REFERENCES

Accreditation Board for Engineering and Technology (ABET). (n.d.). Retrieved from http://www.abet.org/accreditation/

Active Learning. (1998). *Active learning with Dr. Richard Felder* [Video]. North Carolina State University. Retrieved from www.youtube.com/watch?v=1J1URbdisYE

Adecco Staffing USA. (2013). Lack of soft skills negatively impacts today's US workforce. Retrieved from www.adeccousa.com/about/press/Pages/20130930-lack-of-soft-skills-negatively-impacts-todays-us-workforce.aspx

Aggarwal, P., & O'Brien, C. L. (2008). Social loafing on group projects: Structural antecedents and effect on student satisfaction. *Journal of Marketing Education, 30*(3), 255–264.

Albanese, M. A., & Dast, L. (2014). Problem-based learning: Outcomes evidence from the health professions. *Journal on Excellence in College Teaching, 25*(3&4), 239–252.

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*(3), 197–203. Retrieved from www.lifescied.org/content/5/3/197.full

Alley, M. (1996). *The craft of scientific writing* (3rd ed.). New York: Springer.

Alley, M. (2013). *The craft of scientific presentations: Critical steps to succeed and critical errors to avoid* (2nd ed.). New York: Springer.

Alred, G. J., Brusaw, C. T., & Oliu, W. E. (2011). *Handbook of technical writing* (10th ed.). Boston: St. Martin's Press.

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: Jossey-Bass.

American Institute of Chemical Engineers. AIChE Concept Warehouse. (n.d.). Retrieved from jimi.cbee.oregonstate.edu/concept_warehouse

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy of educational objectives; Complete edition* (pp. 67–68). New York: Longman.

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

Arnold, L., Willoughby, L., Calkins, V., Gammon, L., & Eberhart, G. (1981). Use of peer evaluation in the assessment of medical students. *Journal of Medical Education, 56*(1), 35–42.

Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The jigsaw classroom.* Beverly Hills, CA: Sage.

Association of American Colleges & Universities. (2015). Falling short? College learning and career success. Retrieved from www.aacu.org/leap/public-opinion-research/2015-survey-falling-short

Association for the Assessment of Learning in Higher Education (AALHE). (n.d.). Retrieved from course1.winona.edu/shatfield/air/rubrics.htm

Astin, A. W. (1993). *What matters in college: Four critical years revisited.* San Francisco: Jossey-Bass.

Atman, C. J., Eris, O., McDonnell, J., Cardella, M. E., & Borgford-Parnell, J. L. (2014). Engineering design education: Research, practice and examples that link the two. In A. Johri & B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (pp. 201–226). New York: Cambridge University Press.

Baars, B. J., & Gage, N. M. (Eds.). (2007). *Cognition, brain, and consciousness: Introduction to cognitive neuroscience.* Amsterdam: Elsevier.

Baitz, I. (2006). Strategies for inclusion of lesbian, gay, bisexual and transgender learners in discipline-based programs. *International Journal of Pedagogies & Learning, 2*(3), 52–60.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215.

Barkley, E. F. (2009). *Student engagement techniques: A handbook for college faculty.* San Francisco: Jossey-Bass.

Barrett, T., & Moore, S. (2011). *New approaches to problem-based learning: Revitalising your practice in higher education.* New York: Routledge.

Baxter Magolda, M. B. (1992). *Knowing and reasoning in college.* San Francisco: Jossey-Bass.

Beemyn, G. (2005). Making campuses more inclusive of transgender students. *Journal of Gay and Lesbian Issues in Education, 3*(1), 77–87.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986/1997). *Women's ways of knowing: The development of self, voice, and mind.* New York: Basic Books.

Bellanca, J. (1992). *The cooperative think tank II: Graphic organizers to teach thinking in the cooperative classroom.* Palatine, IL: Skylight Publishing.

Benton, S. L., & Cashin, W. E. (n.d.). Student ratings of teaching: A summary of the research and literature. IDEA Paper 50. Summary of research through 2010. The IDEA Center, Kansas State University. Retrieved from ideaedu .org/sites/default/files/idea-paper_50.pdf

Biggs, J. (1999). *Teaching for quality learning at university.* Buckingham, UK: SRHE and Open University Press.

Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Maidenhead, UK: Open University Press.

Bligh, D. A. (1998). *What's the use of lectures?* San Francisco: Jossey-Bass.

Bloom, B. S., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals by a committee of college and university examiners. Handbook 1. Cognitive domain.* New York: Addison-Wesley.

Blue, J., Taylor, B., & Yarrison-Rice, J. (2008). Full cycle assessment of critical thinking in an ethics and science course. *International Journal for the Scholarship of Teaching and Learning,* 2(1). Retrieved from digitalcommons .georgiasouthern.edu/cgi/viewcontent.cgi?article=1078&context=ij-sotl

Boettcher, J. V., & Conrad, R. M. (2010). *The online teaching survival guide: Simple and practical pedagogical tips.* San Francisco: Jossey-Bass.

Boice, R. (1990). *Professors as writers.* Stillwater, OK: New Forums Press.

Boice, R. (2000). *Advice for new faculty members.* Needham Heights, MA: Allyn Bacon.

Boud, D., & Feletti, G. I. (Eds.). (1997). *The challenge of problem-based learning* (2nd ed.). London: Kogan Page.

Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience and school.* Washington, DC: Commission on Behavioral and Social Science and Education, National Research Council. Retrieved from www.nap.edu/catalog/9853/how-people-learn-brain-mind-experience-and-school-expanded-edition

Brent, R., & Felder, R. M. (1992). Writing assignments—Pathways to connections, clarity, creativity. *College Teaching,* 40(1), 43–47. Retrieved from www.ncsu.edu/felder-public/Papers/Writing_Paper.pdf

Brent, R., & Felder, R. M. (2012). Learning by solving solved problems. *Chemical Engineering Education,* 46(1), 29–30. Retrieved from www.ncsu.edu/felder-public/Columns/WorkedSolutions.pdf

Brown, P. C., Roediger III, H. L., & McDaniel, M. A. (2014). *Make it stick: The science of successful learning.* Cambridge, MA: Belknap Press.

Brown, R. W. (1995). Autorating: Getting individual marks from team marks and enhancing teamwork. *1995 Frontiers in Education Conference Proceedings* (November). Pittsburgh, PA: IEEE/ASEE.

Brownell, S. E., Kloser, M. J., Fukami, T., & Shavelson, R. (2012). Undergraduate biology lab courses: Comparing the impact of traditionally based "cookbook" and authentic research-based courses on student lab experiences. *Journal of College Science Teaching*, 41(4), 36–45.

Bullard, L. G., & Melvin, A. T. (2011). Using a role-play video to convey expectations about academic integrity. *Advances in Engineering Education*, 2(3), 1–12.

