

A Anhang: Die Fünf-Schritte-Methode – eine Lesemethode für Lehrbücher

Im Folgenden stelle ich Ihnen eine Methode zum Lesen und Lernen von Lehrbuchkapiteln vor (inhaltlich angepasst von Atkinson et al. 1987), die auf Erkenntnissen der kognitiven Psychologie basiert und aufgrund empirischer Forschungen zum Lernen und Erinnern entwickelt wurde. Sie führt nachgewiesenermaßen zu einer nachhaltigen Verbesserung beim Verstehen und Behalten der Kernaussagen von Texten (Thomas und Robinson 1982).

Die Methode ist im Englischen nach den Anfangsbuchstaben der fünf Phasen (vgl. **Abb. A1**) benannt (»PQRST Method« für »Preview«, »Question«, »Read«, »Self-recitation« und »Test«), die beim Lesen eines Lehrbuchkapitels zu durchlaufen sind. Diese Phasen gehen aus dem folgenden Diagramm hervor. Die erste Phase (Überfliegen) und die letzte (Überprüfen) beziehen sich jeweils auf das gesamte Kapitel, die mittleren drei Phasen (Fragen, Lesen und Festhalten) betreffen die einzelnen Hauptabschnitte eines Kapitels.

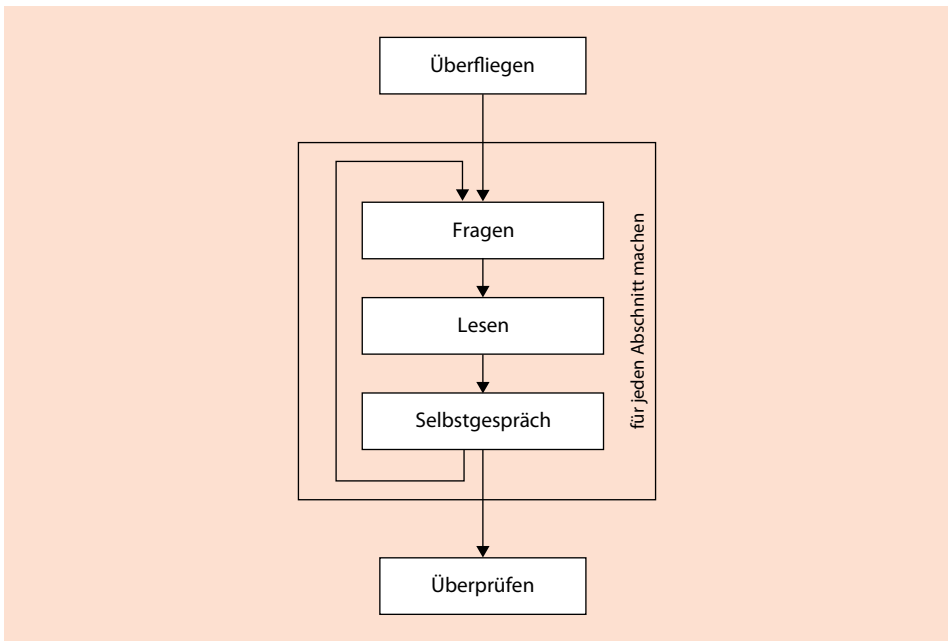


Abb. A1 Lesemethode für Lehrbücher

Phase 1 (Überfliegen) In der ersten Phase verschaffen Sie sich einen Gesamtüberblick über das Kapitel, indem Sie die Hauptthemen identifizieren. Dafür empfiehlt es sich, zunächst das Inhaltsverzeichnis sehr genau durchzulesen. Anschließend blättern Sie das Kapitel durch, wobei Sie die Titel der verschiedenen Abschnitte und Unterabschnitte lesen sowie Bilder, Grafiken und Diagramme kurz anschauen. Der wichtigste Schritt in dieser ersten Phase ist das Lesen der Zusammenfassung, die sich in den meisten Lehrwerken am Kapitelende befindet. Nehmen Sie sich Zeit, um die in der Zusammenfassung angesprochenen Themen Punkt für Punkt zu durchdenken. Versuchen Sie zwei bis drei Dinge zu finden, die Sie besonders interessieren und über die Sie in diesem Kapitel mehr erfahren wollen.

Phase 2 (Fragen) Wie schon erwähnt, durchlaufen Sie die Phasen 2, 3 und 4 für jeden größeren Abschnitt des Kapitels. Normalerweise besteht ein Lehrbuchkapitel aus fünf bis acht solcher Hauptabschnitte. Arbeiten Sie diese nacheinander durch. Erst wenn Sie bei einem Hauptabschnitt die drei Phasen absolviert haben, dürfen Sie sich mit dem nächsten größeren Abschnitt beschäftigen. In Phase 2 haben Sie die Aufgabe, die Titel und Untertitel des Hauptabschnitts zu lesen und daraus eine oder mehrere Fragen abzuleiten, die der Text Ihnen beantworten soll. Nehmen Sie also eine fragende Haltung ein. Verhalten Sie sich so, als fände zwischen Ihnen und dem Buch tatsächlich ein Dialog statt. Sie stellen dem Buch Fragen und erwarten Antworten von ihm.

Phase 3 (Lesen) Versuchen Sie beim Lesen des Abschnitts, die in Phase 2 formulierten Fragen zu beantworten. Denken Sie über das, was Sie gerade lesen, nach und versuchen Sie Verbindungen zu dem herzustellen, was sie sonst noch über das Thema wissen. Nehmen Sie eine kritische Haltung ein, indem Sie die Argumente des Autors und die Gültigkeit der beschriebenen experimentellen Nachweise hinterfragen. Unterstreichen bzw. markieren Sie Schlüsselwörter und wichtige Sätze. Oder setzen Sie Ausrufe- und Fragezeichen an den Rand. Notizen sollten Sie jedoch erst nach dem Lesen des gesamten Abschnitts machen, wenn Sie sich mit allen Ideen vertraut gemacht und ihre relative Bedeutung erfasst haben.

Phase 4 (Selbstgespräch) Wenn Sie mit dem Lesen eines Hauptabschnitts fertig sind, versuchen Sie, sich an die wichtigsten Aussagen zu erinnern und sich diese selbst vorzusprechen. Dieses Selbstgespräch ist äußerst wirksam, um den Stoff im Gedächtnis zu verankern. Fassen Sie die gelesenen Ideen in Worte und sprechen Sie diese bewusst aus (vorzugsweise mit lauter Stimme oder, wenn Sie nicht alleine sind, mit lautloser Lippenbewegung). Bei diesem Selbstgespräch zeigen sich die noch vorhandenen Lücken und gleichzeitig hilft es, die Informationen im Geist zu strukturieren und in der Erinnerung zu bewahren. Sind Sie mit einem Hauptabschnitt fertig, gehen Sie zum nächsten über und durchlaufen dort wieder die Phasen 2, 3 und 4.

Phase 5 (Überprüfen) Nach dem Lesen des Kapitels sollten Sie den gesamten Stoff testen und wiederholen. Sehen Sie sich Ihre Notizen, das Inhaltsverzeichnis oder die Zusammenfassung an und überprüfen Sie, ob Sie sich an die wichtigsten Punkte erinnern. Versuchen Sie zu verstehen, wie die verschiedenen Fakten miteinander verbunden sind und wie sie im Kapitel strukturiert wurden. In dieser Phase müssen Sie das Kapitel eventuell nochmals durchblättern, um sich einiger Fakten und Kernaussagen zu vergewissern. Jetzt ist auch der richtige Zeitpunkt, um erneut die Zusammenfassung des Kapitels zu lesen. Versuchen Sie dabei, jeden Satz der Zusammenfassung mit mehreren eigenen Sätzen um weitere Einzelheiten zu ergänzen.

