learning-centred approach* (pp. 74–91). Melbourne, Australia: ACER Press.
- Carnegie Mellon University, Eberly Center for Teaching Excellence & Educational Innovation. (n.d.). Whys and hows of assessment. Retrieved from <https://www.cmu.edu/teaching/assessment/basics/index.html>
- International Assembly for Collegiate Business Education. (2014). *Bloom's taxonomy of educational objectives and writing intended learning outcomes statements*. Retrieved from <http://iacbe.org/pdf/blooms-taxonomy.pdf>
- James, R., & McInnis, C. (2001). *Strategically re-positioning student assessment: A discussion paper on assessment of student learning in universities*. Centre for the Study of Higher Education, The University of Melbourne. Retrieved from <http://melbourne-cshe.unimelb.edu.au>
- Kan, C. K. (2010, August). *Using test blueprint in classroom assessment: Why and how*. Paper presented at the 36th International Association for Educational Assessment (IAEA) Annual Conference, Bangkok, Thailand. Retrieved from [http://www.academia.edu/305404/Using\\_test\\_blueprint\\_in\\_classroom\\_assessments\\_why\\_and\\_how](http://www.academia.edu/305404/Using_test_blueprint_in_classroom_assessments_why_and_how)
- Myers, C. B., & Myers, S. M. (2007). Assessing assessment: The effects of two exam formats on course achievement and evaluation. *Innovative Higher Education*, 31, 227–236.
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- O'Brien, K. (2010, October 3). The test has been canceled: Final exams are quietly vanishing from college. *The Boston Globe*. Retrieved from [http://www.boston.com/bostonglobe/ideas/articles/2010/10/03/the\\_test\\_has\\_been\\_canceled/](http://www.boston.com/bostonglobe/ideas/articles/2010/10/03/the_test_has_been_canceled/)
- Popham, W. J. (2003). *Test better, teach better: The instructional role of assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Reiner, C. M., Bothell, T. W., Sudweeks, R. R., & Wood, B. (2002). *How to prepare effective essay questions: Guidelines for university faculty*. Retrieved from <http://www.uwgb.edu/oira/teachlearn/bettertests/betteressays.pdf>
- Stiggins, R. J. (1997). *Student-centered classroom assessment* (2nd ed.). Upper Saddle River, NJ: Merrill.
- Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Twigg, C. A. (2003). Improving learning and reducing costs: New models for online learning. *EDUCAUSE Review*, 38(5), 28–38.
- Wiggins, G. P., & McTighe, J. (2005). *Understanding by design* (expanded 2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

## Module 1c. Aligning Activities and Assignments With Course Outcomes

*In this module, faculty learn how to select activities and assignments that are aligned to the cognitive levels of their learning outcomes, prepare for in- and out-of-class time, and design transparent assignments.*

*To satisfy the module requirements, practicing faculty must develop or revise a course activity or assignment aligned to course outcomes and designed to help students better attain those outcomes.*

**Advising Subject Matter Experts: Mary-Ann Winkelmes, University of Nevada, Las Vegas, and Thomas A. Angelo, University of North Carolina at Chapel Hill**

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.

- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. White Plains, NY: Longman.
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- Biggs, J. B., & Tang, C. S-k. (2011). *Teaching for quality learning at university: What the student does* (4th ed.). Maidenhead, England: McGraw-Hill/Society for Research into Higher Education/Open University Press.
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- Head, A., & Hostetler, K. (2015, September 2). Mary-Ann Winkelmes: Transparency in teaching and learning. Retrieved from <http://projectinfolit.org/smart-talks/item/149-mary-ann-winkelmes-smart-talk>
- Jones, E. A., Hoffman, S., Moore, L. M., Ratcliff, G., Tibbetts, S., Click, B. A. L., III, . . . The Pennsylvania State University. (1995). *National assessment of college student learning: Identifying college graduates; essential skills in writing, speech and listening, and critical thinking* (ED383255). Retrieved from <http://files.eric.ed.gov/fulltext/ED383255.pdf>
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- Svinicki, M. D., & McKeachie, W. J. (2014). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (14th ed.). Belmont, CA: Wadsworth.
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- Wiggins, G. P., & McTighe, J. (2005). *Understanding by design* (expanded 2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

## Module 1d. Preparing an Effective Syllabus

*In this module, faculty learn how to design a syllabus that both communicates essential information and facilitates student success. The module includes a checklist and guiding questions instructors can use to identify essential items and important resources. Instructors learn how to design calendars to assist students in meeting key deliverables and build a graphic or big ideas syllabus to support students in visualizing the organization of the course.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using a checklist and guiding questions to revise their syllabus or creating their own graphic or big ideas syllabus.*

### Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)

- Appleby, D. C. (1994). How to improve your teaching with the course syllabus. *Observer*, 7(3).
- Barkley, E. F., Cross, K. P., & Major, C. H. (2005). *Collaborative learning techniques: A handbook for college faculty*. San Francisco, CA: Jossey-Bass.