Bunce, D. M., Flens, E. A., & Neiles, K. Y. (2010). How long can students pay attention in class? A study of student attention decline using clickers. *Journal of Chemical Education*, 87(12), 1438–1443.

Burke, R. J., & Mattis, M. C. (Eds). (2007). *Women and minorities in science, technology, engineering and mathematics: Upping the numbers.* Cheltenham, UK: Edward Elgar.

Busch-Vishniac, I. J., & Jarosz, J. P. (2007). Achieving greater diversity through curricular change. In R. J. Burke & M. C. Mattis (Eds.), *Women and minorities in science, technology, engineering and mathematics: Upping the numbers* (Chap. 11). Cheltenham, UK: Edward Elgar.

Capraro, R. M., Capraro, M. M., & Morgan, J. R. (2013). *STEM project-based learning: An integrated science, technology, engineering, and mathematics (STEM) approach* (2nd ed.). Rotterdam: Sense Publishers.

Carl Wieman Science Education Initiative. (n.d.). Retrieved from www.cwsei.ubc.ca/resources/clickers.htm#questions

Carpenter, D. D., Harding, T. S., & Finelli, C. J. (2010). Using research to identify academic dishonesty deterrents among engineering undergraduates. *International Journal of Engineering Education*, 26(5), 1156–1165.

Carpenter, D. D., Harding, T. S., Finelli, C. J., Montgomery, S. M., & Passow, S. J. (2006). Engineering students' perceptions of and attitudes toward cheating. *Journal of Engineering Education*, 23(4), 181–194.

Case, J. M., & Marshall, D. (2009). Approaches to learning. In M. Tight, K. H. Mok, J. Huisman, & C. C. Morphew (Eds.), *The Routledge international handbook of higher education* (pp. 9–22). New York: Routledge.

CATME Smarter Teamwork. (n.d.). Retrieved from info.catme.org

CBI. (2008). *Taking stock: CBI education and skills survey 2008.* London: Confederation of Business Industry.

Cedefop (European Centre for the Development of Vocational Training). (2009). *The shift to learning outcomes: Policies and procedures in Europe*. Luxembourg: Office for Official Publications of the European Communities.

Chi, M. T. H. (2005). Common sense conceptions of emergent processes: Why some misconceptions are robust. *Journal of the Learning Sciences*, 14, 161–199.

Cho, K., & MacArthur, C. (2010). Student revision with peer and expert reviewing. *Learning and Instruction*, 20, 328–338.

Chubin, D. E., May, G. S., & Babco, E. L. (2005). Diversifying the engineering workforce. *Journal of Engineering Education*, 94(1), 73–86.

Clark, R. C., & Mayer, R. E. (2003). *e-Learning and the science of instruction*. San Francisco: Pfeiffer.

Coffield, F. (2012). Learning styles: Unreliable, invalid and impractical and yet still widely used. *Bad education: Debunking myths in education*. Berkshire UK: Open University Press.

Cohen, P. A. (1984). College grades and adult achievement: A research synthesis. *Research in Higher Education*, 20(3), 281–293.

Condon, W., & Kelly-Riley, D. (2004). Washington State University critical thinking project: Improving student learning outcomes through faculty practice. *Assessing Writing*, 9(1), 56–75.

Cornelius, T. L., & Owen-DeSchryver, J. (2008). Differential effects of full and partial notes on learning outcomes and attendance. *Teaching of Psychology*, 35(1), 6–12.

Cowan, N. (2010). The magical mystery four: How is working memory capacity limited, and why? *Current Directions in Psychological Science*, 19(1), 51–57.

Crooks, T. J. (1988). The impact of classroom evaluation practices on students. *Review of Educational Research*, 58(4), 438–481.

Croxton, R. A. (2014). The role of interactivity in student satisfaction and persistence in online learning. *Journal of Online Learning and Teaching*, 10(2), 314–325. Retrieved from jolt.merlot.org/vol10no2/croxton_0614.pdf

Dansereau, D. F., & Newbern, D. (1997). Using knowledge maps to enhance teaching. In W. E. Campbell & K. A. Smith (Eds.), *New paradigms for college teaching* (pp. 127–147). Edina, MN: Interaction Book Company.

Davis, C., & Yadav, A. (2014). Case studies in engineering. In A. Johri & B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (pp. 161–180). New York: Cambridge University Press.

DeMars, C. (2010). *Item response theory*. Oxford: Oxford University Press.

Deslauriers, L., Schelew, E., & Wieman, C. (2011). Improved learning in a large-enrollment physics class. *Science, 332*(6031), 862–864.

Dewey, J. (1910). *How we think.* Lexington, MA: D. C. Heath.

Donhardt, G. L. (2004). In search of the effects of academic achievement in post-graduation earnings. *Research in Higher Education, 45*(3), 271–284.

Douglas, E. P., & Chiu, C. C. (2013). Implementation of process oriented guided inquiry learning (POGIL) in engineering. *Advances in Engineering Education, 3*(3), 1–16. Retrieved from advances.asee.org/wp-content/uploads/vol03/issue03/papers/aee-vol03-issue03–03.pdf

Duch, B. J., Groh, S. E., & Allen, D. E. (Eds.). (2001). *The power of problem-based learning.* Sterling, VA: Stylus.

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, 14*(1), 4–58.

Dweck, C. (2006). *Mindset: The new psychology of success.* New York: Ballantine Books.

Dym, C. L., Agogino, A. M., Eris, O., Frey, D. D., & Leifer, L. (2005). Engineering design, thinking, teaching, and learning. *Journal of Engineering Education, 94*(1), 103–120.

Dym, C. L., Little, P., & Orwin, E. (2013). *Engineering design: A project-based introduction* (4th ed.). Hoboken, NJ: Wiley.

Eberlein, T., Kampmeier, J., Minderhout, V., Moog, R. S., Platt, T., Varma-Nelson, P., & White, H. G. (2008). Pedagogies of engagement in science: A comparison of PBL, POGIL, and PLTL. *Biochemistry and Molecular Biology Education, 36*(4), 262–273.

Elbow, P. (1986). *Embracing contraries: Explorations in learning and teaching.* New York: Oxford University Press.

Elbow, P. (1998). *Writing without teachers.* Oxford: Oxford University Press.

Elbow, P., & Sorcinelli, M. D. (2014). Using high-stakes and low-stakes writing to enhance learning. In M. D. Svinicki & W. J. McKeachie (Eds.), *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (14th ed., pp. 213–231). Belmont, CA: Wadsworth Cengage.

Ellis, G. W., Rudnitsky, A., & Silverstein, B. (2004). Using concept maps to enhance understanding in engineering education. *International Journal of Engineering Education, 20*(6), 1012–1021.

Engineering Projects in Community Service (EPICS). (n.d.). Retrieved from engineering.purdue.edu/EPICS

Ericsson, K. A., Krampe, R. T., & Tescher-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, *100*, 363–406.

