

Choosing the Source of Personal Teaching Principles Workshop

Notes and Handouts

Choosing the Source of Personal Teaching Principles

Jim Borgford-Parnell

Purpose:

This workshop provided an overview of the source of teaching principles, and sought to enhance teaching methods through expansion and solidification of principles. Techniques for incorporation of other and new principles were also discussed.

Agenda:

The intended time for this workshop is 60 minutes.

Topics for this workshop include:

- Definition of teaching principles
- Principles and theories from the learning sciences
- Introduction to the PLAID exercise

Goals:

- 1. Expand your conceptual framework of teaching principles**
 - 2. Participants leave with something helpful**
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Principles for Learning Activity and Instructional Design (PLAID)

The PLAID exercise is a straightforward method for distilling useful and practical ideas from various information sources, and for compiling a personal set of principles for use when designing learning activities. Source information for PLAID comes from learning research, theory, literature, and reflective observation.

PLAID uses research and scholarship to complement and reflect teaching experience. It is a multi-directional tool, meaning you can start by 1) reading teaching and learning research and literature and deriving applications to classrooms and your method of teaching, or 2) search for sources that support your pedagogical methods.

PLAID helps you to plan learning activities and instruction to create more effective pedagogy and to be a more scholarly teacher.

EXAMPLE

Source Information:

“Students come to the classroom with preconceptions that must be engaged or they will leave with the same conceptions.”

Source: National Research Council. (2000). How People Learn.

=PLAID:

1. Use knowledge probes to find out what students already know or think about a topic.
2. Small groups can be safe and comfortable environments for discussing different perspectives and/or understanding of particular topics.

**Principles for Learning Activity and Instructional Design
(PLAID)
Worksheet**

Source Information:

=PLAID:

Applying the Science of Learning to the University and Beyond

- Practice at retrieval, promotes long-term retention
- Varying the conditions results in better learning
- Re-presenting information in alternative formats enhances learning
- Learning depends on prior knowledge
- Learning is influenced by our ideas about learning
- Experience alone is a poor teacher
- Lectures don't promote deep understanding
- The act of remembering enhances the ability to remember
- Understanding a few things well, beats understanding a lot superficially when it comes to retention.
- How learning occurs determines how and when knowledge may be recalled.

Source: Halpern, D. & Hakel, M. (2003). *Change*

Key findings in How People Learn

- Students come to the classroom with preconceptions that must be engaged or they will leave with the same conceptions
- Competence results from: (a) a base of factual knowledge; (b) knowledge built in context of a conceptual framework; and (c) knowledge organized for retrieval.
- A metacognitive approach makes for better learning and better learners.

Source: National Research Council. (2000). *How People Learn*.

Choosing the Source of Personal Teaching Principles Bibliography

Fink, L. D. (2002). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco: Jossey-Bass.

Halpern, D. & Hakel, M. (2003). *Change*.

John Dewey, cited in *Small Group Instruction in Higher Education*. (2003)

National Research Council, (2000). *How People Learn: Brain, Mind, Experience, and School*. National Academies Press.

Vella, J. (1994). *Learning to Listen: Learning to Teach*.