- Chapman, S. (n.d.). Getting students to read the class syllabus. Retrieved from <http://teaching.colostate.edu/tips/tip.cfm?tipid=50>
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- Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA: Jossey-Bass.
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- Kaufmann, K. (2003). Building a learner centered syllabus. Retrieved from [http://www.4faculty.org/Demo/read2\\_main.htm](http://www.4faculty.org/Demo/read2_main.htm)
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- Nilson, L. B. (in press). *Teaching at its best: A research-based resource for college instructors* (4th ed.). San Francisco, CA: Jossey-Bass.
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- Polk State College, Faculty Central. (n.d.). Creating a syllabus. Retrieved from <http://polkfacultycentral.com/syllabus-resources/>
- Riviere, J. (2014). Syllabus construction. Retrieved from <http://cft.vanderbilt.edu/guides-sub-pages/syllabus-design/>
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- Sample, M. (2011, May 31). Planning a class with backward design [Blog post]. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/blogs/profhacker/planning-a-class-with-backward-design/33625>
- Sinor, J., & Kaplan, M. Creating your syllabus. Retrieved from [http://www.crlt.umich.edu/gsis/p2\\_1](http://www.crlt.umich.edu/gsis/p2_1)
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- Wilson, S. (2006, April 21). Classroom realities. *Insider Higher Ed*. Retrieved from <https://www.insidehighered.com/views/2006/04/21/wilson>

## Module 1e. Planning an Effective Class Session

*In this module, faculty learn how to effectively leverage each portion of a class session to positively impact student learning. The module includes techniques designed to begin class—the most critical learning time—with a powerful opening. Faculty also learn strategies to segment class sessions with student-active breaks and end by engaging students in summary activities.*

*To satisfy the module requirements, practicing faculty must apply the techniques to plan a class session with an effective start, middle, and end.*

**Advising Subject Matter Experts: Stephen Brookfield, University of St. Thomas, Minnesota, and Elizabeth Barkley, Foothill College**

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press.

Fuchs, A. H. (1997). Ebbinghaus's contributions to psychology after 1885. *American Journal of Psychology*, 110, 621–634.

Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (2002). *Cognitive neuroscience: The biology of the mind* (2nd ed.). New York, NY: Norton.

Lang, J. M. (2008). *On course: A week-by-week guide to your first semester of college teaching*. Cambridge, MA: Harvard University Press.

Medina, J. (2014). *Brain rules: 12 principles for surviving and thriving at work, home, and school* (Updated and expanded 2nd ed.). Seattle, WA: Pear Press.

Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass.

Sousa, D. A. (2011). *How the brain learns* (4th ed.). Thousand Oaks, CA: Corwin.

Twigg, C. A. (2003). Improving learning and reducing costs: New models for online learning. *EDUCAUSE Review*, 38(5), 28–38.

Wieman, C. (2016). *Observation guide for active-learning classroom*. Retrieved from the Carl Wieman Science Education Initiative at the University of British Columbia website: [http://www.cwsei.ubc.ca/resources/files/Active-learning-class-observation-guide\\_Wieman.pdf](http://www.cwsei.ubc.ca/resources/files/Active-learning-class-observation-guide_Wieman.pdf)

## Unit 2. Establishing a Productive Learning Environment

### Module 2a. Leading the First Day of Class

*In this module, faculty learn how to plan for a successful first day, start building a community of learners, and implement active learning strategies that help students understand course expectations.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as creating an outline for the first class session, using an icebreaker, or assigning a syllabus activity.*

#### **Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)**

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press.

Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA: Jossey-Bass.

Foster, D. A., & Hermann, A. D. (2011). Linking the first week of class to end-of-term satisfaction: Using a reciprocal interview activity to create an active and comfortable classroom. *College Teaching*, 59, 111–116.

Howard, J. R. (2015). *Discussion in the college classroom: Getting your students engaged and participating in person and online*. San Francisco, CA: Jossey-Bass.

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### Module 2b. Promoting a Civil Learning Environment

*In this module, faculty learn how to work with students to set expectations for a civil learning environment. In addition, the module helps faculty address low-, mid-, and high-level disruptions to the learning environment.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as writing policies regarding classroom civility, writing classroom norms with students, or using appropriate methods to respond to student behaviors.*

#### **Advising Subject Matter Experts: Barbara Frey, University of Pittsburgh; Kristen Knepp, Cranberry Psychological Center; and Linda Nilson, Clemson University (retired)**

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## Module 2c. Connecting With Your Students

In this module, faculty learn how to create a classroom environment that supports learning, make their course content relevant, and communicate their belief in students' ability to meet course expectations.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as using seating charts, talking with students before class, or using data from student surveys to adjust instruction.

### Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)

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- Woodside, B. M., Wong, E. H., & Weist, D. J. (1999). The effect of student–faculty interaction on college students’ academic achievement and self-concept. *Education, 119*, 730–733.



