Colloquium Topics and Annotated Bibliography

Novice vs. Expert Learners

Brookfield, S. (1996). Through the lens of learning: How experiencing difficult learning challenges and changes assumptions about teaching. *To Improve the Academy*, *15*, 3-15.

> The author challenges faculty to cast themselves in the role of learners for tasks or subjects which, unlike their areas of expertise, do NOT come easily to them. The purpose is to better understand what it is to experience the struggle shared by many students to grasp new material. The author recounts his own efforts to master a daunting new skill and the many lessons he learned about teaching and lecturing in the process.

How experts differ from novices. (2000). In J. D. Bransford, A. L. Brown, & R. R. Cocking (Eds.), *How People Learn: Brain, Mind, Experience & School* (pp. 31-50). Washington, D.C.: National Academy Press.

> People who have developed expertise in particular areas are, by definition, able to think effectively about problems in those areas. This chapter illustrates key scientific findings that have come from the study of people who have developed expertise. Key principles of experts' knowledge and their potential for learning and teaching are discussed.

Follow-Up Articles

Barr, R. B. & Tagg, J. (1995). From teaching to learning: A new paradigm for undergraduate education. *Change*, 27(6), 12-25.

> Two alternative paradigms for undergraduate education are compared; one holds teaching as its purpose, the other learning. The natures of the two paradigms are examined on the following dimensions: mission and purposes, criteria for success, teaching and learning structures, underlying learning theory, concepts of productivity and methods of funding, and faculty and staff roles in instruction and governance.

Pace, D. (2004). Decoding the reading of history: An example of the process. *New Directions for Thinking and Learning*, 98, 13-21.

> In most disciplines, professors ask students to "read" without specifying what this operation means for their particular field. This chapter traces the path laid out in a cultural history class, where reading entails identifying the essential elements of a text.

Lecture Learning and Recall

deWinstanley, P. A. & Bjork, R. (2002). Successful lecturing: Presenting information in ways that engage effective processing. *New Directions for Teaching and Learning*, 89, 19-31.

> Focusing students' attention during lectures is a necessary condition for effective learning, but it is not a sufficient condition. Learning also requires interpretation, elaboration, and other active processes by the learner.

Mood and Cognitive Performance

Goleman, D. (1995). The master aptitude (pp. 78-95). In *Emotional Intelligence*. New York: Bantam.

> In this chapter, the author positions emotional intelligence as a master aptitude that is necessary to improve thinking, motivate in the face of adversity, and enter flow to enhance performance. He also examines the implications that positive and negative affective states have on performance by drawing on social and cognitive psychological research.

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Schwarz, N. & Skurnik, I. (2003). Feeling and thinking: Implications for problem solving. In *The psychology of problem solving*. J. E. Davidson & R. J. Sternberg (Eds.), pp. 263-260. Cambridge, MA: Cambridge University Press.

> Moods and emotions have long been assumed to interfere with problem solving. Recent advances in psychology's understanding of the interplay of feeling and thinking suggests a more complex story: Positive as well as negative moods and emotions can facilitate as well as inhibit problem solving, depending on the nature of the task. This chapter summarizes key lessons learned about the interplay of feeling and thinking and addresses their implications for problem solving.

Optional Reading

Beilock, S. L., & Carr, T. H. (2005). When high-powered people fail: Working memory and "choking under pressure" in math. *Psychological Science*, 16(2), 101-105.

> The authors examine the relationship between pressure-induced performance decrements and "choking under pressure," in mathematical problem solving and individual differences in working memory capacity. Results demonstrated that only individuals high in working memory capacity were harmed by performance pressure, and that these skill decrements were limited to math problems with the highest demand on working memory capacity. These findings suggest that performance pressure harms individuals most qualified to succeed by consuming the working memory capacity that they rely on for their superior performance.

Follow-Up Articles

Dweck, C. S. (2006). Mindset: *The New Psychology of Success*. New York: Random House

> According to the Oxford American Dictionary, mindset is "an established set of attitudes held by someone." According to Dweck, a set of attitudes needn't be so set. She proposes that everyone has either a fixed mindset or a growth mindset. A fixed mindset is one in which individuals view their talents and abilities as fixed (e.g., you are who you are, your intelligence and talents are fixed, and your fate is to go through life avoiding challenge and failure). A growth mindset, on the other hand, is one in which individuals see themselves as a work in progress (e.g., your fate is one of growth and opportunity). Dweck demonstrates how a particular mindset can affect all areas of life. According to Dweck, mindsets are not set: at any time, individuals can learn to use a growth mindset to achieve success and happiness.

O'Brien, L.T. & Crandall, C. S. (2003). Stereotype Threat and Arousal: Effects on Women's Math Performance. *Personality and Social Psychology Bulletin*, 29, 782-789.

> Theories of arousal suggest that arousal should decrease performance on difficult tasks and increase performance on easy tasks. An experiment tested the hypothesis that the effects of stereotype threat on performance are due to heightened arousal. The authors hypothesized that telling participants that a math test they are about to take is known to have gender differences would cause stereotype threat in women but not in men. In the experiment, each participant took two tests—a difficult math test and an easy math test. Compared to women in a "no differences" condition, women in the "gender differences" condition scored better on the easy math test and worse on the difficult math test. Men's performance was unaffected by the manipulation. These data are consistent with an arousal-based explanation of stereotype threat.

Stanovich, K. E. & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences,* 23, 645-726.