Small Group Learning (SGL) Bibliography

- Barkley, E., Cross, K. P., and Major, C. H. (2004). *Collaborative learning techniques: A practical guide to promoting learning in groups*. San Francisco: Jossey-Bass.
- Bruffee, K. A. (1999). *Collaborative learning: Higher education, interdependence, and the authority of knowledge*. Baltimore: Johns Hopkins University.
- Cohen, E. (1994). Restructuring the college classroom: Conditions for productive small groups. *Review of Educational Research*, 6, pp. 1-35.
- Cooper, J. L., MacGregor, J., & Smith, K. A. (2000). Implementing small group instruction: insights from successful practitioners. *New Directions for Teaching and Learning*, 81, pp.63-76. San Francisco: Jossey-Bass.
- Cooper, J. L., Robinson, P. and Ball, D. (Eds.), (2003). *Small Group Instruction in Higher Education: Lessons from the Past, Visions of the Future*. Stillwater, OK: New Forums Press.
- Crouch, C. H. and Mazur, E. (2001). Peer instruction: Ten years of experience and results. *American Journal of Physics*, 69 (9), pp. 970-977.
- Duch, B. J. Groh, S. E., and Allen, D. E. (2001). *The power of problem-based learning: A practical "how to" for teaching undergraduate courses in any discipline*. Sterling, VA: Stylus.
- Felder, R. M. (1995). A longitudinal study of engineering student performance and retention. *Journal of Engineering Education*, 84 (4), pp. 361-367.
- Felder, R. M. and Brent, R. (2003). Learning by doing. *Chemical Engineering Education*, 37, (4) pp. 282-283.
- Fink, L. D. (2002). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco: Jossey-Bass.
- Hake, R. (1998). Interactive engagement vs. traditional methods: A six-thousand student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66 (1) pp. 64-74.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative Learning returns to college: What evidence is there that it works? *Change*, July/August, pp. 27-35.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.

- Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). Cooperative learning methods: A meta-Analysis. Downloaded 7/11/2001 from <http://www.clcrc.com/pages/cl-methods.html>
- MacGregor, J. (1990). Collaborative Learning: Shared inquiry as a process of reform, pp. 19-30. In M. D. Svinicki (Ed.), *The changing face of college teaching*. San Francisco: Jossey-Bass.
- MacGregor, J., cooper, J., Smith, K., and Robinson, P. (eds.) (2000). Strategies for energizing large classes: From small groups to learning communities. *New Directions for Teaching and Learning*, 81. San Francisco: Jossey-Bass.
- Mazur, E. (1997). *Peer Instruction: A user's manual*. Upper Saddle River, NJ: Prentice Hall.
- Meyers, and Jones. (1993). *Promoting Active Learning: Strategies for the College Classroom*. San Francisco: Jossey-Bass
- Michaelsen, L. K., Fink, L. D., and Knight, A. (1997). Designing effective group activities: Lessons for classroom teaching and faculty development. In D. DeZure (Ed.), *To Improve the Academy*, 16, pp. 373-398. Stillwater OK: New Forums Press.
- Michaelsen, L. K., Knight, A. B., and Fink, L. D. (2002). *Team-Based Learning*. Sterling, VA: Stylus Publishing.
- Millis, B. J, and Cottell Jr., P., G. (1998). *Cooperative Learning for Higher Education Faculty*. Westport CT: Oryx Press.
- Millis, B. J. (2003). How Cooperative Learning Can Fullfill the Promises of the "Seven Principles". *Small Group Instruction in Higher Education: Lessons from the Past, Visions of the Future*. P. R. James L. Cooper, and David Ball. Stillwater, OK, New Forums Press, Inc.: 39-43.
- National Research Council, (1999). *How People Learn: Brain, Mind, Experience, and School*. National Academies Press.
- Savin-Baden, M. (2003). *Facilitating Problem-Based Learning: Illuminating Perspectives*. Berkshire, England: SRHE and Open University Press.
- Silberman, M. (1996). *Active Learning: 101 Strategies to Teach Any Subject*. Allyn and Bacon.
- Smith, K. A. (2000). Going deeper: Formal small-group learning in large classes. *New Directions for Teaching and Learning*, 81, pp.25-46. San Francisco: Jossey-Bass.

- Smith, K. A., Sheppard, S. D., Johnson, D. W., & Johnson, R. T. (2005). Pedagogies of engagement: Classroom-based practices. *Journal of Engineering Education*, January. pp. 1-15.
- Springer, L., Stanne, M. E., and Donovan, S. S. (1999). Effect of small group learning on undergraduates in science, mathematics, engineering and technology: A meta-analysis. *Review of Educational Research*, 69 (1) pp. 21-51.
- Stein, R. F. & Hurd, S. (2000). *Using student teams in the classroom: A faculty guide*. Bolton, MA: Anker Publishing Co, Inc.
- Wilkerson, L. & Gijsselaers, W. H. (1996). Bringing problem-based learning to higher education: Theory and practice. *New Directions for Teaching and Learning* 68. San Francisco: Jossey-Bass.