## Module 2d. Motivating Your Students

In this module, faculty learn how to motivate students by developing students' appreciation for their discipline. In addition, faculty learn to support student success through setting goals, incentivizing assignment completion, and using a variety of assessment and instructional strategies to meet the needs and showcase the strengths of different types of learners.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as discussing their interest in the discipline, establishing incentives for assignment completion, or teaching students the DAPPS formula for setting goals.

### Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)

- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.
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- Ellis, D. B. (2000). *Becoming a master student: Tools, techniques, hints, ideas, illustrations, examples, methods, procedures, processes, skills, resources, and suggestions for success*. Boston, MA: Houghton Mifflin.
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- Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass.
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- Nist-Olejnik, S., & Holschuh, J. P. (2007). *College rules! How to study, survive, and succeed in college* (2nd ed.). Berkeley, CA: Ten Speed Press.
- Trostel, P. (n.d.). *It's not just the money: The benefits of college education to individuals and to society*. Retrieved from <https://www.luminafoundation.org/files/resources/its-not-just-the-money.pdf>
- Wieman, C. (2010). *Basic instructor habits to keep students engaged*. Retrieved from the Carl Wieman Science Education Initiative at the University of British Columbia website: [http://www.cwsei.ubc.ca/Files/InstructorHabitsToKeepStudentsEngaged\\_CWSEI.pdf](http://www.cwsei.ubc.ca/Files/InstructorHabitsToKeepStudentsEngaged_CWSEI.pdf)

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## Module 2e. Engaging Underprepared Students

*In this module, faculty learn how to assess students' levels of readiness in order to inform instruction and encourage the use of campus resources for academic support. The module also teaches faculty how to clearly communicate their expectations and use grading practices that fully support student success.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using ungraded assignments early in the semester, inviting a panel of past students to share advice with their current students, using a performance prognosis inventory, or sharing academic support resources.*

### **Advising Subject Matter Experts: José Bowen, Goucher College; and Sandra McGuire, Louisiana State University**

Brookfield, S. D. (2015). *The skillful teacher: On technique, trust, and responsiveness in the classroom* (3rd ed.). San Francisco, CA: Jossey-Bass.

Gabriel, K. F. (2008). *Teaching unprepared students: Strategies for promoting success and retention in higher education*. Sterling, VA: Stylus.

McGuire, S. Y., & McGuire, S. (2015). *Teach students how to learn: Strategies you can incorporate into any course to improve student metacognition, study skills, and motivation*. Sterling, VA: Stylus.

Twigg, C. A. (2003). Improving learning and reducing costs: New models for online learning. *EDUCAUSE Review*, 38(5), 28–38.

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Walpole, M. (2007). *Economically and educationally challenged students in higher education: Access to outcomes* (ASHE Higher Education Report, Vol. 33, No. 3). San Francisco, CA: Jossey-Bass.

## Module 2f. Helping Students Persist in Their Studies

*In this module, faculty learn how to build intrinsic motivation by offering choice, providing targeted feedback and revision opportunities, and connecting course learning to career goals. It also introduces the concept and motivational impact of a growth mindset.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as providing students with a choice in the type of project they will complete, offering students an opportunity to use feedback to revise an assignment, or showing students how course content is connected to their career goals.*

### **Advising Subject Matter Expert: Jane Muhich, Seattle Central College**

Braxton, J. M. (Ed.). (2008). *The role of the classroom in college student persistence*. San Francisco, CA: Jossey-Bass.

Cornell University, Center for Teaching Excellence. (n.d.). Using rubrics. <http://www.cte.cornell.edu/teaching-ideas/assessing-student-learning/using-rubrics.html>

Crissman Ishler, J. L., & Upcraft, M. L. (2005). The keys to first-year student persistence. In M. L. Upcraft, J. N. Gardner, & B. O. Barefoot (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first year of college* (pp. 27–46). San Francisco, CA: Jossey-Bass.

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- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77, 81–112.
- Pink, D. H. (2009). *Drive: The surprising truth about what motivates us*. New York, NY: Riverhead Books.
- Ryan, R. M., & Deci, E. L. (2015). Promoting self-determined school engagement: Motivation, learning, and well-being. In K. R. Wentzel & D. Miele (Eds.), *Handbook on motivation at school* (2nd ed.). New York, NY: Routledge.
- Thompson, J. G. (n.d.). 28 ways to build persistent & confident students. Retrieved from <http://teaching.monster.com/benefits/articles/10348-28-ways-to-build-persistent-confident-students>
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## Module 2g. Embracing Diversity in Your Classroom

*In this module, faculty examine how their own experiences have shaped their perspectives and the importance of valuing different viewpoints. In addition, faculty learn about the power of explicit and implicit messages (microaggressions, stereotype threat) and how to create an inclusive classroom environment and curriculum that are representative of diverse student perspectives.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as assessing and revising their curriculum to represent a diverse society or writing ground rules for productive discourse in the classroom.*

### **Advising Subject Matter Experts: Jerome D. Williams, Rutgers University–Newark, and Stephen Brookfield, University of St. Thomas, Minnesota**