Es wurde wissenschaftlich nachgewiesen, dass die Fünf-Schritte-Methode dem klassischen Lesen ganzer Kapitel von Anfang bis Ende in einem Zug überlegen ist (Thomas und Robinson 1982). Eine besonders wichtige Rolle kommt hier dem Selbstgespräch zu. Es ist besser, bis zu 80 % der aufgewendeten Zeit dem Selbstgespräch zu widmen, als ebenso viel Zeit dem Lesen und nochmaligen Lesen des Stoffs (Gates 1971). Anderen Untersuchungen zufolge ist es besonders produktiv, zunächst die Zusammenfassung sorgfältig zu lesen, bevor man das gesamte Kapitel in Angriff nimmt (Reder und Anderson 1980). Wenn Sie die Zusammenfassung vorweg lesen, verhilft Ihnen dies zu einem besseren Verständnis der Inhalte, die im Kapitel auf Sie zukommen, und es fällt Ihnen leichter, Bezüge zwischen den Unterthemen herzustellen. Sollten Sie sich entscheiden, nicht alle Phasen der Fünf-Schritte-Methode anzuwenden, dann denken

Sie daran, dass das Selbstgespräch und die Vorablektüre der Zusammenfassung ein tieferes Textverständnis garantieren.

Die Wirksamkeit dieser Methode kann durch Gruppenarbeit intensiviert werden. Zum Lesen und Wiederholen von Kapiteln können Arbeitsgruppen gebildet werden. Als Minimaloption gibt es die Möglichkeit, sich mit anderen Studierenden zur Phase 5 (»Überprüfen«) zu treffen. Ein Gruppenmitglied stellt Fragen, die anderen versuchen sie zu beantworten. Dazu liest ein Teilnehmer einen Satz der Zusammenfassung vor, die anderen tragen mit zwei oder drei Sätzen zusätzliche Details bei. Die Effizienz dieser Gruppenarbeit ist nicht zu unterschätzen. Nach Aussagen einiger Wissenschaftler ist ein gutes Textverständnis häufig auf die Erklärungen zurückzuführen, die man einem Gesprächspartner gegeben hat (Smith 2000).

Sie können in der Gruppe auch das ganze Kapitel nach der beschriebenen Methode lesen: Das Gruppentreffen beginnt mit dem Durchblättern des Kapitels. Dann stellt ein Teilnehmer die Hauptthemen des Kapitels vor, die anderen überprüfen und vervollständigen diesen Beitrag bei Bedarf. Danach werden die Abschnitte einzeln durchgegangen und ein Gruppenmitglied identifiziert die Fragen, die der Text beantworten soll. Wenn gewünscht, steuern die anderen weitere Fragen bei. Anschließend lesen alle Teilnehmer den Text in Stillarbeit. Wer zuerst mit Lesen fertig ist, beginnt mit einem stummen Selbstgespräch. Danach folgt die Wiedergabe in der Gruppe: Ein Teilnehmer nennt eine Abschnittsüberschrift, die anderen müssen den Inhalt wiedergeben, ohne ins Buch zu schauen. Jetzt werden auch die Bezüge zwischen den wiedergegebenen Inhalten und den anderen Abschnitten oder Kapiteln genannt. Nach dem Durcharbeiten aller Abschnitte geht die Gruppe zur Überprüfungsphase über (siehe den vorangehenden Absatz).

Literatur

- Achacoso, M., & Svinicki, M. (Eds.) (2005). New testing alternatives. In *New directions for teaching and learning* (No. 100). San Francisco, CA, US: Jossey-Bass.
- Allen, D., & Tanner, K. (2005). Infusing active learning into the large-enrollment biology class: Seven strategies, from simple to complex. In *Cell Biology Education*, 4, 262–268.
- Amadiou, J. F. (2004). Enquête « testing » sur CV. Présentation À l'observatoire des discriminations, Paris.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. In *Journal of Educational Psychology*, 84, 261–271.
- Anderson, J. (1986). Instructor nonverbal communication: Listening to our silent messages. In J. Civikly (Ed.), *Communicating in college classrooms: New directions for teaching and learning* (No. 26, 41–69). San Francisco, CA, US: Jossey-Bass.
- Anderson, J. R. (2000). *Learning and memory: An integrated approach*. New York, NY, US: John Wiley & Sons.
- Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York, NY, US: Longman.
- Andre, T. (1987). Questions and learning from reading. In *Questioning Exchange*, 1, 47–86.
- Angelo, T., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA, US: Jossey-Bass.
- Annis, L. F. (1983). Study techniques. Dubuque, IW, US: Wm. C. Brown.
- Apple, T., & Cutler, A. (1999). The Rensselaer studio General Chemistry course. In *Journal of Chemical Education*, 76, 462–463.
- Appleby, D. C. (1999). How to improve your teaching with the course syllabus. In B. Perlman, L. I. McCann, S. H. McGadden (Eds.), *Lessons learned: Practical advice for the teaching of psychology* (pp. 19–24). Washington, DC, US: American Psychological Society.
- Arce, J., & Betancourt, R. (1997). Student-designed experiments in scientific lab instruction. In *Journal of College Science Teaching*, 27, 114–118.
- Armbruster, P., Patel, M., Johnson, E., & Weiss, M. (2009). Active learning and student centered pedagogy improve student attitudes and performance in introductory biology. In *CBE—Life Sciences Education*, 8, 203–213.
- Aronson, E. (1978). *The jigsaw classroom*. Thousand Oaks, CA, US: Sage.
- Arum, R., & Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses*. Chicago, IL: University of Chicago.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco, CA, US: Jossey-Bass.
- Astin, A. W., Banta, T. W., Cross, K. P., El-Khawas, E., Ewell, P. T., Hutchings, P., et al. (2003). *9 principles of good practice for assessing student learning*. Washington, DC, US: American Association for Higher Education. Retrieved November 2003, from: <http://www.aahe.org/assessment/principles.htm>
- Atkinson, R. L., Atkinson, R. C., Smith, E. E., & Hilgard, E. R. (1987). *Introduction to Psychology* (9th edition). Orlando, FL, US: Harcourt Brace Jovanovich.
- Ausubel, D. (2000). *The acquisition and retention of knowledge*. London, UK: Kluwer Academic.
- Babb, K., & Ross, C. (2009). The timing of online lecture slides availability and its effect on attendance, participation, and exam performance. In *Computers & Education*, 52, 868–881.
- Bailey, C. A., Kingsbury, K., Kulinowski, K., Paradis, J., & Schoonover, R. (2000). An integrated lecture-laboratory environment of General Chemistry. In *Journal of Chemical Education*, 77, 195–199.
- Bailey, J. (2002). Remembering 100 student names: Beginning an introductory psychology course with a demonstration of memory. In *Association for University Regional Campuses of Ohio*, 8, 176–185.
- Baker, L., & Lombardi, B. (1985). Students' lecture notes and their relation to test performance. *Teaching of Psychology*, 12, 28–32.
- Balch, W. (1989). Item order affects performance on multiple-choice exams. In *Teaching of Psychology*, 16, 75–77.
- Barak, M., Lipson, A., & Lerman, S. (2006). Wireless laptops as means for promoting active learning in large lecture halls. In *Journal of Research on Technology in Education*, 38, 245–263.
- Bargh, J. A., & Schul, Y. (1980). On the cognitive benefits of teaching. In *Journal of Educational Psychology*, 72, 593–604.
- Beach, R., & Bridwell, L. (1984). Learning through writing: A rationale for writing across the curriculum. In A. Pellegrini, T. Yawkey (Eds.), *The development of oral and written language in social contexts*. Norwood, NJ, US: Ablex.
- Benjamin, L. T. (1991). Personalization and active learning in the large introductory psychology class. In *Teaching of Psychology*, 18, 68–74.
- Benjamin, L. T., Jr. (2002). Lecturing. In S. F. Davis, W. Buskist (Eds.), *The teaching of psychology: Essays in honor of Wilbert J. McKeachie and Charles L. Brewer* (pp. 57–67). Mahwah, NJ, US: Lawrence Erlbaum Associates, Inc.