Erwin, T. D., & Sebrell, K. W. (2003). Assessment of critical thinking: ETS's tasks in critical thinking. *Journal of General Education*, *52*(1), 50–70.

Eschenbach, E. A., Virnoche, M., Cashman, E. M., Lord, S. M., & Camacho, M. M. (2014). Proven practices that can reduce stereotype threat in engineering education: A literature review. *Proceedings of the 2014 Frontiers in Education Conference*, Madrid, Spain. IEEE/ASEE.

Etkina, E., Brookes, D. T., Murthy, S., Karelina, A., Villasenhor, M. R., & Heuvelen, A. V. (2006). Developing and assessing student scientific abilities. *Proceedings of the National STEM Assessment Conference*. Washington, DC: National Science Foundation and Drury University. Retrieved from www.openwatermedia.com/downloads/STEM(for-posting).pdf

Etkina, E., Murthy, S., & Zou, X. (2006). Using introductory labs to engage students in experimental design. *American Journal of Physics*, *74*, 979–986.

European Higher Education Area. (2014). Bologna Process—European Higher Education Area. Retrieved from http://www.ehea.info/article-details.aspx?ArticleId=5

Evans, N. J. (2002). The impact of an LGBT safe zone project on campus climate. *Journal of College Student Development*, *43*(4), 522–539.

Exam wrappers. (n.d.). Eberly Center, Carnegie Mellon University. Retrieved from www.cmu.edu/teaching/designteach/teach/examwrappers

Fassinger, P. A. (1995). Understanding classroom interaction: Students' and professors' contributions to students' silence. *Journal of Higher Education*, *66*(1), 82–96.

Feisel, L. D., & Rosa, A. J. (2005). The role of the laboratory in undergraduate engineering education. *Journal of Engineering Education*, *94*(1), 126–130.

Felder, R. M. (1985). The generic quiz: A device to stimulate creativity and higher-level thinking skills. *Chemical Engineering Education*, *19*(4), 176–181, 213–214. Retrieved from www.ncsu.edu/felder-public/Papers/Generic.pdf

Felder, R. M. (1987). On creating creative engineers. *Journal of Engineering Education*, *77*(4), 222–227. Retrieved from www.ncsu.edu/felder-public/Papers/Creative_Engineers.pdf

Felder, R. M. (1988). Creativity in engineering education. *Chemical Engineering Education*, *22*(3), 120–125. Retrieved from www.ncsu.edu/felder-public/Papers/Creativity(CEE).pdf

Felder, R. M. (1994). Any questions? *Chemical Engineering Education*, *28*(3), 174–175. Retrieved from www.ncsu.edu/felder-public/Columns/Questions .pdf

Felder, R. M. (1995). A longitudinal study of engineering student performance and retention. IV. Instructional methods and student responses to them. *Journal of Engineering Education*, *84*(4), 361–367. Retrieved from www .ncsu.edu/felder-public/Papers/long4.html

Felder, R. M. (1999). Memo to students who are disappointed with their last test grade. *Chemical Engineering Education*, *33*(2), 136–137. Retrieved from www.ncsu.edu/felder-public/Columns/memo.pdf

Felder, R. M. (2000). The alumni speak. *Chemical Engineering Education*, *34*(3), 238–239.

Felder, R. M. (2007). Sermons for grumpy campers. *Chemical Engineering Education*, *41*(3), 183–184. Retrieved from www.ncsu.edu/felder-public/ Columns/Sermons.pdf

Felder, R. M. (2010). Are learning styles invalid? (Hint: No.) *On-Course Newsletter,* September 27. Retrieved from www.ncsu.edu/felder-public/Papers/LS_ Validity(On-Course).pdf

Felder, R. M. (2011a). Hang in there: Dealing with student resistance to learner-centered teaching. *Chemical Engineering Education*, *45*(2), 131–132. Retrieved from www.ncsu.edu/felder-public/Columns/HangInThere.pdf

Felder, R. M. (2011b). How to stop cheating—or at least slow it down. *Chemical Engineering Education*, *45*(1), 37–38. Retrieved from www.ncsu.edu/ felder-public/Columns/Cheating.pdf

Felder, R. M., & Brent, R. (1996). Navigating the bumpy road to student-centered instruction. *College Teaching*, *44*, 43–47. Retrieved from www.ncsu.edu/ felder-public/Papers/Resist.html

Felder, R. M., & Brent, R. (1997). Objectively speaking. *Chemical Engineering Education*, *31*(3), 178–179. Retrieved from www.ncsu.edu/felder-public/ Columns/Objectives.html

Felder, R. M., & Brent, R. (2001). Effective strategies for cooperative learning. *Journal of Cooperation and Collaboration in College Teaching*, *10*(2), 69–75. Retrieved from www.ncsu.edu/felder-public/Papers/ CLStrategies(JCCCT).pdf

Felder, R. M., & Brent, R. (2003). Designing and teaching courses to satisfy the ABET Engineering Criteria. *Journal of Engineering Education*, *92*(1), 7–25. Retrieved from www.ncsu.edu/felder-public/Papers/ABET_Paper_ (JEE).pdf

Felder, R. M., & Brent, R. (2004a). Death by PowerPoint. *Chemical Engineering Education*, 39(1), 28–29. Retrieved from www.ncsu.edu/felder-public/Columns/PowerPoint.pdf

Felder, R. M., & Brent, R. (2004b). The intellectual development of science and engineering students. 1. Models and challenges. *Journal of Engineering Education*, 93(4), 269–277. Retrieved from www.ncsu.edu/felder-public/Papers/IntDev-I.pdf

Felder, R. M., & Brent, R. (2004c). The intellectual development of science and engineering students. 2. Teaching to promote growth. *Journal of Engineering Education*, 93(4), 279–291. Retrieved from www.ncsu.edu/felder-public/Papers/IntDev-II.pdf

Felder, R. M., & Brent, R. (2004d). A protocol for peer review of teaching. *Proceedings, 2004 Annual ASEE Conference*. Washington, DC: American Society for Engineering Education. Retrieved from www.ncsu.edu/felder-public/Papers/ASEE04(Peer-Review).pdf

Felder, R. M., & Brent, R. (2005). Understanding student differences. *Journal of Engineering Education*, 94(1), 57–72. Retrieved from www.ncsu.edu/felder-public/Papers/Understanding_Differences.pdf

Felder, R. M., & Brent, R. (2007). Cooperative learning. In P. A. Mabrouk (Ed.), *Active learning: Models from the analytical sciences*. Washington, DC: American Chemical Society. Retrieved from www.ncsu.edu/felder-public/Papers/CLChapter.pdf

Felder, R. M., & Brent, R. (2008). Student ratings of teaching: Myths, facts, and good practices. *Chemical Engineering Education*, 42(1), 33–34. Retrieved from www.ncsu.edu/felder-public/Columns/StudentRatings.pdf