- Brookfield, S. D. (2015). *The skillful teacher: On technique, trust, and responsiveness in the classroom* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Brookfield, S. D. (n.d.). *Class participation grading rubric*. Retrieved from [http://stephenbrookfield.com/Dr.\\_Stephen\\_D.\\_Brookfield/Workshop\\_Materials\\_files/Class\\_Participation\\_Grading\\_Rubric.pdf](http://stephenbrookfield.com/Dr._Stephen_D._Brookfield/Workshop_Materials_files/Class_Participation_Grading_Rubric.pdf)
- Brookfield, S. D. (n.d.). *Discussion as a way of teaching: Workshop resource packet*. Retrieved from [http://www.stephenbrookfield.com/Dr.\\_Stephen\\_D.\\_Brookfield/Workshop\\_Materials\\_files/Discussion\\_as\\_a\\_Way\\_of\\_Teaching\\_Packet.pdf](http://www.stephenbrookfield.com/Dr._Stephen_D._Brookfield/Workshop_Materials_files/Discussion_as_a_Way_of_Teaching_Packet.pdf)
- Holoien, D. S., & Shelton, J. N. (2012). You deplete me: The cognitive costs of colorblindness on ethnic minorities. *Journal of Experimental Social Psychology*, 48, 562–565.
- Kim, Y. M. (2011). *Minorities in higher education: Twenty-fourth status report 2011 supplement*. Washington, DC: American Council on Education.
- Mayhew, M. J., Grunwald, H. E., & Dey, E. L. (2011). Curriculum matters: Creating a positive climate for diversity from the student perspective. In S. R. Harper & S. Hurtado (Eds.), *Racial and ethnic diversity in higher education* (3rd ed., pp. 515–529). Boston, MA: Pearson Learning Solutions.
- Nelson Laird, T. F. (2014). Reconsidering the inclusion of diversity in the curriculum. *Diversity and Democracy*, 17(4), 12–14.

- Solórzano, D., Ceja, M., & Yosso, T. (2011). Critical race theory, racial microaggressions, and campus racial climate: The experiences of African American college students. In S. R. Harper & S. Hurtado (Eds.), *Racial and ethnic diversity in higher education* (3rd ed., pp. 438–456). Boston, MA: Pearson Learning Solutions.
- Steele, C. M. (1999, August). Thin ice: Stereotype threat and black college students. *The Atlantic*. Retrieved from <http://www.theatlantic.com/magazine/archive/1999/08/thin-ice-stereotype-threat-and-black-college-students/304663/>
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- Stroessner, S., & Good, C. (n.d.). What can be done to reduce stereotype threat? Retrieved from <http://www.reducingstereotypethreat.org/reduce.html>
- Sue, D. W. (2010, October 5). Racial microaggressions in everyday life: Is subtle bias harmless? [Blog post]. *Psychology Today*. Retrieved from <https://www.psychologytoday.com/blog/microaggressions-in-everyday-life/201010/racial-microaggressions-in-everyday-life>
- Tapia, R., & Johnson, C. (2011). Minority students in science and math: What universities still do not understand about race in America. In S. R. Harper & S. Hurtado (Eds.), *Racial and ethnic diversity in higher education* (3rd ed., pp. 484–491). Boston, MA: Pearson Learning Solutions.
- Tatum, B. D. (2011). Talking about race, learning about racism: The application of racial identity development theory in the classroom. In S. R. Harper & S. Hurtado (Eds.), *Racial and ethnic diversity in higher education* (3rd ed., pp. 438–456). Boston, MA: Pearson Learning Solutions.
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## Unit 3. Using Active Learning Techniques

### Module 3a. Using Active Learning Techniques in Small Groups

*In this module, faculty learn to implement the essential components of effective active learning, including providing a rationale for the activity, promoting group interdependence, holding group members accountable, and collecting student feedback to identify strengths and areas for improving the activity. The module helps instructors implement three active learning techniques (Think-Pair-Share, Jigsaw, and Analytic Teams) depending on the learning objectives they have set for their class session.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as holding students accountable for their participation in group activities or implementing an appropriate active learning activity.*

#### **Advising Subject Matter Expert: Elizabeth Barkley, Foothill College**

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### Module 3b. Using Active Learning Techniques in Large Classes

*In this module, faculty learn how to effectively plan and facilitate active learning in a large class. The module teaches faculty to use an active learning cycle to pique student interest, build foundational knowledge, and then require students to apply new concepts. In addition, the module includes techniques for using formative assessment and leveraging technology to inform and improve learning.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using cues to keep students on task, designing lessons according to an active learning cycle, or closing with an activity to hold students accountable.*

#### **Advising Subject Matter Experts: John Pollard, University of Arizona, and Edward Prather, University of Arizona**

Allen, D., & Tanner, K. (2005). Infusing active learning into the large-enrollment biology class: Seven strategies, from the simple to complex. *Cell Biology Education*, 4, 262–268.