- Berk, R. A. (2005). Survey of 12 strategies to measure teaching effectiveness. In *International Journal of Teaching and Learning in Higher Education*, 17, 48–62.
- Bernstein, D. A. (1993). Excuses, excuses. In *APS Observer*, 6, 4.
- Bernstein, D. A. (2009). *Weapons of mass instruction: Some comments and suggestions for success in teaching large classes*. Conférence donnée au Laboratoire de Psychologie Sociale et Cognitive À Clermont-Ferrand, France (Novembre 2009).
- Bernstein, D. J., Jonson, J., & Smith, K. L. (2000). An examination of the implementation of peer review of teaching. In *New Directions for Teaching and Learning*, 83, 73–85.
- Berry, T., Cook, L., Hill, N., & Stevens, K. (2011). An exploratory analysis of textbook usage and study habit: Misperceptions and barriers to success. In *College Teaching*, 59, 31–39.
- Bieron, J. F., & Dinan, F. J. (2000). Not your ordinary lab day. In *Journal of College Science Teaching*, 30, 44–47.
- Bjorklund, W., & Rehling, D. (2010). Student perceptions of classroom incivility. In *College Teaching*, 58, 15–18.
- Blair, A., Wyburn-Powell, A., Goodwin, M., & Shields, S. (in press). Can dialogue help to improve feedback on examinations? In *Studies in Higher Education*, DOI: 10.1080/03075079.2013.777404.
- Bligh, D. (2000). *What's the use of lectures?* San Francisco, CA, US: Jossey-Bass.
- Bloom, B. S. (Ed.) (1956). *Taxonomy of educational objectives: The classification of educational goals*. New York, NY, US: Longman.
- Boice, R. (1996). *First-order principles for college teachers: Ten basic ways to improve the teaching process*. Boston, MA, US: Anker.
- Boice, R. (1998). Classroom incivilities. In K. Feldman, M. Paulsen (Eds.), *Teaching and learning in the college classroom* (2nd ed., pp. 347–369). Boston, MA, US: Pearson Custom Publishing.
- Bonwell, C., & Eison, J. (1991). *Active learning: Creating excitement in the classroom*. ASHE-ERIC Higher Education Report No. 1. Washington, DC, US: The George Washington University School of Education and Human Development.
- Booth, M., & Schwartz, H. L. (2012). We're all adults here: Clarifying and maintaining boundaries with adult learners. In *New Directions for Teaching and Learning*, 131, 43–55.
- Borich, G. D. (2009). *Effective teaching methods* (7th ed.). New York, NY, US: Allyn & Bacon.
- Boyd, D. (2003). Using textbooks effectively: Getting students to read them. In *American Psychological Society Observer*, 15, 25–26, 32–33.
- Boyer, E. (1990). *Scholarship revisited: Priorities of the professoriate*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.
- Brookfield, S., & Preskill, S. (1999). *Discussion as a way of teaching: Tools and techniques for democratic classrooms*. San Francisco, CA, US: Jossey-Bass.
- Brooks, D., Nolan, D., & Gallagher, S. (2000). *Web-teaching* (2nd ed.). Retrieved March 2003 from: <http://dwb.unl.edu/Book/Contentsw.html>
- Brothen, T., & Wambach, C. (2001). Effective student use of computerized quizzes. In *Teaching of Psychology*, 28, 292–294.
- Brown, G., & Atkins, M. (1988). *Effective teaching in higher education*. New York, NY, US: Methuen.
- Brown, J. S. (2000a). Growing up digital: How the web changes work, education, and the ways people learn. In *Change*, 32, 11–20.
- Brown, N. (2000b). *Creating high performance classroom groups*. New York, NY, US: Falmer.
- Brown, S., & Glassner, A. (Eds.) (1999). *Assessment matters in higher education: Choosing and using diverse approaches*. Buckingham, UK: Open University Press.
- Bruff, D. (2009). *Teaching with classroom response systems: Creating active learning environments*. San Francisco, CA, US: John Wiley & Sons.
- Buskist, W., & Saville, B. (2001). Rapport-building: Creating positive emotional contexts for enhancing teaching and learning. In *APS Observer*, 14, 12–13, 19.
- Caldwell, J. E. (2007). Clickers in the large classroom: Current research and best-practice tips. In *CBE—Lide Sciences Education*, 6, 9–20.
- Cameron, P. (1990). At a lecture – only 12% listen. In R. Adler, N. Towne (Eds.), *Looking out, looking in* (6th ed., p. 251). Fort Worth, TX, US: Holt, Rinehart and Winston.
- Campbell, R. (1999). Mouths, machines, and minds. In *The Psychologist*, 12, 446–449.
- Canada, M. (2013). The syllabus: A place to engage students' egos. In *New Directions for Teaching and Learning*, 135, 37–42.
- Cannon, R., & Newble, D. (2000). *A handbook for teachers in universities and college: A guide to improving teaching methods*. Sterling, VA, US: Stylus Publishing, L.L.C.

- Carbone, E. (1999). Students behaving badly in large classes. In *New Directions for Teaching and Learning*, 77, 35–43.
- Caron, M. D., Whitbourne, S. K., & Halgin, R. P. (1992). Fraudulent excuse making among college students. In *Teaching of Psychology*, 19, 90–93.
- Cashin, W. (1999). Student ratings of teaching: Uses and misuses. In P. Seldin (Ed.), *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions* (pp. 25–44). Bolton, MA, US: Anker.
- Cashin, W., & McKnight, P. (1989). Improving discussion. In M. G. Weimer (Ed.), *Teaching large classes well: New Directions for teaching and learning* (No. 32, pp. 27–49). San Francisco, CA, US: Jossey-Bass.
- Casteel, M. A., & Bridges, K. R. (2007). Goodbye lecture: A student-led seminar approach for teaching upper division courses. In *Teaching of Psychology*, 34, 107–110.
- Centra, J. A. (1975). Colleagues as raters of classroom instruction. In *Journal of Higher Education*, 46, 327–337.
- Center for Authentic Science Practice in Education. (2011) Available at: <http://www.purdue.edu/dp/caspie>
- Champagne, A. B., Klopfer, L. E., & Anderson, J. H. (1980). Factors influencing the learning of classical mechanisms. In *American Journal of Physics*, 48, 1074–1079.
- Chickering, A., & Gamson, Z. (1987). Seven principles for good practice in undergraduate education. In *AAHE Bulletin*, 39, 3–7.
- Chickering, A., & Gamson, Z. (1991). Applying the seven principles for good practice in undergraduate education. In *New Directions for Teaching and Learning*, 47, 1–69.
- Chu, J. (1994). Active learning in epidemiology and biostatistics. In *Teaching and Learning in Medicine*, 6, 191–193.
- Clapp, W. C., Rubens, M. T., Sabharwal, J., & Gazzaley, A. (2011). Deficit in switching between functional brain networks underlies the impact of multitasking on working memory in older adults. In *Publications of the National Academy of Sciences*, 108, 7212–7217.
- Clark, J. (2008). PowerPoint and pedagogy: Maintaining student interest in university lectures. In *College Teaching*, 56, 39–44.
- Clark, R. E., & Mayer, R. E. (2008). *E-learning and the science of instruction* (2nd ed.). San Francisco, CA, US: Jossey-Bass.
- Clegg, V. (1994). Tips for tests and test giving. In K. Pritchard, R. McLaran Sawyer (Eds.), *Handbook of college teaching* (pp. 423–437). Westport, CT, US: Greenwood.
- Coffman, S. (2003). Ten strategies for getting students to take responsibility for their learning. In *College Teaching*, 51, 2–4.
- Cohen, D., Kim, E., Tan, J., & Winkelmes, M. A. (2013). A note-restructuring intervention increases students' exam scores. In *College Teaching*, 61, 95–99.
- Cohen, L., Manion, L., & Morrison, K. R. B. (2007). *Research methods in education* (6th ed.). New York, NY, US: Routledge.
- Collins, A. (1977). Processes in acquiring knowledge. In R. C. Anderson, R. J. Spiro, W. E. Montague (Eds.), *Schooling and the acquisition of knowledge* (pp. 339–363). Hillsdale, NJ, US: Erlbaum.
- Cooper, J. L., Robinson, P., & Ball, D. (Eds.). (2003). *Small group instruction in higher education: Lessons from the past, visions of the future*. Stillwater, OK, US: New Forums Press.
- Cooper, M. M. (2007). Data-driven education research. In *Science*, 317 (5842), 1171.
- Coppola, B. P. (1995). Progress in practice: Using concepts from motivation and self-regulated learning to improve chemistry instruction. In P. R. Pintrich (Ed.), *Understanding self-regulated learning: New directions for teaching and learning* (No. 63, pp. 87–96). San Francisco, CA, US: Jossey-Bass.
- Coppola, B. P., & Lawton, R. G. (1995). »Who has the same substance that I have?« A blueprint for collaborative learning activities. In *Journal of Chemical Education*, 72, 1120–1122.
- Costin, F. (1972). Three-choice versus four-choice items: Implications for reliability and validity of objective achievement tests. In *Educational and Psychological Measurement*, 32, 1035–1038.
- Council on Undergraduate Research (2011). Available at: <http://www.cur.org>
- Cramer, R. (1999). Large classes, intimate possibilities. *The National Teaching and Learning Forum*, 8, 5–6.
- Cross, K. P., & Steadman, M. H. (1996). *Classroom research: Implementing the scholarship of teaching*. San Francisco, CA, US: Jossey-Bass.
- Curseu, P. L., & Pluut, H. (2013). Student groups as learning entities: The effect of group diversity and teamwork quality on groups' cognitive complexity. In *Studies in Higher Education*, 38, 87–103.
- Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA, US: Jossey-Bass.
- Day, R. S. (1980). Teaching from notes: Some cognitive consequences. In *New Directions for teaching and learning* (No. 2, pp. 95–112). San Francisco, CA, US: Jossey-Bass.