Felder, R. M., & Brent, R. (2009). Active learning: An introduction. *ASQ Higher Education Brief*, 2(4). Retrieved from www.ncsu.edu/felder-public/Papers/ALpaper(ASQ).pdf

Felder, R. M., & Brent, R. (2010). Hard assessment of soft skills. *Chemical Engineering Education*, 44(1), 63–64. Retrieved from www.ncsu.edu/felder-public/Columns/SoftSkills.pdf

Felder, R. M., & Brent, R. (n.d.). Forms for cooperative learning. Retrieved from www.ncsu.edu/felder-public/CL_forms.doc

Felder, R. M., Felder, G. N., & Dietz, E. J. (2002). The effects of personality type on engineering student performance and attitudes. *Journal of Engineering Education*, 91(1), 3–17. Retrieved from www.ncsu.edu/felder-public/Papers/longmbti.pdf

Felder, R. M., Felder, G. N., Mauney, M., Hamrin Jr., C. E., & Dietz, E. J. (1995). A longitudinal study of engineering student performance and retention. III.

Gender differences in student performance and attitudes. *Journal of Engineering Education*, 84(2), 151–174. Retrieved from www.ncsu.edu/felder-public/Papers/long3.pdf

Felder, R. M., & Peretti, S. W. (1998). A learning theory-based approach to the undergraduate engineering laboratory. *American Society of Engineering Education Annual Conference Proceedings*. Washington, DC: American Society for Engineering Education. Retrieved from www.ncsu.edu/felder-public/Papers/330Lab.pdf

Felder, R. M., & Silverman, L. K. (1988). Learning and teaching styles in engineering education. *Journal of Engineering Education*, 78(7), 674–681. Retrieved from www.ncsu.edu/felder-public/Papers/LS-1988.pdf

Felder, R. M., & Stice, J. E. (2014). Tips on test-taking. *Chemical Engineering Education*, 48(1), 57–58. Retrieved from www.ncsu.edu/felder-public/Columns/TestTaking.pdf

Fiechtner, S. B., & Davis, E. A. (1985). Why some groups fail: A survey of students' experiences with learning groups. *The Organizational Behavior Teaching Review*, 9(4), 75–88.

Fink, L. D. (2003). *Creating significant learning experiences*. San Francisco: Jossey-Bass.

Fogler, H. S., LeBlanc, S. E., & Rizzo, B. (2014). *Strategies for creative problem solving* (3rd ed.). Upper Saddle River, NJ: Pearson.

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Science*, June 10, 2014, Vol. 111, No. 23. Retrieved from www.pnas.org/content/early/2014/05/08/1319030111.full.pdf+html

Garber, A. (2001). Death by PowerPoint. Small Business Computing.com (April). www.smallbusinesscomputing.com/biztools/article.php/684871/Death-By-Powerpoint.htm

Gibbs, G., & Simpson, C. (2004–2005). Conditions under which assessment supports students' learning. *Learning and Teaching in Higher Education*, 1, 3–31.

Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education*, 57, 2333–2351.

Goodman, I. F., Cunningham, C. M., Lachapelle, C., Thompson, M., Bittinger, K., Brennan, R. T., & Delci, M. (2002). *Final report of the women's experiences in college engineering (WECE) Project*. Cambridge, MA: Goodman Research Group. Retrieved from www.grginc.com/WECE_FINAL_REPORT.pdf

Gosser, D. K., Cracolice, M. S., Kampmeier, J. A., Roth, V., Strozak, V. S., & Varma-Nelson, P. (Eds.). (2001). *Peer-led team learning: A guidebook*. Upper Saddle River, NJ: Prentice Hall.

Gronlund, N. E. (2008). *How to write and use instructional objectives* (8th ed.). Upper Saddle River, NJ: Prentice Hall.

Guglielmino, L. M. (2013). The case for promoting self-directed learning in formal educational institutions. *SE-eDUC Journal*, *10*(2). Retrieved from www-nwu-ac-za.web.nwu.ac.za/sites/www-nwu-ac-za.web.nwu.ac.za/sites/www.nwu.ac.za/files/files/p-saeduc/sdl%20issue/Guglielmino,%20L.M.%20The%20case%20for%20promoting%20self-directed%20lear.pdf

Guo, P. J., Kim, J., & Rubin, R. (2014). How video production affects student engagement: An empirical study of MOOC videos. *Proceedings of the first ACM Conference on Learning@Scale*. Atlanta, Georgia, March 4–5, 2014. Retrieved from groups.csail.mit.edu/uid/other-pubs/las2014-pguo-engagement.pdf

Gurin, P. (1999). The compelling need for diversity in education (expert report). University of Michigan. Retrieved from diversity.umich.edu/admissions/legal/expert/gurintoc.html

Haidet, P., Kubitz, K., & McCormack, W. T. (2014). Analysis of the team-based learning literature: TBL comes of age. *Journal on Excellence in College Teaching*, *25*(3&4), 303–333.

Hart, J. (2015). Top 100 tools for learning. Center for Learning & Performance Technologies. Retrieved from c4lpt.co.uk/top100tools/

Hart Research Associates. (2010). *Raising the bar: Employers' views on college learning in the wake of the economic downturn*. Washington, DC: Author. Retrieved from www.aacu.org/leap/documents/2009_EmployerSurvey.pdf

Hartley, J., & Davies, I. K. (1978). Note-taking: A critical review. *Programmed Learning & Educational Technology*, *15*, 207–224.

Hattie, J. (2009). *Visible learning*. New York: Routledge.

Hawk, T. F., & Lyons, P. R. (2008). Please don't give up on me: When faculty fail to care. *Journal of Management Education*, *32*(3), 316–338.

Heller, P., & Hollabaugh, M. (1992). Teaching problem solving through cooperative grouping. Part II: Designing problems and structuring groups. *American Journal of Physics*, 60, 637–644.

Herreid, C. F., Schiller, N. A., & Herreid, K. F. (2012). *Science stories: Using case studies to teach critical thinking.* Arlington, VA: NSTA Press.

Heslin, P. A. (2009). Better than brainstorming? Potential contextual boundary conditions to brainwriting for idea generation in organizations. *Journal of Occupational and Organizational Psychology*, 82, 129–145.

Heywood, J. (2005). *Engineering education: Research and development in curriculum and instruction.* Hoboken, NJ: IEEE/Wiley.

Hiemstra, R. (2013). Self-directed learning: Why do most instructors still do it wrong? *International Journal of Self-Directed Learning*, 10(1), 23–34.

Hobson, E. H. (2004). Getting students to read: Fourteen tips (IDEA Paper 40). Manhattan, KS: The IDEA Center. Retrieved from ideaedu.org/research-and-papers/idea-papers/idea-paper-no-40/

How stuff works. (n.d.). Retrieved from www.howstuffworks.com/

Hunsaker, P., Pavett, C., & Hunsaker, J. (2011). Increasing student-learning team effectiveness with team charters. *Journal of Education for Business*, 86(3), 127–139.