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## Module 3c. Delivering an Effective Lecture

*In this module, faculty learn how to determine if the lecture approach is aligned to their learning objectives, develop well-organized and effectively paced lectures, keep students engaged, and seek student feedback.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as opening with an interesting quote or question to pique students' interest, providing skeletal notes, or chunking information into manageable segments.*

### Advising Subject Matter Expert: Stephen Brookfield, University of St. Thomas, Minnesota

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## Module 3d. Planning Effective Class Discussions

*In this module, faculty learn how to write well-sequenced, thought-provoking questions to increase student engagement in class discussions. The module helps instructors effectively set expectations for participation, explain the role of discussion for positively impacting learning, and develop an effective grading policy. Faculty will also learn how to leverage class discussions so students come to class prepared and having done the assigned reading or homework.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as sequencing questions to progress toward higher order thinking, developing a grading policy for participation, or assigning students a self-grading activity.*

### Advising Subject Matter Expert: Jay R. Howard, Butler University

Auster, C. J., & MacRone, M. (1994). The classroom as a negotiated social setting: An empirical study of the effects of faculty members' behavior on students' participation. *Teaching Sociology*, 22, 289–300.

Barkley, E. F., Major, C. H., & Cross, K. P. (2014). *Collaborative learning techniques: A handbook for college faculty* (2nd ed.). San Francisco, CA: Jossey-Bass.

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- Rotenberg, R. L. (2010). *The art & craft of college teaching: A guide for new professors & graduate students* (2nd ed.). Walnut Creek, CA: Left Coast Press.
- Sidelinger, R. (2010). College student involvement: An examination of student characteristics and perceived instructor communication behaviors in the classroom. *Communication Studies*, 61, 87–103.
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## Module 3e. Facilitating Engaging Class Discussions

*In this module, faculty learn activities they can use to launch productive discussions, including Hatful of Quotes, Sentence Completions, and Fishbowl techniques. The module also helps instructors balance student participation using wait time, prompts to manage dominant talkers, and techniques to encourage quieter students while also limiting their own talking.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using a Fishbowl activity, wait time, or prompting.*

### Advising Subject Matter Expert: Jay R. Howard, Butler University

- Alexander, M. E., Commander, N., Greenberg, D., & Ward, T. (2010). Using the four-questions technique to enhance critical thinking in online discussions. *Journal of Online Learning and Teaching*, 6, 409–415.
- Auster, C. J., & MacRone, M. (1994). The classroom as a negotiated social setting: An empirical study of the effects of faculty members' behavior on students' participation. *Teaching Sociology*, 22, 289–300.
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## Module 3f. Integrating Civic Learning Into Your Course

*In this module, faculty learn how to design assignments that incorporate civic knowledge, skills, and values; as well as teach students to strategically use research to solve local problems, share their findings with the community, and develop their civic values.*

*To satisfy the module requirements, practicing faculty must create a civic learning assignment for one of their courses.*

### **Advising Subject Matter Experts: Kristin Webster, California State University, Los Angeles; and Michael Willard, California State University, Los Angeles**

- Association of American Colleges and Universities. (n.d.). Problem solving VALUE rubric. Retrieved from <http://www.aacu.org/value/rubrics/problem-solving>
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# Unit 4. Promoting Higher Order Thinking

## Module 4a. Providing Clear Directions and Explanations

In this module, faculty learn how to provide a set of high-quality directions for complex tasks and the essential techniques for giving clear explanations of challenging content. In addition, the module includes techniques for obtaining student feedback on the clarity of directions and explanations designed to inform instructional adjustments when needed.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as providing written directions, sharing multiple examples, or assigning a class-reaction survey.

### Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)

- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.
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## Module 4b. Using Concept Maps and Other Visualization Tools

*In this module, faculty learn how to use concept maps and a variety of visualization tools to assist students in understanding complex concepts, principles, and ideas and the important relationships between them.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using a flowchart during a class session, asking students to use visual tools to answer questions, or teaching students to use concept maps to prepare for exams.*

### **Advising Subject Matter Experts: Derek Bruff, Vanderbilt University, and Todd Zakrajsek, University of North Carolina at Chapel Hill**

- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.
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- Wandersee, J. H. (2002). Using concept circle diagramming as a knowledge mapping tool. In K. M. Fisher, J. H. Wandersee, & D. E. Moody (Eds.), *Science & Technology Education Library Series: Vol. 11. Mapping biology knowledge* (pp. 109–126). New York, NY: Kluwer Academic.

## Module 4c. Teaching Powerful Note-Taking Skills

In this module, faculty learn how to motivate students to take notes and effectively support note-taking by sharing pointers, providing skeletal outlines, allowing processing time, and using cues to signal important points.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as sharing research that supports the benefits of note-taking, teaching students how to take notes, or providing a skeletal outline.