- Deci, E., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY, US: Plenum.
- Desrochers, C. (2000). Establishing expectations for our students. In *The National Teaching and Learning Forum*, 10, 4–6.
- DeZure, D. (1999). Evaluating teaching through peer classroom observation. In P. Seldin (Ed.), *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions* (pp. 25–44). Bolton, MA, US: Anker.
- DiBiase, W. J., & Wagner, E. P. (2002). Aligning General Chemistry laboratory with lecture at a large university. In *School of Science and Mathematics*, 102, 158–171.
- Dillon, P. J., & Jenkins, J. (2013). Improving students' formal writing: The IDOL writing device. In *College Teaching*, 61, 82–82.
- Dinham, S. (1996). What college teachers need to know. In R. Menges, M. Weimer (Eds.), *Teaching on solid ground: Using scholarship to improve practice* (pp. 297–313). San Francisco, CA, US: Jossey-Bass.
- Domin, D. S. (1999). A review of laboratory instruction styles. In *Journal of Chemical Education*, 76, 543–547.
- Dweck, C. S., & Leggett, E. (1988). A social-cognitive approach to motivation and personality. In *Psychological Review*, 95, 256–273.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY, US: Random House.
- Eccles, J. (1994). Understanding women's educational and occupational choices. In *Psychology of Women Quarterly*, 18, 585–609.
- Eggleston, T., & Smith, G. (2002). Parting ways: Ending your course. In *APS Observer*, 15, 15–16, 29–30.
- Elbow, P. (2000). *Everyone can write: Essays toward a hopeful theory of writing and teaching writing* (pp. 372–378). New York, NY, US: Oxford University Press.
- Elmendorf, H., & Ottenhoff, J. (2011). *The importance of conversation in learning and the value of web-based discussion tools*. Academic Commons. Available at: <http://www.academiccommons.org/commons/essay/importance-conversation-learning>
- Entwistle, N. J. (1992). Student learning and study strategies. In B. R. Clark, G. Neave (Eds.), *Encyclopedia of higher education*. Oxford, UK: Pergamon.
- Eppler, M., & Harju, B. (1997). Achievement motivation goals in relation to academic performance in traditional and nontraditional college students. In *Research in Higher Education*, 38, 557–572.
- Eriksen, S. C. (1983). Private measures of good teaching. In *Teaching of Psychology*, 10, 133–136.
- Eves, R. L., Davis, L. E., Brown, D. G., & Lamberts, W. L. (2007). Integration of field studies and undergraduate research into an interdisciplinary course: Natural history of tropical carbonate ecosystems. In *Journal of College Science Teaching*, 36, 22–27.
- Feldman, K. (1998). Identifying exemplary teachers and teaching: Evidence from student ratings. In K. Feldman, M. Paulsen (Eds.), *Teaching and learning in the college classroom* (2nd ed., pp. 347–369). Boston, MA, US: Pearson Custom Publishing.
- Feldon, D. F., Peugh, J., Timmerman, B. E., Maher, M. A., Hurst, M., Strickland, D., Gilmore, J. A., & Stiegelmeier, C. (2011). Graduate students' teaching experiences improve their methodological research skills. In *Science*, 333, 1037–1039.
- Ferguson, M. (1990). The role of faculty in increasing student retention. In *College and University*, 65, 127–134.
- Fisch, L. (Ed.) (1996). Ethical dimensions of college and university teaching: Understanding and honoring the special relationship between teachers and students. In *New directions for teaching and learning* (No. 66). San Francisco, CA, US: Jossey-Bass.
- Fisch, L. (2001). Discussions: Seven guiding principles. In *National Teaching and Learning Forum*, 11, 6.
- Fonseca, B., & Chi, M. T. H. (2011). Instruction based on self-explanation. In P. Alexander, R. Mayer (Eds.), *Handbook of Research on Learning and Instruction* (pp. 296–321). New York, NY, US: Routledge.
- Foos, P. W., & Fisher, R. P. (1988). Using tests as learning opportunities. In *Journal of Educational Psychology*, 88, 179–183.
- Forsyth, D. (2003). *The professor's guide to teaching: Psychological principles and practices*. Washington, DC, US: American Psychological Association.
- Foster, D., & Herman, A. (2011). Linking the first week of class to end-of-semester satisfaction: Using a reciprocal interview activity to create an active and comfortable classroom. In *College Teaching*, 59, 111–116.
- Fritschner, L. (2000). Inside the undergraduate college classroom: Faculty and students differ on the meaning of student participation. In *The Journal of Higher Education*, 71, 343–362.
- Gardner, L. E., & Leak, G. K. (1994). Characteristics and correlates of teaching anxiety among college psychology teachers. In *Teaching of Psychology*, 28, 84–87.