Hutchison-Green, M. A., Follman, D. K., & Bodner, G. M. (2008). Providing a voice: Qualitative investigation of the impact of a first-year engineering experience on students' efficacy beliefs. *Journal of Engineering Education*, 97(2), 177–190.

International Engineering Alliance. (n.d.). Washington accord. Retrieved from www.washingtonaccord.org/washington-accord

Jackson, M. (1996). Making the grade: The formative evaluation of essays. In *ultiBASE* (July 3). Retrieved from trove.nla.gov.au/work/153148874?q&versionId=166904470

Jacobs, L. C. (2002). How to write better tests: A handbook for improving test construction skills. Indiana University. Retrieved from www.indiana.edu/~best/pdf_docs/better_tests.pdf

Jacoby, B. (2014). *Service-learning essentials: Questions, answers, and lessons learned.* San Francisco: Jossey-Bass.

Jain, R., Shanahan, B., & Roe, C. (2009). Broadening the appeal of engineering—addressing factors contributing to low appeal and high attrition. *International Journal of Engineering Education*, 25(3), 405–418.

Jensen, J. L., Kummer, T. A., & Godoy, D. d. M. (2015). Improvements from a flipped classroom may simply be the fruits of active learning. *CBE-Life*

Sciences Education, *14*, 1–12. Retrieved from www.lifescied.org/content/14/1/ar5.full.pdf+html

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2006). *Active learning: Cooperation in the college classroom* (3rd ed.). Edina, MN: Interaction Book.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in College Teaching*, *25*(3&4), 85–118.

Johnson, D. W., Johnson, R. T., & Stanne, M. E. (2000). *Cooperative learning methods: A meta-analysis.* University of Minnesota, Minneapolis: Cooperative Learning Center. Retrieved from www.lcps.org/cms/lib4/VA01000195/Centricity/Domain/124/Cooperative_Learning Methods A Meta-Analysis.pdf

Johri, A., & Olds, B. M. (Eds.). (2014). *Cambridge handbook of engineering education research*. New York: Cambridge University Press.

Journals in Higher Education (JIHE). (n.d.) Retrieved from www.cideronline.org/jihe/view1.cfm

Just-in-Time Teaching (JiTT). (n.d.). Retrieved from jittdl.physics.iupui.edu/jitt/

Karpicke, J. D., & Blunt, J. E. (2011). Retrieval practice produces more learning than elaborative studying with concept mapping. *Science*, *331*(6018), 772–775.

Kaufman, D. B., Felder, R. M., & Fuller, H. (2000). Accounting for individual effort in cooperative learning teams. *Journal of Engineering Education*, *89*, 133–140. Retrieved from www.ncsu.edu/felder-public/Papers/Kaufmanpap.pdf

Kaufman, J. C., Plucker, J. A., & Baer, J. (2008). *Essentials of creativity assessment*. Hoboken, NJ: Wiley.

Kiewra, K. A. (1989). A review of note-taking: The encoding storage paradigm and beyond. *Educational Psychology Review*, *1*(2), 147–172.

Kiewra, K. A. (2012). Using graphic organizers to improve teaching and learning. Idea Paper 51. Manhattan, KS: The Idea Center. Retrieved from ideaedu.org/research-and-papers/idea-papers/idea-paper-no-51/

King, A. (1993). From sage on the stage to guide on the side. *College Teaching*, *41*(1), 30–35.

Knapper, C. K., & Cropley, A. J. (2000). *Lifelong learning in higher education*. London: Kogan Page.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. New York: Association Press.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kolmos, A., & de Graaf, E. (2014). Problem-based and project-based learning in engineering education. In A. Johri & B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (pp. 141–160). New York: Cambridge University Press.

Kolowich, S. (2013). The new intelligence. *Inside Higher Ed* (January 25). Retrieved from https://www.insidehighered.com/news/2013/01/25/arizona-st-and-knewtons-grand-experiment-adaptive-learning

Koretsky, M. D. (2015). Program level curriculum reform at scale: Using studios to flip the classroom. *Chemical Engineering Education*, 49(1), 47–57.

Koretsky, M. D., & Brooks, B. J. (2012). Student attitudes in the transition to an active-learning technology. *Chemical Engineering Education*, 46(1), 289–297.

Koretsky, M. D., Kelly, C., & Gummer, E. (2011a). Student learning in industrially situated virtual laboratories. *Chemical Engineering Education*, 45(3), 219–228.

Koretsky, M. D., Kelly, C., & Gummer, E. (2011b). Student perceptions of learning in the laboratory: Comparison of industrially situated virtual laboratories to capstone physical laboratories. *Journal of Engineering Education*, 100(3), 540–573.

Krathwohl, D. R., Bloom, B. S., & Massia, B. B. (1984). *Taxonomy of educational objectives. Handbook 2. Affective domain*. New York: Addison-Wesley.

Kroll, B. M. (1992). *Teaching hearts and minds: College students reflect on the Vietnam War in literature*. Carbondale, IL: Southern Illinois University Press.

Kurfiss, J. G. (1988). *Critical thinking: Theory, research, practice, and possibilities*. ASHE-ERIC Higher Education Report 2. Washington, DC: ASHE-ERIC.

Lang, J. D., Cruse, S., McVey, F. D., & McMasters, J. (1999). Industry expectations of new engineers: A survey to assist curriculum designers. *Journal of Engineering Education*, 88(1), 43–51.

Lasry, N., Mazur, E., & Watkins, J. (2008). Peer instruction: From Harvard to the two-year college. *American Journal of Physics*, 76(11), 1066–1069.

Laursen, S., Hunter, A., Seymour, E., Thiry, H., & Melton, G. (2010). *Undergraduate research in the sciences: Engaging students in real science*. San Francisco: Jossey-Bass.

Layton, R. A., Loughry, M. L., Ohland, M. W., & Ricco, G. D. (2010). Design and validation of a web-based system for assigning members to teams

using instructor-specified criteria. *Advances in Engineering Education*, 2(1), 1–28.

Lee, V. S. (Ed.). (2004). *Teaching & learning through inquiry: A guidebook for institutions and instructors*. Sterling, VA: Stylus.

Lee, V. S. (Ed.). (2012). *Inquiry-guided learning new directions for teaching and learning*, No. 129. San Francisco: Jossey-Bass.

Lichtenstein, G., Chen, H. I., Smith, K. A., & Maldonado, T. A. (2014). Retention and persistence of women and minorities along the engineering pathway in the United States. In A. Johri & B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (pp. 311–334). New York: Cambridge University Press.

Lightman, A., & Sadler, P. (1993). Teacher predictions versus actual student gains. *The Physics Teacher, 31*, 162–167.