### Advising Subject Matter Expert: Linda Nilson, Clemson University (retired)

- Bligh, D. A. (2000). *What's the use of lectures?* San Francisco, CA: Jossey-Bass.
- Boye, A. (2012). *Note-taking in the 21st century: Tips for instructors and students*. Retrieved from [https://www.depts.ttu.edu/tlpdc/Resources/Teaching\\_resources/TLPDC\\_teaching\\_resources/Documents/NotetakingWhitepaper.pdf](https://www.depts.ttu.edu/tlpdc/Resources/Teaching_resources/TLPDC_teaching_resources/Documents/NotetakingWhitepaper.pdf)
- Broderick, B. (1990). *Groundwork for college reading*. West Berlin, NJ: Townsend Press.
- Carrier, C. A. (1983). Notetaking research implications for the classroom. *Journal of Instructional Development*, 6(3), 19–26.
- Cohen, D., Kim, E., Tan, J., & Winkelmes, M. (2013). A note-restructuring intervention increases students' exam scores. *College Teaching*, 61, 95–99.
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- Langan, J. (2007). *Reading and student skills* (8th ed.). New York, NY: McGraw-Hill.
- Longman, D. G., & Atkinson, R. H. (1999). *College learning and study skills*. Belmont, CA: Wadsworth.
- Marsh, E. J., & Sink, H. E. (2010). Access to handouts of presentation slides during lecture: Consequences for learning. *Applied Cognitive Psychology*, 24, 691–706.
- McKeachie, W. J. (1994). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (9th ed.). Lexington, MA: D. C. Heath.
- Medina, J. (2014). *Brain rules: 12 principles for surviving and thriving at work, home, and school* (Updated and expanded 2nd ed.). Seattle, WA: Pear Press.
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- Stefanou, C., Hoffman, L., & Vielee, N. (2008). Note-taking in the college classroom as evidence of generative learning. *Learning Environments Research*, 11, 1–17.
- Stutts, K. J., Beverly, M. M., & Kelley, S. F. (2013). Evaluation of note taking method on academic performance in undergraduate animal science courses. *NACTA Journal*, 57(3), 38–39.
- University of Nebraska. (n.d.). Teaching students to take better notes: Notes on notetaking. Retrieved from <http://www.unl.edu/gradstudies/current/teaching/notetaking>

## Module 4d. Using Advanced Questioning Techniques

*In this module, faculty learn how to plan a questioning strategy that prompts critical thinking. The module also helps instructors use advanced questioning techniques, like the Socratic Method, and activities for helping students develop their own questioning skills.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as using a taxonomy to appropriately scaffold questions, using the CLOSE-UP method, or assigning students a task that requires them to write their own questions.*

### Advising Subject Matter Expert: Stephen Brookfield, University of St. Thomas, Minnesota

- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, NY: McKay.
- Brookfield, S. D., & Preskill, S. (2016). *The discussion book: Fifty great ways to get people talking*. San Francisco, CA: Jossey-Bass.
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- Lemons, P. P., & Lemons, J. D. (2013). Questions for assessing higher-order cognitive skills: It's not just Bloom's. *CBE Life Sciences Education*, 12, 47–58.
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- Paul, R., & Elder, L. (2006). *The thinker's guide to the art of Socratic Questioning* (4th ed.). Dillon Beach, CA: Foundation for Critical Thinking.

## Module 4e. Developing Self-Directed Learners

*In this module, faculty learn how to assist students in understanding and taking ownership of their own learning process. Techniques include using cues to guide student learning, presenting and having students develop work plans for completing complex assignments, prompting self-reflection with rubrics or other grading guidelines, and making worked examples available.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as sharing examples of prior students' work, using an exam wrapper, or having students complete the Critical Incident Questionnaire.*



### **Advising Subject Matter Expert: Stephen Brookfield, University of St. Thomas, Minnesota**

- Abdullah, M. H. (2001). *Self-directed learning* (ERIC Digest No. D169). Bloomington, IN: ERIC Clearinghouse on Reading, English, and Communication. Retrieved from ERIC database. (ED459458)
- Ackerman, D. S., & Gross, B. L. (2005). My instructor made me do it: Task characteristics of procrastination. *Journal of Marketing Education, 27*, 5–13.
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- Connor, C. (2004). *Developing self-directed learners*. Retrieved from [http://www.schoolnet.org.za/conference/sessions/nh/self-directed\\_learning.pdf](http://www.schoolnet.org.za/conference/sessions/nh/self-directed_learning.pdf)
- Cornell University, Center for Teaching Excellence. (n.d.). What do students already know? Retrieved from <http://www.cte.cornell.edu/teaching-ideas/assessing-student-learning/what-do-students-already-know.html>
- DeLong, M., & Winter, D. (2002). *Learning to teach and teaching to learn mathematics: Resources for professional development*. Washington, DC: Mathematical Association of America.
- Dweck, C. S. (2007). *Mindset: The new psychology of success*. New York, NY: Ballantine Books.
- Fayetteville State University. (n.d.). Create engaging assignments and clear assignment sheets. Retrieved from <http://www.uncfsu.edu/learning-center/wac/faculty-home/formal-writing-project/engaging-and-clear>
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# Unit 5. Assessing to Inform Instruction and Promote Learning