- Gardner, S., & Holley, K. (2011). »Those invisible barriers are real«: The progression of first-generation students through doctoral education. In *Equity and Excellence in Education*, 44, 77–92.
- Gates, A. I. (1917). Recitation as a factor in memorizing. *Archives of Psychology*, 40.
- Gibbs, G. (1999). Using assessment strategically to change the way students learn. In S. Brown, A. Glassner (Eds.), *Assessment matters in higher education: Choosing and using diverse approaches* (pp. 41–54). Buckingham, UK: Society for Research in Higher Education/Open University Press.
- Gibbs, G., & Jenkins, A. (1992). *Teaching large classes in higher education: How to maintain quality with reduced resources*. London, UK: Kogan Page.
- Gonzales, V., & Lopez, E. (2001). The age of incivility. Countering disruptive behavior in the classroom. In *AAHE Bulletin*, 53, 3–6.
- Goss, S. (1995). Dealing with problem students in the classroom. In *APS Observer*, 8, 26–27, 29.
- Goss Lucas, S., & Bernstein, D. A. (2005). *Teaching Psychology: A step by step guide*. Mahwah, NJ, US: Lawrence Erlbaum Associates.
- Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. In *Journal of Personality and Social Psychology*, 85, 541–553.
- Grasha, A., & Yangarber-Kicks, N. (2000). Integrating teaching styles and learning styles with instructional technology. In *College Teaching*, 48, 2–10.
- Green, M. C. (2004). Storytelling in teaching. In *APS Observer*, 17, 37–39.
- Greenwald, A. G. (1997). Validity concerns and usefulness of student ratings in instruction. In *American Psychologist*, 52, 1182–1186.
- Greifeneder, R., Alt, A., Bottenberg, K., Seele, T., Zelt, S., & Wagener, D. (2010). On writing legibly: Processing fluency systematically biases evaluations of handwritten material. In *Social Psychological and Personality Science*, 3, 230–237.
- Grigorenko, E., Jarvin, L., & Sternberg, R. (2002). School-based tests of the triarchic theory of intelligence: Three settings, three samples, three syllabi. In *Contemporary Educational Psychology*, 27, 167–208.
- Hake, R. (1998). Interactive-engagement vs. traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. In *American Journal of Physics*, 66, 64–74.
- Halpern, D. F. (1996). *Thought and knowledge: An introduction to critical thinking*. Mahwah, NJ, US: Erlbaum.
- Halpern, D. F., & Hakel, M. D. (2003). Applying the science of learning to the university and beyond: Teaching for long term retention and transfer. In *Change*, 35, 36–41.
- Handelsman, J., Ebert-May, D., Beichner, R., Bruns, P., Chang, A., DeHaan, R., et al. (2004). Scientific Teaching. In *Science*, 304 (No. 5670), 521–522.
- Handelsman, J., Miller, S., & Pfund, C. (2007). *Scientific Teaching*. New York, NY, US: W. H. Freeman and Company.
- Harackiewicz, J., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why? In *Educational Psychologist*, 33, 1–21.
- Hartley, J., & Cameron, A. (1967). Some observations on the efficiency of lecturing. In *Educational Review*, 20, 30–37.
- Hattie, J., & Timperley, H. (2007). The power of feedback. In *Review of Educational Research*, 77, 81–112.
- Hattikudur, S., & Postle, B. (2011). Effects of test-enhanced learning in a cognitive psychology course. *Journal of Behavioral and Neuroscience Research*, 9, 151–157.
- Hemmings, B., & Battersby, D. (1990). The textbook selection checklist. In M. Weimer, R. A. Neff (Eds.), *Teaching college: Collected readings for the new instructor* (pp. 47–48). Madison, WI, US: Magna.
- Henderson, R. W. (2003). Good examples makes better cases: Enhancing interaction in large classes. In H. L. Klein (Ed.), *Interactive innovative teaching and training: Case method and other techniques* (pp. 241–248). Needham, MA, US: World Association for Case Method Research and Application.
- Henderson, L., & Buising, C. (2000). A research-based molecular biology laboratory. In *Journal of College Science Teaching*, 30, 322–327.
- Heuston, S. (2013). Trucker tricks: Helping students stay awake in class. In *College Teaching*, 61, 108–108.
- Heward, W. L. (1997). Four validated instruction strategies. In *Behavior and Social Issues*, 7, 43–51.
- Hofer, B. K., Yu, S. L., & Pintrich, P. R. (1998). Teaching college students to be self-regulated learners. In D. H. Schunk, B. J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 57–85). New York, NY, US: Guilford.
- Holman, L. (2011). Millennial students' mental models of search: Implications for academic librarians and database developers. In *The Journal of Academic Librarianship*, 37, 19–27.
- Houston, J. P. (1983). Alternate test forms as a means of reducing multiple-choice answer copying in the classroom. In *Journal of Educational Psychology*, 75, 572–575.

- Hunter, A. B., Laursen, S. L., & Seymour, E. (2007). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. In *Science Education*, 91, 36–74.
- Hurtado, S. (1997). How diversity affects teaching and learning. In *Educational Record*, 77, 27–29.
- Irvine, J. J., & York, D. E. (1995). Learning styles and culturally diverse learners: A literature review. In J. A. Banks, C. A. Banks (Eds.), *Handbook of research on multicultural education* (pp. 484–497). New York, NY, US: Simon & Schuster Macmillan.
- Jacobs, L., & Chase, C. (1992). *Developing and using tests effectively*. San Francisco, CA, US: Jossey-Bass.
- Jarvis, M. (2005). *The psychology of effective learning and teaching*. Cheltenham, UK: Nelson Thornes.
- Jenkins, A. (1992). Active learning in structured lecture. In G. Gibbs, A. Jenkins (Eds.), *Teaching large classes in higher education: How to maintain quality with reduced resources* (pp. 63–77). London, UK: Kogan Page.
- Johnson, B., & Kiviniemi, M. (2009). The effect of online chapter quizzes on exam performance in an undergraduate social psychology course. In *Teaching of Psychology*, 36, 33–37.
- Johnson, D. W., Johnson, R., & Smith, K. A. (1998). Research on cooperative learning. In K. Feldman, M. Paulsen (Eds.), *Teaching and learning in college classrooms* (2nd ed., pp. 467–483). Boston, MA, US: Pearson Custom Publishers.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college: What evidence is there that it works? *Change: The Magazine of Higher Learning*, 30, 26–35.
- Johnson, D. W., Maruyama, G., Johnson, R., Nelson, D., & Skon, L. (1981). The effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. In *Psychological Bulletin*, 89, 47–62.
- Johnson, G. R. (1995). *First steps to excellence in college teaching* (3rd ed.). Madison, WI, US: Magna Publications.
- Jonassen, D. H. (2000). *Computers as mindtools for schools: Engaging critical thinking*. Upper Saddle River, NJ, US: Merrill.
- Karpicke, J. D., & Roediger III, H. L., (2008). The critical importance of retrieval for learning. *Science*, 319, no. 5865, 966–968.
- Kember, D. (2009). Promoting student-centred forms of learning across an entire university. In *Higher Education*, 58, 1–13.
- Kemp, P., & O'Keefe, R. (2003). Improving teaching effectiveness: Some examples from a program for the enhancement of teaching. In *College Teaching*, 51, 111–114.
- King, A. (1990). Enhancing peer interaction and learning in the classroom. In *American Educational Research Journal*, 27, 664–687.
- King, R. (2002). Managing teaching loads – And finding time for reflection and renewal. In *APS Observer*, 15, 13–14, 35–36.
- King, R. B., & Watkins, D. A. (2012). »Socializing« achievement goal theory: The need for social goals. In *Psychological Studies*, 57, 112–116.
- Klein, J., & Taub, D. (2005). The effect of variations in handwriting and print on evaluation of student essays. In *Assessing Writing*, 10, 134–148.
- Knight, J. K., & Wood, W. B. (2005). Teaching more by lecturing less. In *Cell Biology Education*, 4, 298–310.
- Knight, P. (2006). The local practices of assessment. In *Assessment and Evaluation in Higher Education*, 31, 435–452.
- Kolb, L. (2008). *Toys to tools: Connecting student cell phones to education*. Washington, DC, US: International Society for Technology in Education.
- Koskina, A. (2013). What does the student psychological contract mean? Evidence from a UK business school. In *Studies in Higher Education*, 38, 1020–1036.
- Kovac, J. (1999). Professional ethics in the college and university science curriculum. In *Science & Education*, 8, 309–319.
- Kovic, D. (2010). 10 steps to effective time management. In *Ezine @rticles*. Available at: <http://ezinearticles.com/?10-Steps-to-Effective-Time-Management&id=3787474>
- Kuhenschmidt, S., & Layne, L. (1999). Strategies for dealing with difficult behavior. In *New Directions in Teaching and Learning*, 77, 45–57.
- Kulik, J. A. (2003). *Effects of using instructional technology in colleges and university: What controlled evaluation studies say*. Center for Science, Technology, and Economic Development. Retrieved December 2010 from: <http://sri.com/policy/csted/reports/sandt/it/>
- Kulik, C., Kulik, J. A., & Bangert-Drowns, R. (1990). Effectiveness of mastery learning programs: A meta-analysis. In *Review of Educational Research*, 60, 265–299.
- LaPree, G. (1977). Establishing criteria for grading student papers: Moving beyond mysticism. In *Teaching and Learning*, 3, 19–27.
- Lee, V. S. (2012). What is inquiry-guided learning? In *New Directions for Teaching and Learning*, 129, 5–14.

