
Promoting Learning through Inquiry

Eastern Illinois University

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Virginia S. Lee, Ph.D.

Virginia S. Lee & Associates, LLC, Durham, NC

“The ecology of the university depends on a deep and abiding understanding that **inquiry**, investigation, and discovery are the heart of the enterprise, whether in funded research projects or in undergraduate classrooms or graduate apprenticeships.”



Philippe Petit and the Canyon Walk

- What question is Petit trying to answer and/or problem is he seeking to solve?
 - What prior knowledge does he draw upon as he prepares for the walk?
 - How would you describe his learning process? What methods does he use?
 - What emotions and affect accompany his learning?
 - What other characteristics of this learning experience stand out for you?
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What is Inquiry-guided Learning?

Learning promoted through the guided and, increasingly, independent investigation of complex questions and problems, often for which there is no single answer

Basic Principles of Constructivism: Characteristics of Knowledge

- Knowledge is made by each and every learner through a learning process rather than transmitted from one person to another.
 - Knowledge is a symbolic, mental representation in the mind of the individual that changes through exploration and discovery.
 - Knowledge is highly context dependent, acquired through experience and involvement in real-world situations.
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Basic Principles of Constructivism: Characteristics of the Learning Process

- Learning is an active process through which learners construct new ideas or concepts.
 - Learners' prior knowledge plays a critical role in learning.
 - Inquiry is a central process of learning.
 - Reflection is a critical part of the learning process.
 - The collaborative efforts of groups of learners are important sources of learning.
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Basic Principles of Constructivism: Characteristics of the Learner

- A sense of autonomy, curiosity, initiative, will and purpose drive learning and, consequently, are important characteristics of the learner that we should nurture.
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Four Broad Intended Student Learning Outcomes associated with Inquiry-guided Learning

- Developing habits of independent inquiry
 - Thinking critically
 - Intellectual growth & maturity
 - Taking responsibility for one's own learning
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Stages of Inquiry

- Questioning
- Planning
- Collecting
- Analyzing
- Interpreting
- Evaluating
- Stating consequences, implications, new areas of investigation
- Communicating

Four Modes of Inquiry across the Curriculum

- Problem Solving
 - Empirical Inquiry
 - Research from Sources
 - Performance
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Critical Thinking as a Higher-Order Thought Process

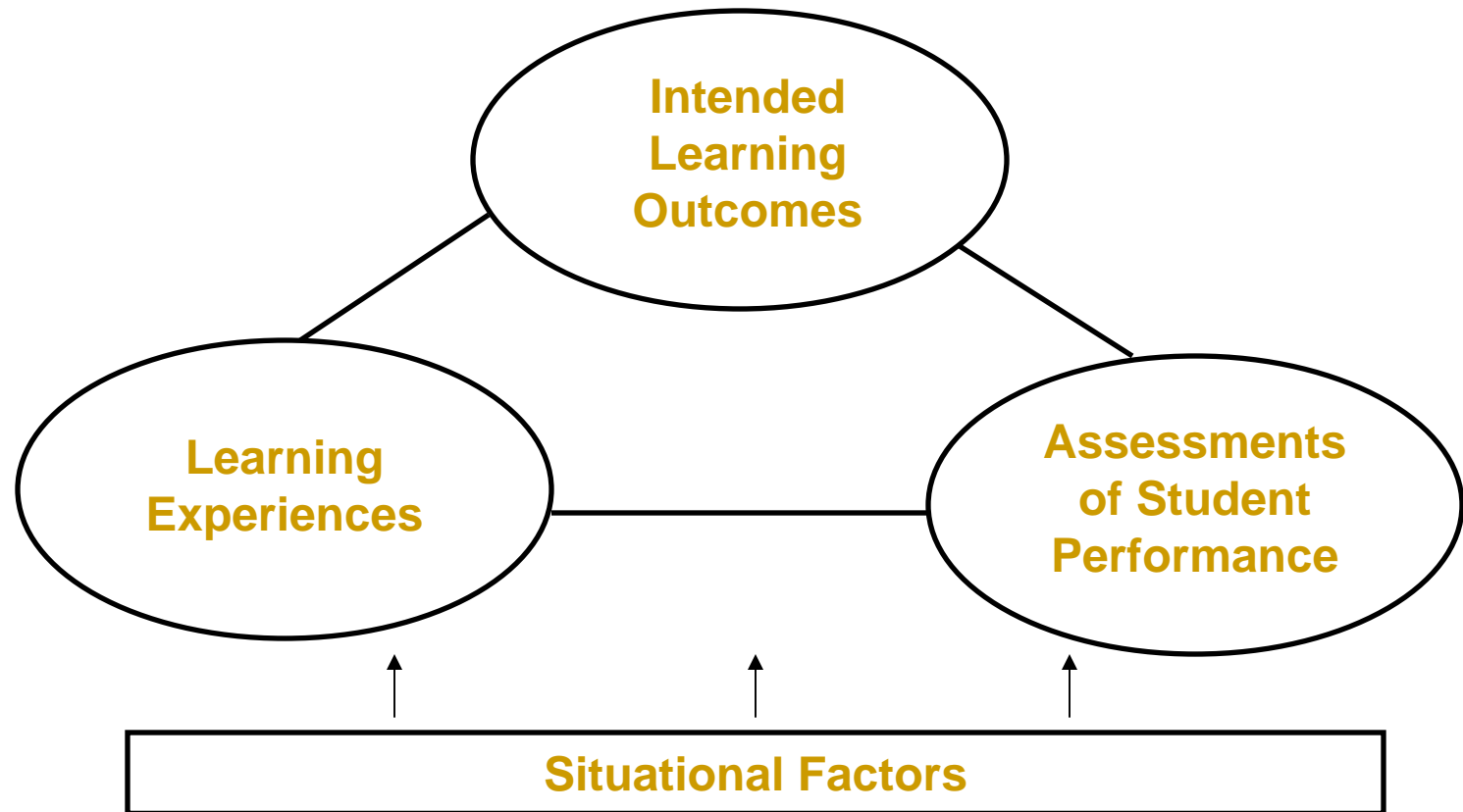
Critical thinking is the process of purposeful, self-regulatory judgment. In this process we give reasoned consideration to the evidence, context, conceptualizations, methods, and criteria by which those judgments are made.