## Module 5a. Delivering Fair, Consistent, and Transparent Grading Practices

*In this module, faculty learn to implement research-based grading practices aligned to their grading philosophy and course content. In addition, the module includes information on setting grading policies for late assignments and extra credit and effectively communicating grading practices to students.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as sharing their grading policy with students, assigning different values to assignments based on learning opportunities, or offering extra credit for improved learning.*

**Advising Subject Matter Experts: Trudy W. Banta, Indiana University–Purdue University Indianapolis; Virginia Anderson, Towson University; and Linda Nilson, Clemson University (retired)**

- Banta, T. W. (2003). *Portfolio assessment: Uses, cases, scoring, and impact*. San Francisco, CA: Wiley.
- Brookhart, S. M. (1999). The art and science of classroom assessment: The missing part of pedagogy. *ASHE-ERIC Higher Education Report*, 27(1).
- Davis, B. G. (1993). *Tools for teaching*. San Francisco, CA: Jossey-Bass.
- Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA: Jossey-Bass.
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- Dominowski, R. L. (2001). *Teaching undergraduates*. Mahwah, NJ: Erlbaum.
- Gronlund, N. E., & Waugh, C. K. (2008). *Assessment of student achievement* (9th ed.). Boston, MA: Allyn and Bacon.
- Illinois State University, Center for Teaching, Learning, and Technology. (n.d.). Design your course: Module 9: Developing a grading system. Retrieved from <http://ctlt.illinoisstate.edu/pedagogy/modules/design/module9.shtml>
- Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Nilson, L. B. (2014). *Specifications grading: Restoring rigor, motivating students, and saving faculty time*. Sterling, VA: Stylus.
- Nilson, L. B. (in press). *Teaching at its best: A research-based resource for college instructors* (4th ed.). San Francisco, CA: Jossey-Bass.
- Packard, E. (2008). Proactive policies: Experts weigh in on the administrative side of classroom teaching. Retrieved from <http://www.apa.org/gradpsych/features/2008/proactive.aspx>
- Payne, D. A. (2003). *Applied educational assessment* (2nd ed.). Belmont, CA: Wadsworth/Thomson.
- Shepard, L. A. (2006). Classroom assessment. In R. L. Brennan (Ed.), *Educational measurement* (4th ed.). Westport, CT: American Council on Education.
- Walvoord, B. E., & Anderson, V. J. (2009). *Effective grading: A tool for learning and assessment in college* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Weimer, M., (2011, July 20). Revisiting extra credit policies [Blog post]. *Faculty Focus*. Retrieved from <http://www.facultyfocus.com/articles/teaching-professor-blog/revisiting-extra-credit-policies/>

## Module 5b. Developing and Using Rubrics and Checklists

In this module, faculty learn how to select a grading tool that best aligns to the assigned task and offers the type of feedback most helpful to students. In addition, the module includes techniques for helping students understand how to use different grading tools to their benefit as well as techniques for helping instructors understand how they might use the data generated from grading tools to inform instruction.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as creating an assignment checklist, having students use a rubric to analyze sample papers, or analyzing rubric data.

**Advising Subject Matter Experts: Dannelle D. Stevens, Portland State University; Phyllis Blumberg, University of the Sciences; R. Eric Landrum, Boise State University; and Linda Nilson, Clemson University (retired)**

- Allen, D., & Tanner, K. (2006). Rubrics: Tools for making learning goals and evaluation criteria explicit for both teachers and learners. *CBE Life Sciences Education*, 5, 197–203.
- Ambrose, S. A., Bridges, M. W., Lovett, M. C., DiPietro, M., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.
- Berkeley University of California. (n.d.). Helping students understand their grades. (n.d.). Retrieved from <http://gsi.berkeley.edu/gsi-guide-contents/grading-intro/communicating-about-grades/understand/>
- Bresciani, M. J., Zelna, C. L., & Anderson J. A. (2004). *Assessing student learning and development: A handbook for practitioners*. Washington, DC: National Association of Student Personnel Administrators.
- Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Gooblar, D. (2014, October 8). Why I don't like rubrics. Retrieved from <https://chroniclevitae.com/news/742-why-i-don-t-like-rubrics>
- Jonsson, A., & Svingby, G. (2007). The use of scoring rubrics: Reliability, validity and educational consequences. *Educational Research Review*, 2, 130–144.
- Luft, J. A. (1999). Rubrics: Design and use in science teacher education. *Journal of Science Teacher Education*, 10, 107–121.
- Nilson, L. B. (2010). *Teaching at its best: A research-based resource for college instructors* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Panadero, E., & Jonsson, A. (2013). The use of scoring rubrics for formative assessment purposes: A review. *Educational Research Review*, 9, 129–144.
- Reddy, Y. M., & Andrade, H. (2010). A review of rubric use in higher education. *Assessment & Evaluation in Higher Education*, 35, 435–448.
- Stevens, D. D., & Levi, A. J. (2013). *Introduction to rubrics: An assessment tool to save grading time, convey effective feedback, and promote student learning* (2nd ed.) Sterling, VA: Stylus.
- Suskie, L. A. (2009). *Assessing student learning: A common sense guide* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Svinicki, M. D., & McKeachie, W. J. (2014). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (14th ed.). Belmont, CA: Wadsworth.
- Vanderbilt University, Center for Teaching. (n.d.). Grading student work. Retrieved from <https://cft.vanderbilt.edu/guides-sub-pages/grading-student-work/>
- Walvoord, B. E. F., & Anderson, V. J. (2010). *Effective grading: A tool for learning and assessment* (2nd ed.). San Francisco, CA: Jossey-Bass.