- Levy, G., & Peters, W. (2002). Undergraduates' views of best college courses. In *Teaching of Psychology*, 29, 46–48.
- Lin, Y. G., McKeachie, W. J., & Kim, Y. C. (2003). College students intrinsic and/or extrinsic motivation and learning. In *Learning and Individual Differences*, 13, 251–258.
- Lineweaver, T. (2010). Online discussion assignments improve students' class preparation. In *Teaching of Psychology*, 37, 204–209.
- Linn, R., & Gronlund, N., (2000). *Measurement and assessment in teaching* (8th ed.). Upper Saddle River, NJ, US: Merrill.
- Lord, T. R. (1997). A comparison between traditional and constructivist teaching in college biology. In *Innovative Higher Education*, 21, 197–216.
- Lombardi, J. (2011). Got motivation? Six great resources for instructors at every level. In *College Teaching*, 59, 150–153.
- Lowman, J. (1987). Giving students feedback. In M. Weimer (Ed.), *Teaching large classes well: New Directions for teaching and learning* (No. 32, pp. 71–83). San Francisco, CA, US: Jossey-Bass.
- Lowman, J. (1998). What constitutes masterful teaching. In K. Feldman, M. Paulsen (Eds.), *Teaching and learning in college classrooms* (2nd ed., pp. 503–513). Boston, MA, US: Pearson Custom Publishers.
- Lucas, G. (2010). Initiating student-teacher contact via personalized responses to one-minute papers. In *College Teaching*, 58, 39–42.
- MacGregor, J. (1990). Collaborative learning: Shared inquiry as a process of reform. In M. D. Svinicki (Ed.), *Changing faces of college teaching: New Directions for Teaching and Learning* (No. 42, pp. 19–30). San Francisco, CA, US: Jossey-Bass.
- MacGregor, J. (Ed.) (1993). Student self-evaluation: Fostering reflective learning. In *New directions for teaching and learning* (No. 56). San Francisco, CA, US: Jossey-Bass.
- MacGregor, J. (2000). Restructuring large classes to create communities of learning. In J. MacGregor, J. Cooper, K. Smith, P. Robinson (Eds.), *Strategies for energizing large classes – From small groups to learning communities: New Directions for Teaching and Learning* (No. 81, pp. 47–61). San Francisco, CA, US: Jossey-Bass.
- Magnan, B. (1990). *147 practical tips for teaching professors*. Madison, WI, US: Magna.
- Maier, M., & Panitz, T. (1996). End on a high note: Better endings for classes and courses. In *College Teaching*, 44, 145–148.
- Mann, R. D., Arnold, S. M., Binder, J. L., Ctrynbaum, S., et al. (1970). *The college classroom: Conflict, change, and learning*. New York, NY, US: Wiley.
- Marbach-Ad, G., & Sokolove, P. G. (2000). Can undergraduate biology students learn to ask higher-level questions? In *Journal of Research in College Teaching*, 37, 854–870.
- Marcinkiewicz, H. R., & Clariana, R. B. (1997). The performance effects of headings within multiple choice tests. In *British Journal of Educational Psychology*, 67, 111–117.
- Marincovich, M. (1999). Using student feedback to improve teaching. In P. Seldin (Ed.), *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions* (pp. 45–69). Bolton, MA, US: Anker.
- Marsh, H. W. (2001). Distinguishing between good (useful) and bad workloads on students' evaluations of teaching. In *American Educational Research Journal*, 38, 183–212.
- Martyn, M. (2007). Clickers in the classroom: An active learning approach. In *Educause Quarterly*, 2, 71–74.
- Matthews, R. S., Cooper, J. L., Davidson, N., & Hawkes, P. (1995). Building bridges between cooperative and collaborative learning. In *Change*, 27, 35–40.
- Maxey, C., & O'Connor, K. E. (2010). *10 Steps to Successful Time Management*. Alexandria, USA: ASTD.
- Mayer, J. J. (2009). *Zeitmanagement im Job für Dummies: Das Pocketbuch*. Weinheim, DE: Wiley-VCH Verlag.
- Mayer, R. (2009). *Multimedia learning* (2nd ed.). New York, NY, US: Cambridge University Press.
- Mayer, R., Stull, A., DeLeeuw, K., Almeroth, K., Bimber, B., Chun, D., et al. (2009). Clickers in college classrooms: Fostering learning with questioning methods in large lecture classes. In *Contemporary Educational Psychology*, 34, 51–57.
- McEwen, L. A., Harris, D., Schmid, R. F., Vogel, J., Western, T., & Harrison P. (2009). Evaluation of the redesign of an undergraduate cell biology course. In *CBE–Life Sciences Education*, 8, 72–78.
- McGaw, B., Peterson, P. L., & Baker, E. (Eds.) (2010). *International encyclopedia of education* (3rd ed.). Amsterdam, Pays-Bas: Elsevier.
- McGlynn, A. (2001). *Successful beginnings for college teaching: Engaging your students from the first day*. Madison, WI, US: Atwood.
- McKeachie, W. J., Pintrich, P. R., & Lin, Y. G. (1985). Teaching learning strategies. In *Educational Psychologist*, 20, 153–160.

- McKeachie, W. J., Pintrich, P. R., Lin, Y. G., Smith, D. A. F., & Sharma, R. (1990). *Teaching and learning in the college classroom: A review of the research literature* (2nd ed.). Ann Arbor, MI, US: NCRIPAL, University of Michigan.
- McKeachie, W. J., Pollicie, D., & Speisman, J. (1955). Relieving anxiety in classroom examinations. In *Journal of Abnormal and Social Psychology*, *50*, 93–98.
- McKinney, K. (1999). Encouraging student motivation. In *The Teaching Professor*, *13*, 4.
- McKinney, K. (2001). The teacher with the most negative impact on me. In *The National Teaching and Learning Forum*, *10*, 7–8.
- McMurty, K. (2001). E-cheating: Combating a 21st century challenge. In *T. H. E. Journal Online*. Available: <http://thejournal.com/articles/2001/11/01/echeating-combating-a-21st-century-challenge.aspx>
- Mester, C., & Tauber, R. (2000). Acting lessons for teachers: Using performance skills in the classroom. In *APS Observer*, *13*, 12–13, 25.
- Meyers, C., & Jones, T. (1993). *Promoting active learning: Strategies for the college classroom*. San Francisco, CA, US: Jossey-Bass.
- Middendorf, J., & Kalish, A. (1996). The »change-up« in lectures. In *The National Teaching and Learning Forum*, *5*, 1–2.
- Milem, J. F., & Hakuta, K. (2000). The benefits of racial and ethnic diversity in higher education. In D. W. Wilds (Ed.), *Minorities in higher education, 1999–2000* (pp. 39–67). Washington, DC, US: American Council on Education.
- Miller, J. E., & Groccia, J. E. (1997). Are four heads better than one? A comparison of cooperative and traditional teaching formats in an introductory biology course. In *Innovative Higher Education*, *21*, 253–273.
- Miller, M. D. (2011). What college teachers should know about memory: A perspective from cognitive psychology. In *College Teaching*, *59*, 117–122.
- Mills, P., Sweeney, W. V., Marino, R., & Clarkson, S. A. (2000). New approach to teaching introductory science: The gas module. In *Journal of Chemical Education*, *77*, 1161–1165.
- Mitchell, N., & Melton, S. (2003). Collaborative testing: An innovative approach to test taking. In *Nurse Educator*, *28*, 95–97.
- Mooney, C. (2011). Inline learning: How effective is the virtual classroom? [Special section] In *The Chronicle of Higher Education*.
- Mousavi, S., Lowe, R., & Sweller, J. (1995). Reducing cognitive load by mixing auditory and visual presentation modes. In *Journal of Psychology*, *87*, 319–334.
- Mulligan, D., & Kirkpatrick, A. (2000). How much do they understand? Lectures, students, and comprehension. In *Higher Education Research & Development*, *19*, 311–335.
- Murphy, D. (2010). The seven rules of effective time management. In *Ezine @rticles*. Available at: <http://ezinearticles.com/?The-Seven-Rules-of-Effective-Time-Management&id=5300320>
- Murray, H. (1997). Effective teaching behaviors in college classrooms. In R. Perry, J. Smart (Eds.), *Effective teaching in higher education: Research and practice* (pp. 171–204). New York, NY, US: Agathon.
- Nevid, J., & Mahon, K. (2009). Mastery quizzing as a signaling device to cue attention to lecture material. In *Teaching of Psychology*, *36*, 29–32.
- Nicol, D. (2009). Assessment for learner self-regulation: Enhancing achievement in the first year using learning technologies. In *Assessment and Evaluation in Higher Education*, *34*, 335–352.
- Nicol, D., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. In *Studies in Higher Education*, *31*, 199–218.
- Nilson, L. (2003). Improving student peer feedback. In *College Teaching*, *51*, 34–38.
- Nilson, L. (2007). *The graphic syllabus and outcomes map: Communicating your course*. San Francisco, CA, US: Jossey-Bass.
- O'Donnell, A. (2006). The role of peers and group learning. In P. Alexander, P. Winne (Eds.), *Handbook of Educational Psychology* (2nd ed., pp. 781–802). Mahwah, NJ, US: Lawrence Erlbaum Publisher.
- Oliver-Hoyo, M. T., Allen, D. A., Hunt, W. F., Hutson, J., & Pitts, A. (2004). Effects of an active learning environment: Teaching innovations at a Research I institution. In *Journal of Chemical Education*, *81*, 441–448.
- Ory, J., & Ryan, K. (1993). *Tips for improving testing and grading*. Newbury Park, CA, US: Sage Publications.
- Palmisano, M., & Herrmann, D. (1991). The facilitation of memory performance. In *Bulletin of the Psychonomic Society*, *29*, 557–559.
- Paris, S. G., Lipson, M. Y., & Wixson, K. K. (1983) Becoming a strategic reader. In *Contemporary Educational Psychology*, *8*, 293–316.
- Parkes, J., & Harris, M. (2002). The purpose of a syllabus. In *College Teaching*, *5*, 55–61.
- Pauk, W. (2001). *How to study in college* (7th ed.). Boston, MA, US: Houghton-Mifflin.