The APA Delphi Report (1990). *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*. ERIC Doc. No.: ED 315 423.

William Perry's Stages of Intellectual Development in the College Years

- Dualism
 - Multiplicity
 - Relativism
 - Commitment in Relativism
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A Systematic Approach to Course Design



A Continuum of Strategies for Helping Students Understand the Nature of Inquiry

- Reading about the nature of inquiry
 - Reading/analyzing short journal articles or analyzing case studies about research projects
 - Observing & interviewing researchers about their projects
 - Analyzing & synthesizing data compiled by other researchers
 - Doing preparatory exercises to actual research
 - Conducting inquiry about questions generated by others or self
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Introduction to Psychology: Intended Learning Outcomes

- To explain fundamental concepts in psychology in your own words
 - To think like a psychologist
 - To apply psychological principles to solve real world problems
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Goals & Selected Objectives from an Introductory Psychology Course

Think like a psychologist

- Formulate good research questions & hypotheses
 - Read a journal article & identify the features of the study
 - Write up the results of an in-class experimental study in standard psychological report format
 - Apply a theory of motivation to a real world problem
 - Develop an argument for the proper use of psychological testing
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Introduction to Psychology: Assignments

Course Goals/Method of Evaluation	Concept Map	Vision Exercise	Motivation Case Study	Behavior Modfctn Exercise	Exper't Write-up	Grp Rsrch Study	Final Exercise
Explain fundamental concepts in psychology	X	X	X	X	X	X	X
Think like a psychologist		X	X	X	X	X	X
Apply psychological principles			X	X			X

First-Year Learning Associates

Phased Plan for Incorporating
Inquiry-guided Learning into a
Course Unit

Selected Resources on Inquiry-guided Learning

- Bean, J.D. (1996). **Engaging ideas: the professor's guide to integrating writing, critical thinking, and active learning in the classroom.** San Francisco, CA: Jossey Bass.
 - Belenky, M.F., Clinchy, B.M., Goldberger, N.R. & Tarule, J.M. (1986). **Women's ways of knowing: the development of self, voice and mind.** New York, NY: Basic Books.
 - Donald, J.G. (2002). **Learning to think: disciplinary perspectives.** San Francisco, CA: Jossey Bass.
 - Huba, M.E. & Freed, J.E. (2000). **Learner-centered assessment on college campuses: shifting the focus from teaching to learning.** Boston, MA: Allyn & Bacon.
 - King, P.M. & Kitchener, K.S. (1994). **Developing reflective judgment: understanding and promoting intellectual growth and critical thinking in adolescents and adults.** San Francisco, CA: Jossey Bass.
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Selected Resources on Inquiry-guided Learning

- Lee, V.S. (2004). **Teaching and learning through inquiry: a guidebook for institutions and instructors**. Sterling, VA: Stylus.
 - Lee, V.S. (2003). Promoting learning through inquiry. **Essays on Teaching Excellence**, 15(3). Fort Collins, CO: POD Network in High Education. Available at <http://gozips.uakron.edu/~mcgurk/number3.htm>
 - Lee, V.S. (2003). Vees, thinking frames, and concept maps: Supporting student thought and inquiry. **National Teaching & Learning Forum**, 12(4), 1-4.
 - Lee, V.S. (1998). The uses of uncertainty in the college classroom. **Essays on Teaching Excellence**, 12 (1). Fort Collins, CO: POD Network in Higher Education. Available at <http://oregonstate.edu/ctl/articles/packet14/The%20Uses%20of%20Uncertainty.htm>
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Selected Resources on Inquiry-guided Learning

- Lee, V.S., Shaw, P., & Snyder, L. Learning Objective 12: Acquiring an interest in learning more by asking questions and seeking answers. **POD-IDEA Learning Notes**. Available at http://www.idea.ksu.edu/podidea/index_learning.html
 - Novak, J.D. & Gowin, D.B. (1996). **Learning how to learn**. New York, NY: Cambridge University Press.
 - Perry, W.G., Jr. (1970). **Forms of intellectual and ethical development in the college years: a scheme**. New York, NY: Holt, Rinehart, & Winston.
 - Riordan, T. & Roth, J. (2005). **Disciplines as frameworks for student learning: teaching the practice of the disciplines**. Sterling, VA: Stylus.
 - Walvoord, B. E. & Anderson, V.J. (1998). **Effective grading: a tool for learning and assessment**. San Francisco, CA: Jossey Bass.
 - Weaver, F.S. (Ed.) (1989). **Promoting inquiry in undergraduate learning**. New Directions for teaching and learning, no. 38. San Francisco, CA: Jossey Bass.
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Questions? Please feel free to contact me:

Virginia S. Lee, Ph.D.

Higher Education Consultant

Virginia S. Lee & Associates, LLC

P.O. Box 51746

Durham, NC 27717-1746

(919) 493-4729

vslee@virginiaslee.com

<http://www.virginiaslee.com>