## Module 5c. Providing Useful Feedback

In this module, faculty learn how to offer students effective feedback. In addition, the module includes techniques to help students more effectively use feedback for improvement and to help instructors leverage technology to increase feedback efficiency.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as providing timely feedback, conducting structured peer review sessions, or distributing handouts that address common errors.

### Advising Subject Matter Expert: Thomas A. Angelo, University of North Carolina at Chapel Hill

- Angelo, T. A. (2011). *Efficient feedback for effective learning: How less can sometimes be more*. Retrieved from <http://planning.iupui.edu/assessment/institute-files/2011-institute/monday-2011/angelo-feedback.pdf>
- Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Barnes, M. (2012, December 18). De-grade your classroom and instead use narrative feedback [Blog post]. Retrieved from <http://smartblogs.com/education/2012/12/18/de-grade-your-classroom-narrative-feedback-mark-barnes/>
- Burnham, C. C. (1986). Portfolio evaluation: Room to breathe and grow. In C. W. Bridges (Ed.), *Training the new teacher of college composition* (pp. 125–138). Urbana, IL: National Council of Teachers of English.
- Columbia University Graduate School of Arts & Sciences Teaching Center. (n.d.). *How to provide constructive feedback—That won't exasperate your students*. Retrieved from <http://www.columbia.edu/cu/tat/pdfs/feedback.pdf>
- Dean, C. B., Hubbell, E. R., Pitler, H., & Stone, B. J. (2012). *Classroom instruction that works: Research-based strategies for increasing student achievement* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Deslauriers, L., Schelew, E., & Wieman, C. (2011). Improved learning in a large-enrollment physics class. *Science*, 332, 862–864.
- Friend, C. (2013, January 1). Grading, assessment, or feedback? [Blog post]. Retrieved from <http://chrisfriend.us/Blog/files/grading-assessment-feedback.php>
- Goodwin, B., & Miller, K. (2012). Research says / Good feedback is targeted, specific, timely. *Educational Leadership*, 70(1), 82–83.
- McKeachie, W. J., & Svinicki, M. (2006). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (12th ed.). Boston, MA: Houghton Mifflin.
- Myatt, M. (n.d.). Should I be marking every piece of work? [Blog post]. Retrieved from <http://marymyatt.com/blog/2013-10-13/should-i-be-marking-every-piece-of-work>
- Thaiss, C. (2015). Tools for giving efficient, effective feedback to student writing [Blog post]. Retrieved from <http://cetlblog.ucdavis.edu/tools-for-efficient-effective-feedback/>
- Turner, W., & West, J. (2013). Assessment for “Digital First Language” speakers: Online video assessment and feedback in higher education. *International Journal of Teaching and Learning in Higher Education*, 23, 288–296.
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- University of Michigan, Sweetland Center for Writing. (n.d.). *Using peer review to improve student writing*. Retrieved from <https://www.lsa.umich.edu/UMICH/sweetland/Home/For%20Students/Writing%20References%20and%20Resources/Using%20Peer%20Review%20to%20Improve%20Student%20Writing.pdf>
- Wiggins, G. (2012). Seven keys to effective feedback. *Educational Leadership*, 70(1), 10–16.

## Module 5d. Checking for Student Understanding

In this module, faculty learn how to effectively check for student understanding by using quality questioning techniques and whole-class formative assessment strategies including the One-Minute Paper, Muddiest Point, and In Your Own Words.

To satisfy the module requirements, practicing faculty must apply at least one technique, such as calling on both volunteers and nonvolunteers, using wait time, asking students to clarify or expand on their responses, or implementing a classroom assessment technique.

### Advising Subject Matter Experts: Elizabeth Barkley, Foothill College, and Thomas A. Angelo, University of North Carolina at Chapel Hill

- Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Barkley, E. F., & Major, C. H. (2016). *Learning assessment techniques: A handbook for college faculty*. San Francisco, CA: Jossey-Bass.
- Black, P. (2003). The nature and value of formative assessment for learning. *Improving Schools*, 6(3), 7–22.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5, 7–74.
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## Module 5e. Using Student Achievement and Feedback to Improve Your Teaching

*In this module, faculty learn how to use patterns of student achievement on key assignments and assessments to inform instruction. In addition, the module provides techniques to secure mid- and end-of-semester feedback from students and techniques to use colleague observations and consultations with faculty development specialists to inform improvements in instruction.*

*To satisfy the module requirements, practicing faculty must apply at least one technique, such as creating a data analysis insights chart, securing midsemester feedback, or documenting teaching practices in a journal.*

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