- Paul, J. B. (1933) The length of class periods. In *Educational Research*, 13, 58–75.
- Pedersen, S., & Williams, D. (2004). A comparison of assessment practices and their effects on learning and motivation in a student-centred learning environment. In *Journal of Educational Multimedia and Hypermedia*, 13, 283–307.
- Penner, J. G. (1984). *Why Many College Teachers Cannot Lecture*. Springfield, IL, US: Charles C. Thomas.
- Perkins, D. (2005). The case for a cooperative studio classroom: Teaching petrology in a different way. In *Journal of Geoscience Education*, 53, 101–109.
- Perron, B. E. (2011) Reducing social loafing in group-based projects. In *College Teaching*, 59, 163–164.
- Pfund, C., Miller, S., Brenner, K., Bruns, P., Chang, A., Ebert-May, D., et al. (2009). Summer Institute to improve university science teaching. In *Science*, 324 (5926), 470–471.
- Pintrich, P. R. (2002). The role of metacognitive knowledge in learning, teaching and assessing. In *Theory into Practice*, 41, 219–225.
- Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education*. Englewood Cliffs, NJ, US: Prentice Hall.
- Powell, K. (2003). Science education: Spare me the lecture. In *Nature*, 425, 234–236.
- Pressley, M., Wood, E., Woloshyn, V. E., Martin, V., King, A., & Menke, D. (1992). Encouraging mindful use of prior knowledge: Attempting to construct explanatory answers facilitates learning. In *Educational Psychologist*, 27, 91–109.
- Prince, M. (2004). Does active learning work? A review of the research. In *Journal of Engineering Education*, 93, 223–231.
- Proulx, M. J. (2013). Introducing the process and content of research into lectures, the laboratory, and study time. In *College Teaching*, 61, 85–87.
- Pulvers, K., & Diekhoff, G. (1999). The relationship between academic dishonesty and college classroom environment. In *Research in Higher Education*, 40, 487–498.
- Reder, L. M., & Anderson, J. R. (1980). A comparison of texts and their summaries: Memorial consequences. *Journal of Verbal Learning and Verbal Behavior*, 19, 12–34.
- Rockinson-Szapkiw, A., & Szapkiw, M. (2011). Engaging higher education students through tweeting. In S. Barton et al. (Eds.), *Proceedings of Global Learn Asia Pacific 2011* (pp. 360–364). Chesapeake, VA, US: AACE Publications.
- Roehling, P., Kooi, T., Dykema, S., Quisenberry, B., & Vandlen, C. (2010). Engaging the millennial generation in class discussion. In *College Teaching*, 59, 1–6.
- Rojewski, J. W., & Schell, J. W. (1994). Instructional considerations for college students with disabilities. In K. W. Prichard, R. M. Sawyer (Eds.), *Handbook of college teaching* (pp. 387–400). Westport, CT, US: Greenwood Press.
- Royce, D. D. (2000). *Teaching tips for college and university instructors: A practical guide*. Saddle River, NJ, US: Prentice Hall.
- Royer, P. N. (1977). Effects of specificity and position of written instructional objectives on learning from a lecture. In *Journal of Educational Psychology*, 69, 40–45.
- Roser, C. (2008). Encouraging students to read the texts: The jigsaw method. In *Teaching History: A Journal of Methods*, 33, 20–28.
- Rovai, A. (2007). Facilitating online discussion effectively. In *Internet and Higher Education*, 10, 77–88.
- Ruscio, J. (2001). Administering quizzes at random to increase students' reading. In *Teaching of Psychology*, 28, 204–206.
- Sadker, M., & Sadker, D. (1992). Ensuring equitable participation in college classes. In *New directions for teaching and learning* (No. 49, pp. 49–56). San Francisco, CA, US: Jossey-Bass.
- Sadler, D. R. (1987). Specifying and promulgating achievement standards. In *Oxford Review of Education*, 13, 191–209.
- Salmon, G., & Edirisingha, P. (2008). *Podcasting for learning in universities*. Berkshire, UK: Open University Press.
- Sanders, L. (2001). Improving assessment in university classrooms. In *College Teaching*, 49, 62–64.
- Sansone, C., & Harackiewicz, J. (Eds.) (2000). *Intrinsic and extrinsic motivation: The search for optimal motivation and performance*. San Diego, CA, US: Academic Press.
- Satterlee, J., & Lau, P. (2003). *Reading for meaning: Techniques for encouraging active reading*. Presentation at CTEN Teaching Workshop Series, University of Illinois, Champaign, IL, US.
- Saville, B., Lawrence, N. K., & Jakobsen, K. V. (2012). Creating learning communities in the classroom. In *New Directions for Teaching and Learning*, 132, 57–69.
- Saville, B., Zinn, T., Brown, A., & Marchuk, K. (2010). Syllabus detail and students' perceptions of teacher effectiveness. In *Teaching of Psychology*, 37, 186–189.