> Much research in the last two decades has demonstrated that human responses deviate from the performance deemed normative according to various models of decision making and rational judgment (e.g., the basic axioms of utility theory). This gap between the normative and the descriptive can be interpreted as indicating systematic irrationalities in human cognition. In a series of experiments involving most of the classic tasks in the heuristics and biases literature, we have examined the implications of individual differences in performance for each of the four explanations of the normative/descriptive gap. Performance errors are a minor factor in the gap; computational limitations underlie non-normative responding on several tasks, particularly those that involve some type of cognitive decontextualization.

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Stevenson, H. W. & Stigler, J. W. (1994). *The learning gap: Why our schools are failing and what we can learn from Japanese and Chinese education*. New York: Simon and Schuster.

> It is no secret that American education is in crisis: American children lag behind students in other countries--and they are losing ground. Stevenson and Stigler put this crisis in perspective by comparing teachers, parents, children, schools, and educational practices in the United States, Japan, Taiwan, and China. Based on five major studies, funded by the National Institutes of Health and the National Science Foundation and featured on the front page of The New York Times, this is the first comprehensive account of what works in elementary education and what doesn't--and why. The authors analyze the role of standardized tests, tracking, special education, class size, money, classroom discipline, textbooks, and parental involvement. The authors show that parental involvement is critical to children's learning and that schools should reward individual effort rather than emphasize innate ability.

VisuoSpatial Learning

Mayer, R. E. (2008). Applying the science of learning: Evidence-based principles for the design of multimedia instruction. *American Psychologist*, 63(3), 760-769.

> During the last 100 years, a major accomplishment of psychology has been the development of a science of learning aimed at understanding how people learn. In attempting to apply the science of learning, a central challenge of psychology and education is the development of a science of instruction aimed at understanding how to present material in ways that help people learn. The author provides an overview of how the design of multimedia instruction can be informed by the science of learning and the science of instruction, which yields 10 principles of multimedia instructional design that are grounded in theory and based on evidence. Overall, the relationship between the science of learning and the science of instruction is reciprocal.
> (Abstract from: PsycINFO Database Record (c) 2008 APA, all rights reserved)

Identities and Innovation

Cheng, C., Sanders, M., Sanchez-Burks, J., Molina, K., Lee, F., Darling, E., & Zhao, Y. (2008). Reaping the Rewards of Diversity: The Role of Identity Integration. *Social and Personality Psychology Compass*, 2(3), 1182-1198.

> How does diversity affect individuals and the groups in which they are embedded? This article examines this question using recent theory and research on Identity Integration (II). II refers to an individual's perceptions about whether two distinct social identities, or social groups to which individuals belong, are viewed as compatible (high II) or not (low II).

Leung, A., Maddux, W. W., Galinsky, A. D., & Chiu, C. (2008). Multicultural Experience Enhances Creativity. *American Psychologist*, 63 (3), 169-181.

> Many practices aimed at cultivating multicultural competence in educational and organizational settings (e.g., exchange programs, diversity education in college, diversity management at work) assume that multicultural experience fosters creativity. In line with this assumption, the research reported in this article is the first to empirically demonstrate that exposure to multiple cultures in and of itself can enhance creativity.

Cheng, C., Sanchez-Burks, J., Lee, F. (2008). Connecting the Dots Within: Creative Performance and Identity Integration. *Psychological Science*, 19(11), 1178-84.

> Drawing from two studies in social identity theory and the creative-cognition approach, the authors found that higher levels of identity integration—perceived compatibility between two social identities—predict higher levels of creative performance in tasks that draw on both identity-relevant knowledge domains.

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Developmental Aspects of Learning

King, P.M. (2000). Learning to make reflective judgments. *New Directions for Teaching and Learning*, 82, 15-26.

> This chapter argues that college students' judgments are grounded in their assumptions about knowledge and knowledge acquisition. Qualitative examples from student interviews illustrate seven developmental stages of pre-reflective, quasi-reflective, and reflective thinking. Suggestions for teaching practice are discussed.

King, P.M., & Baxter Magolda, M.B. (2005). A developmental model of intercultural maturity. *Journal of College Student Development*, 46(6), 571-592. [Table 1 only p. 576].

> This table characterizes three domains of intercultural maturity (i.e., cognitive, intrapersonal, and interpersonal) across three levels of intercultural development (i.e., initial, intermediate, and mature).

Drawing on Student Diversity

Gurin, P., Nagda, B.A, & Campanella, A.O. (in press). Diversity, dialogue, and democratic engagement. In D. Featherman, M. Krislov, & M. Hall (Eds.), The next twenty-five years? *Affirmative action and higher education the United States and South Africa*. Ann Arbor: University of Michigan Press.

> The authors present intergroup dialogue as a pedagogical practice that promotes college student democratic engagement. The authors provide a brief review of affirmative action arguments and explain five elements of intergroup dialogue. Intergroup dialogue is presented as a method that leverages student diversity and promotes social equity.

Nagda, B.A., Gurin, P., Sorensen, N., Gurin,-Sands, C., & Osuna, S.M. (2009). From separate corners to dialogue and action. *Race and Social Problems*, 1(1), 45-55.

> This study presents findings from a multi-institutional study on the effects of intergroup dialogue on students' critique of inequality. Communication processes associated with intergroup dialogue account for increases in students' awareness of in social equalities and commitment to post-college action aimed at mitigating social inequalities.

Nagda, B.A., Gurin, P., Sorensen, N., Zuniga, X. (2009). Evaluating intergroup dialogue: Engaging diversity for personal and social responsibility. *Diversity & Democracy*, 12(1), 4-6.

> This research report describes the findings of a cooperative study of the effects of gender and race/ethnicity dialogues on student learning. Findings from a pre- and post-survey indicate that intergroup dialogue is positively correlated with three learning outcomes: intergroup understanding, intergroup relationships, and intergroup collaboration.