Lochhead, J., & Whimbey, A. (1987). Teaching analytical reasoning through thinking-aloud pair problem solving. In J. E. Stice (Ed.), *Developing critical thinking and problem-solving abilities* (pp. 73–92). New Directions for Teaching and Learning, No. 30. San Francisco: Jossey-Bass.

Loughry, M. L., Ohland, M. W., & Moore, D. D. (2007). Development of a theory-based assessment of team member effectiveness. *Educational and Psychological Measurement, 67*(3), 505–524.

Loughry, M. L., Ohland, M. W., & Woehr, D. J. (2014). Assessing teamwork skills for assurance of learning using CATME Team Tools. *Journal of Marketing Education, 36*(1), 5–19.

Lowman, J. (1995). *Mastering the techniques of teaching* (2nd ed.) San Francisco: Jossey-Bass.

Lyman Jr., F. (1981). The responsive classroom discussion: The inclusion of all students. In A. S. Anderson (Ed.), *Mainstreaming digest*. College Park: University of Maryland.

Lynch, C. L., & Wolcott, S. K. (2001). Helping your students develop critical thinking skills (IDEA Paper 37). Manhattan, KS: The IDEA Center. Retrieved from ideaedu.org/research-and-papers/idea-papers/idea-paper-no-37/

Mager, R. F. (1997). *Preparing instructional objectives: A critical tool in the development of effective instruction*. Atlanta, GA: The Center for Effective Performance.

Markel, M. (2014). *Technical communication* (11th ed.). Boston: Bedford/St. Martin's.

Marra, R., Jonassen, D. H., Palmer, B., & Luft, S. (2014). Why problem-based learning works: Theoretical foundations. *Journal on Excellence in College Teaching, 25*(3&4), 221–238.

Marton, F., Hounsell, D., & Entwistle, N. (Eds.). (1997). *The experience of learning* (2nd ed.). Edinburgh: Scottish Academic Press.

Mastascusa, E. J., Snyder, W. J., & Hoyt, B. S. (2011). *Effective instruction for STEM disciplines: From learning theory to college teaching.* San Francisco: Jossey-Bass.

Mayer, R. E. (2003). Cognitive theory and the design of multimedia instruction: An example of the two-way street between cognition and instruction. In D. F. Halpern & M. D. Hakel (Eds.), *Applying the science of learning to university teaching and beyond* (pp. 55–72). New Directions for Teaching and Learning Science, No. 89. San Francisco: Jossey-Bass.

Mazur, E. (1997). *Peer instruction: A user's manual.* Upper Saddle River, NJ: Prentice Hall.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* Washington, DC: US Department of Education. Retrieved from www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

Meyers, S. A. (2009). Do your students care whether you care about them? *College Teaching, 57*(4), 205–210.

Michaelson, L. K., Knight, A. B., & Fink, L. D. (2004). *Team-based learning: A transformative use of small groups in college teaching.* Arlington, VA: Stylus.

Middendorf, J., & Kalish, A. (1996). The "change-up" in lectures. *National Teaching and Learning Forum, 5*(2), 1–5.

Millis, B. J., & Cottell Jr., P. G. (1998). *Cooperative learning for higher education faculty.* Phoenix: Oryx Press.

Momsen, J. L., Long, T. M., Wyse, S. A., & Ebert-May, D. (2010). Just the facts? Introductory undergraduate biology courses focus on low-level cognitive skills. *CBE Life Sciences Education, 9*(4), 435–440. Retrieved from www.lifescied.org/content/9/4/435.full

Moog, R. S., & Spencer, J. N. (Eds.). (2008). *Process-oriented guided inquiry learning.* New York: American Chemical Society.

Morris, P. E., Fritz, C. O., Jackson, L., Nichol, E., & Roberts, E. (2005). Strategies for learning proper names: Expanding retrieval practice, meaning and imagery. *Applied Cognitive Psychology, 19*(6), 779–798.

National Academy of Sciences, National Academy of Engineering, & Institute of Medicine. (2011). *Expanding underrepresented minority participation.* Washington, DC: National Academies Press. Retrieved from grants.nih .gov/training/minority_participation.pdf

National Center for Case Study Teaching in Science (NCCSTS). (n.d.). Retrieved from sciencecases.lib.buffalo.edu/cs/

National Science Foundation. (2009, January). *Women, minorities, and persons with disabilities in science and engineering.* NSF 09–305. Arlington, VA: National Science Foundation, Retrieved from www.nsf.gov/statistics/ wmpd/

Nilson, L. B. (2007). *The graphic syllabus and the outcomes map: Communicating your course.* San Francisco: Jossey-Bass.

Novak, J. D., & Cañas, A. J. (2008). The theory underlying concept maps and how to construct them. Technical Report IHMC CmapTools 2006–01 Rev 01–2008. Florida Institute for Human and Machine Cognition. Retrieved from cmap.ihmc.us/Publications/ResearchPapers/ TheoryUnderlyingConceptMaps.pdf

Oakley, B. (2014). *A mind for numbers: How to excel at math and science (even if you flunked algebra).* New York: Jeremy P. Tarcher/Penguin.

Oakley, B., Felder, R. M., Brent, R., & Elhajj, I. (2004). Turning student groups into effective teams. *Journal of Student-Centered Learning,* 2(1), 9–34. Retrieved from www.ncsu.edu/felder-public/Papers/Oakley-paper(JSCL) .pdf

O'Brien, J. G., Millis, B. J., & Cohen, M. W. (2008). *The course syllabus: A learning-centered approach* (2nd ed.). Hoboken, NJ: Wiley.

Ohland, M. W., Brawner, C. E., Camacho, M. M., Layton, R. A., Long, R. A., Lord, S. M., & Wasburn, M. H. (2011). Race, gender, and measures of success in engineering education, *Journal of Engineering Education,* 100(2), 225–252.

Ohland, M. W., Loughry, M. L., Woehr, D. J., Bullard, L. G., Felder, R. M., Finelli, C. J., Layton, R. A., Pomeranz, H. R., & Schmucker, D. G. (2012). The comprehensive assessment of team member effectiveness: Development of a behaviorally anchored rating scale for self and peer evaluation. *Academy of Management Learning & Education,* 11(4), 609–630.

Ohland, M. W., Sheppard, S. D., Lichtenstein, G., Eris, O., Chachra, D., & Layton, R. A. (2008). Persistence, engagement, and migration in engineering programs. *Journal of Engineering Education,* 97(3), 259–277.

Orpen, C. (1982). Student versus lecturer assessment of learning: A research note. *Higher Education,* 11, 567–572.

Osborn, A. F. (1963). *Applied imagination: Principles and procedures of creative problem solving* (3rd ed.). New York: Charles Scribner's Sons.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.

Peer-Led Team Learning (PLTL). (n.d.). Retrieved from www.pltl.org

Penner, J. (1984). *Why many college teachers cannot lecture*. Springfield, IL: Charles C. Thomas.