- Schank, R., Berman, T. R., & Macpherson, K. A. (1999). Learning by doing. In C. M. Reigeluth (Ed.), *Instructional-design theories and models* (Vol. 2, pp. 141–160). Mahwah, NJ, US: Erlbaum.
- Scholl-Buckwald, S. (1985). The first meeting of the class. In J. Katz (Ed.), *Teaching as though students mattered: New directions for teaching and learning* (No. 21, pp. 13–21). San Francisco, CA, US: Jossey-Bass.
- Schultz, P. A., & Weinstein, C. E. (1990). Using test feedback to facilitate the learning process. In *Innovation Abstracts*, 12 (22).
- Schutz, P. A., & Pekrun, R. (2008). *Emotion in education*. San Diego, CA, US: Academic Press.
- Schutz, P. A., & Davis, H. A. (2000). Emotions and self-regulation during test taking. In *Educational Psychologist*, 35, 143–356.
- Seiwert, L. (2009). *Noch mehr Zeit für das Wesentliche: Zeitmanagement neu entdecken*. München, DE: Wilhelm Goldmann Verlag.
- Seldin, P. (1999a). Self-evaluation: What works? What doesn't? In P. Seldin (Ed.), *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions* (pp. 97–115). Bolton, MA, US: Anker.
- Seldin, P. (Ed.) (1999b). *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions*. Bolton, MA, US: Anker.
- Shakarian, D. C. (1995). Beyond lecture: Active Learning strategies that work. In *The Journal of Physical Education, Recreation & Dance*, 66, 21–24.
- Shimoff, E., & Catania, A. (2001). Effects of recording attendance on grades in introductory psychology. In *Teaching of Psychology*, 28, 192–195.
- Siebert, A., Gilpin, B., Karr, M., & Ritter, B. (2000). *The adult student's guide to survival and success* (4th ed.). Portland, OR, US: Practical Psychology Press.
- Silbermann, L. (1999). *Active learning: 101 strategies to teach any subject*. Boston, MA, US: Allyn & Bacon.
- Silvia, P. J. (2007). *How to write a lot: A practical guide to productive academic writing*. Washington, DC, US: American Psychological Association.
- Slattery, J. M., & Carlson, J. F. (2005). Preparing an effective syllabus: Current best practices. In *College Teaching*, 53, 159–165.
- Smith, B., & MacGregor, J. (1998). What is collaborative learning? In K. Feldman, M. Paulsen (Eds.), *Teaching and learning in the college classroom* (2nd ed., pp. 585–596). Boston, MA, US: Pearson Custom Publishing.
- Smith, K. (2000). Going deeper: Formal small group learning in large classes. In J. MacGregor, J. Cooper, K. Smith, P. Robinson (Eds.), *Strategies for energizing large classes – From small groups to learning communities: New Directions for Teaching and Learning* (No. 81, pp. 25–46). San Francisco, CA, US: Jossey-Bass.
- Smith, M. K., Wood, W. B., Adams, W. K., Wieman, J. K., Knight, J. N., Guild, N., & Su, T. T. (2009). Why peer discussion improves student performance on in-class concept questions. In *Science*, 323 (5910), 122–124.
- Solomon, D., Rosenberg, L., & Bezdek, W. E. (1964). Teacher behavior and student learning. In *Journal of Educational Psychology*, 55, 23–30.
- Sorcinielli, M. D. (1994). Dealing with troublesome behaviors in the classroom. In K. W. Prichard, R. M. Sawyer (Eds.), *Handbook of college teaching: Theory and applications*. Westport, CT, US: Greenwood Press.
- Sorcinielli, M. D., & Elbow, P. (Eds.) (1997). Writing to learn: Strategies for assigning and responding to writing across the disciplines. In *New directions for teaching and learning* (No. 69). San Francisco, CA, US: Jossey-Bass.
- Stanley, C., & Porter, E. (Eds.) (2002). *Engaging large classes: Strategies and techniques for college faculty*. Bolton, MA, US: Anker Publishing Company. <http://www.aahebulletin.com/archive/may2.asp>
- Stuart, R. (2004). Twelve practical suggestions for achieving multicultural competence. In *Professional Psychology*, 35, 3–9.
- Suinn, R. (2007). «Welcome» spells the route to a better climate. In *gradPSYCH*, 5, 40.
- Suskie, L. (2000). *Fair assessment practices: Giving students equitable opportunities to demonstrate learning*. American Association for Higher Education. Retrieved March 2010 from Svinicki, M. (2008). The scout's motto: Be prepared. In *The National Teaching and Learning Forum*, 17, 12.
- Svinicki, M., Hagen, A., & Meyer, D. (1996). How research on learning strengthens instruction. In R. Menges, M. Weimer et al. (Eds.), *Teaching on solid ground: Using scholarship to improve practice* (pp. 257–288). San Francisco, CA, US: Jossey-Bass.
- Svinicki, M., & McKeachie, W. J. (Eds.) (2013). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (14th ed.). Belmont, CA, US: Wadsworth.
- Teven, J., & McCroskey, J. (1996). The relationship between perceived teacher caring with student learning and teacher evaluation. In *Communication Education*, 46, 1–9.

- Thomas, E. L., & Robinson, H. A. (1982). *Improving reading in every class*. Boston, MA, US: Allyn & Bacon.
- Thorndike, E. L. (1920). A constant error on psychological rating. In *Journal of Applied Psychology*, *IV*, 25–29.
- Tien, L. T., Rickey, D., & Stacy, A. M. (1999). The MORE thinking frame: Guiding students' thinking in the laboratory. In *Journal of College Science Teaching*, *28*, 318–324.
- Tong, L. (2013). Personal communication. (Dr. Lillian Tong is director of University Educators' Programs and Services at the University of Wisconsin-Madison, USA).
- Udovic, D., Morris, D., Dickman, A., Postlethwait, J., & Wetherwax, P. (2002). Workshop biology: Demonstrating the effectiveness of active learning in an introductory biology course. In *BioScience*, *52*, 272–281.
- Urcraft, M. L. (1996). Teaching and today's college students. In R. Menges, M. Weimer et al. (Eds.), *Teaching on solid ground: Using scholarship to improve practice* (pp. 21–41). San Francisco, CA, US: Jossey-Bass.
- Von Secker, S., & Lissitz, R. W. (1999). Estimating the impact of instructional practices on student achievement in science. In *Journal of Research in Science Teaching*, *36*, 110–112.
- Vonk, R. (2002). Self-serving interpretations of flattery: Why ingratiation works. In *Journal of Personality and Social Psychology*, *82*, 515–525.
- Walker, J. D., Cotner, S. H., Baepler, P. M., & Decker, M. D. (2008). A delicate balance: Integrating active learning into a large lecture course. In *CBE—Life Sciences Education*, *7*, 361–367.
- Walker, M. (2006). An investigation into written comments on assignments: Do students find them usable? In *Assessment and Evaluation in Higher Education*, *34*, 67–78.
- Walvoord, B., & Anderson, V. J. (1998). *Effective grading: A tool for learning and assessment*. San Francisco, CA, US: Jossey-Bass.
- Ward, A., & Jenkins, A. (1992). The problems of learning and teaching in large classes. In G. Gibbs, A. Jenkins (Eds.), *Teaching large classes in higher education: How to maintain quality with reduced resources* (pp. 23–36). London, UK: Kogan Page.
- Weaver, M. R. (2006). Do students value feedback? Students' perceptions of tutors' written responses. In *Assessment and Evaluation in Higher Education*, *31*, 23–31.
- Weimer, M. G. (1996). *Improving your classroom teaching*. Newbury Park, CA, US: Sage Publications.
- Weimer, M. G. (Ed.) (1989). *Teaching large classes well: New Directions for teaching and learning* (No. 32). San Francisco, CA, US: Jossey-Bass.
- Weimer, M. G., & Lenze, L. (1997). Instructional interventions: A review of the literature on efforts to improve instruction. In R. Perry, J. Smart (Eds.), *Effective teaching in higher education: Research and practice* (pp. 205–240). New York, NY, US: Agathon.
- Weinstein, C. E., Acee, T. W., & Jung, J. (2010). Learning strategies. In B. McGaw, P. L. Peterson, E. Baker (Eds.), *International encyclopedia of education* (3rd ed.). Amsterdam, Pays-Bas: Elsevier.
- Weinstein, C. E., & Mayer, R. E. (1986). The teaching of learning strategies. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 315–327). New York, NY, US: Macmillan.
- Wenzel, T. J. (1995). A new approach to undergraduate analytical chemistry. In *Analytical Chemistry*, *67*, 470A–475A.
- Wenzel, T. J. (1998). Cooperative group learning in undergraduate analytical chemistry. In *Analytical Chemistry*, *70*, 790A–795A.
- Werth, E., & Werth, L. (2011). Effective training for millennial students. In *Adult Learning*, *22*, 12–19.
- Williams, S. (2005). Guiding students through the jungle of research-based literature. In *College Teaching*, *53*, 137–139.
- Wilson, R. C. (1986). Improving faculty teaching: Effective use of student evaluations and consultation. In *Journal of Higher Education*, *57*, 196–211.
- Yan, L., & Kember, D. (2004). Avoider and engager approaches by out-of-class groups: The group equivalent to individual learning approaches. In *Learning and Instruction*, *14*, 27–49.
- Zabrucky, K., & Bays, R. (2011). Helping students know what they know. In *College Teaching*, *59*, 123–123.
- Zakrajsek, T. (1998). Effective Teaching when class size grows. In *APS Observer*, *20*, 24–26.
- Zhu, E. (2007). *Teaching with clickers*. CRLT Occasional Paper, No. 22. Ann Arbor, MI, US: University of Michigan Center for Research on Learning and Teaching. Available at: http://www.crlt.umich.edu/publinks/CRLT_no22.pdf
- Zhu, E., & Bergom, I. (2010). *Lecture capture: A guide for effective use*. CRLT Occasional Paper, No. 27. Ann Arbor, MI, US: University of Michigan Center for Research on Learning and Teaching. Available at: http://www.crlt.umich.edu/publinks/CRLT_no27.pdf

- Zimmerman, B. J. (1998). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In D. H. Schunk, B. J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 1–19). New York, NY, US: Guilford.
- Zimmerman, B. J. (2011). Motivational sources and outcomes of self-regulated learning and performance. In B. J. Zimmerman, D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 408–425). New York, NY, US: Taylor & Francis.

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