Perry, W. G. (1970/1998). *Forms of intellectual and ethical development in the college years: A scheme*. San Francisco: Jossey-Bass.

Pfeiffer, W. S. (2010). *Pocket guide to technical communication* (5th ed.). Upper Saddle River, NJ: Longman.

Phillips, C. R., Chesnut, R. J., & Rospond, R. M. (2004). The California critical thinking instruments for benchmarking, program assessment, and directing curricular change. *American Journal of Pharmaceutical Education, 68*(4), Article 101.

Pólya, G. (1945). *How to solve it*. Princeton, NJ: Princeton University Press.

Poynter, K. J., & Washington, J. (2005). Multiple identities: Creating community on campus for LGBT students. *New Directions for Student Services, 111*, 41–47.

Prichard, J. (2013). *The importance of soft skills in entry-level employment and post-secondary success*. Seattle: Seattle Jobs Initiative. Retrieved from www.seattlejobsinitiative.com/wp-content/uploads/SJI_SoftSkillsReport_vFINAL_1.17.13.pdf

Prince, M. J. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93*(3), 223–231.

Prince, M. J., & Felder, R. M. (2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. *Journal of Engineering Education, 95*(2), 123–138. Retrieved from www.ncsu.edu/felder-public/Papers/InductiveTeaching.pdf

Prince, M. J., & Felder, R. M. (2007). The many faces of inductive teaching and learning. *Journal of College Science Teaching, 36*(5), 14–20. Retrieved from www.ncsu.edu/felder-public/Papers/Inductive(JCST).pdf

Prince, M. J., Vigeant, M. A. S., & Nottis, K. E. K. (2012). Assessing the prevalence and persistence of engineering students' misconceptions in heat transfer. *Journal of Engineering Education, 101*(3), 412–438.

Process Oriented Guided Inquiry Learning (POGIL). (n.d.) Retrieved from pogil.org/post-secondary

Pyc, M. A., Agarwal, P. K., & Roediger III, H. L. (2014). Test-enhanced learning. In V. A. Benassi, C. E. Overson, & C. M. Hakala (Eds.),

Applying science of learning in education: Infusing psychological science in the curriculum (pp. 78–90). Washington, DC: American Psychological Association.

Ramsden, P. (2003). *Learning to teach in higher education* (2nd ed.). New York: Routledge Falmer.

Rankin, S., Weber, G., Blumenfeld, W., & Frazer, S. (2010). *2010 state of higher education for lesbian, gay, bisexual and transgender people.* Charlotte, NC: Campus Pride. Retrieved from issuu.com/campuspride/docs/campus_pride_2010_lgbt_report_summary

Reason, R. D., Cox, B. E., Quaye, B. R. L., & Terenzini, P. T. (2010). Faculty and institutional factors that promote student encounters with difference in first-year courses. *Review of Higher Education, 33*(3), 391–414.

Renkl, A. (2014). Learning from worked examples: How to prepare students for meaningful problem solving. In V. A. Benassi, C. E. Overson, & C. M. Hakala (Eds.), *Applying science of learning in education: Infusing psychological science in the curriculum* (pp. 118–130). Washington, DC: American Psychological Association.

Riener, C., & Willingham, D. (2010). The myth of learning styles. *Change: The magazine of higher learning.* Retrieved from www.changemag.org/Archives/Back%20Issues/September-October%202010/the-myth-of-learning-full.html

Roberson, B., & Franchini, B. (2014). Effective task design for the TBL classroom. *Journal on Excellence in College Teaching, 25*(3&4), 275–302.

Roediger III, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term learning. *Trends in Cognitive Science, 15*(1), 20–27.

Rogers, C. R., & Farson, R. E. (1987). Active listening. In R. G. Newman, M. A. Danziger, & M. Cohen (Eds.), *Communication in business today.* Washington: Heath.

Rohrer, D., Dedrick, R., & Burgess, K. (2014). The benefit of interleaved mathematics practice is not limited to superficially similar kinds of problems. *Psychonomic Bulletin & Review, 21*, 1323–1330.

Rohrer, D., & Pashler, H. (2007). Increasing retention without increasing study time. *Current Directions in Psychological Science, 16*(4), 183–186.

Rohrer, D., & Pashler, H. (2012). Learning styles: Where's the evidence? *Medical Education, 46*, 634–635. Retrieved from onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.2012.04273.x/full

Rohrer, D., Taylor, K., Pashler, H., Wixted, J. T., & Cepeda, N. J. (2004). The effect of overlearning on long-term retention. *Applied Cognitive Psychology, 19*, 361–374.

Rosen, C. (2008). The myth of multitasking. *The New Atlantis*, Spring, 105–110. Retrieved from www.thenewatlantis.com/publications/the-myth-of-multitasking

Rosser, S. (1997). *Re-engineering female friendly science*. New York: Teachers College Press.

Rosser, S. V. (1998). Group work in science, engineering, and mathematics: Consequences of ignoring gender and race. *College Teaching*, 46(3), 82–88.

Rowe, M. B. (1986). Wait time: Slowing down may be a way of speeding up! *Journal of Teacher Education*, 37(1), 43–50.

Rutledge, M. L., & Warden, M. A. (2000). Evolutionary theory, the nature of science & high school biology teachers: Critical relationships. *The American Biology Teacher*, 62(1), 23–31.

Sadler, P. M., & Good, E. (2006). The impact of self- and peer-grading on student learning. *Educational Assessment*, 11(1), 1–31.

Sarquis, J. L., Dixon, L. J., Gosser, D. K., Kampmeier, J. A., Roth, V., Strozak, V. S., & Varma-Nelson, P. (2001). The workshop project: Peer-led team learning in chemistry. In J. E. Miller, J. E. Groccia, & M. Miller (Eds.), *Student-assisted teaching: A guide to faculty-student teamwork* (pp.150–155). Bolton, MA: Anker.

Schneider, B., Blikstein, P., & Pea, R. (2013). The flipped, flipped classroom. *The Stanford Daily*, August 5. Retrieved from www.stanforddaily.com/2013/08/05/the-flipped-flipped-classroom/

Schneider, B., Milesi, C., Brown, K., Gutin, I., & Perez-Felkner, L. (2015). Does the gender gap in STEM majors vary by field and institutional selectivity? *Teachers College Record*, July 16.

Seidel, S. B., & Tanner, K. D. (2013). "What if students revolt?"—Considering student resistance: Origins, options, and opportunities for investigation. *CBE Life Sciences Education*, 12, 586–595. Retrieved from www.lifescied.org/content/12/4/586.full

Severiens, S., & Schmidt, H. (2009). Academic and social integration and study progress in problem based learning. *Higher Education*, 58(1), 59–69.

Seymour, E., & Hewitt, N. M. (1997). *Talking about leaving: Why undergraduates leave the sciences*. Boulder, CO: Westview Press.

Shank, J. D. (2014). *Interactive open educational resources: A guide to finding, choosing, and using what's out there to transform college teaching*. San Francisco: Jossey-Bass.

Shuman, L. J., Besterfield-Sacre, M., & McGourty, J. (2005). The ABET "professional skills"—Can they be taught? Can they be assessed? *Journal of Engineering Education*, 94(1), 41–55.

Stuart, J., & Rutherford, R. (1978). Medical student concentration during lectures. *The Lancet*, 2, 514–516.

Svinicki, M. D. (2010). Synthesis of the research on teaching and learning in engineering since the implementation of ABET Engineering Criteria 2000. National Academies Board on Science Education. Retrieved from sites .nationalacademies.org/dbasse/bose/dbasse_080124

Svinicki, M., & McKeachie, W. J. (2014). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (14th ed.). Belmont, CA: Wadsworth.

Sweller, J. (2006). The worked example effect and human cognition. *Learning and Instruction*, 16(2), 165–169.

Sweller, J., Ayres, P., & Kalyuga, S. (2011). *Cognitive load theory*. Springer Science and Business Media. Available from https://books.google.com/ books/about/Cognitive_Load_Theory.html?id=sSAwbd8qOAAC.

Szpunar, K. K., Khan, N. Y., & Schacter, D. L. (2013). Interpolated memory tests reduce mind wandering and improve learning of online lectures. *Proceedings of the National Academy of Sciences*, 110(16), 6313–6317.

Tanner, K. D. (2012). Promoting student metacognition. *CBE-Life Sciences Education*, 11, 113–120.

Taylor, A. K., & Kowalski, P. (2014). Student misconceptions: Where do they come from and what can we do? In V. A. Benassi, C. E. Overson, & C. M. Hakala (Eds.), *Applying science of learning in education: Infusing psychological science into the curriculum*. Retrieved from teachpsych.org/ebooks/ asle2014/index.php

Taylor, K., & Rohrer, D. (2010). The effects of interleaved practice. *Applied Cognitive Psychology*, 24(6), 837–848.

Terenzini, P. T., Cabrera, A. F., Colbeck, C. L., Parente, J. M., & Bjorklund, S. A. (2001). Collaborative learning vs. lecture/discussion: Students' reported learning gains. *Journal of Engineering Education*, 90, 123–130.

Tien, L. T., Roth, V., & Kampmeier, J. A. (2002). Implementation of a peer-led team learning approach in an undergraduate organic chemistry course. *Journal of Research in Science Teaching*, 39, 606–632.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Tobias, S. (1994). *They're not dumb, they're different*. Tucson, AZ: Research Corporation.

Torrance, E. P. (1962). Creative thinking through school experiences. In S. J. Parnes & H. F. Harding (Eds.), *A source book for creative thinking* (pp. 31–47). New York: Charles Scribner's Sons.

Torrance, E. P. (1966a). Rationale of the Torrance tests of creative thinking ability. In E. P. Torrance & W. F. White (Eds.), *Issues and advances in education psychology.* Istica, IL: F. E. Peacock.

Torrance, E. P. (1966b). *Torrance test on creative thinking: Norms–technical manual.* Lexington, MA: Personal Press.

Trigwell, K., Prosser, M., & Waterhouse, F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education, 37,* 57–70.

Tucker, C. (2013). Mind/Shift teacher's guide to using videos. KQED and NPR. Retrieved from ww2.kqed.org/mindshift/wp-content/uploads/sites/23/2013/03/MindShift-Guide-to-Videos.pdf

University of California, San Diego. (2014). Learning how to learn: Powerful mental tools to help you master tough subjects. Retrieved from www.coursera.org/learn/learning-how-to-learn

University of Delaware PBL Clearinghouse. (n.d.). Retrieved from http://www.udel.edu/inst/clearinghouse/index.html

University of Oregon. (2014). Writing multiple choice questions that demand critical thinking. Retrieved from tep.uoregon.edu/resources/assessment/multiplechoicequestions/mc4critthink.html

US Copyright Office. (n.d.). Circular 92 107 limitations on exclusive rights: Fair use. Retrieved from www.copyright.gov/title17/92chap1.html#107

US Department of Commerce. (2011). Women in STEM: A gender gap to innovation. *ESA Issue Brief 04–11.* Washington, DC: US Department of Commerce.

van Gelder, T. (2005). Teaching critical thinking: Some lessons from cognitive science. *College Teaching, 53*(1), 41–46.

VanGundy, A. B. (1983). Brainwriting for new product ideas: An alternative to brainstorming. *Journal of Consumer Marketing, 1,* 67–74.

Velegol, S. B., Zappe, S. E., & Mahoney, E. (2015). The evolution of a flipped classroom: Evidence-based recommendations. *Advances in Engineering Education, 4*(3). Retrieved from advances.asee.org/wp-content/uploads/vol04/issue03/papers/AEE-15-Velegol.pdf

Watson, G., & Glaser, E. (1980). *Watson-Glaser critical thinking appraisal.* San Antonio, TX: The Psychological Corporation.

Weber, K., & Custer, R. (2005). Gender-based preferences toward technology education content, activities, and instructional methods. *Journal of Technology Education, 16*(2), 55–71.

Weimer, M. (2012). Five characteristics of learner-centered teaching. Faculty Focus. Magna publications. Retrieved from www.facultyfocus .com/articles/effective-teaching-strategies/five-characteristics-of-learner-centered-teaching/

Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice* (2nd ed.). San Francisco: Jossey-Bass.

Wieman, C. (2014). Large-scale comparison of science teaching methods sends clear message. *Proceedings of the National Academy of Sciences (PNAS), 111*(23), 8319–8320. Retrieved from www.pnas.org/content/111/23/8319 .full

Williams, L., & Kessler, R. (2002). *Pair programming illuminated.* Boston: Addison-Wesley.

Wilson, R. C. (1986). Improving faculty teaching: Effective use of student evaluations and consultants. *Journal of Higher Education, 57*(2), 196–211.

Woods, D. R. (1985). *A strategy for problem solving* (3rd ed.). Hamilton, Ontario: Department of Chemical Engineering, McMaster University.

Woods, D. R. (1994). *Problem-based learning: How to get the most from PBL.* Waterdown, Ontario: Woods Publishing.

Woods, D. R. (2000). An evidence-based strategy for problem solving. *Journal of Engineering Education, 89*(4), 443–459.

Zeilik, M. (n.d.). Field-tested learning assessment guide (FLAG). Classroom assessment techniques: Minute paper. Retrieved from www.flaguide.org/ cat/minutepapers/minutepapers7.php

Zimarro, D. (2004).Writing good multiple choice exams. University of Texas at Austin. Retrieved from ctl.utexas.edu/sites/default/files/writing-good-multiple-choice-exams-04-28-10.pdf