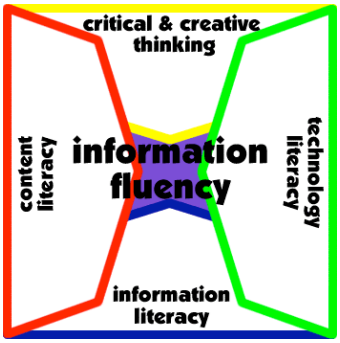
Inquiry, Imagination & Insight:
Snapshots of Student Information Scientists at Work
By Annette Lamb http://virtualinquiry.com/snapshots.htm

This workshop provides snapshots of what's realistic, relevant, and practical as educators wade through the technology, resources, and research available to today's young information scientists across the subject areas.

Think Different - http://virtualinquiry.com/inquiry/inquiry4.htm
Information Fluency - http://virtualinquiry.com/inquiry/inquiry5.htm
Inquiry - http://virtualinquiry.com/inquiry/

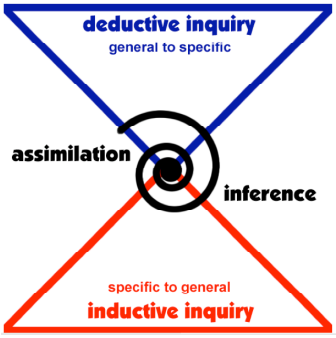


Think about Your Thinking: Metacognition
Information Inquiry - http://virtualinquiry.com/inquiry/inquiry3.htm
Good Night, Good Luck - http://virtualinquiry.com/cases/lamb1.htm
Jamal's Inquiry - http://virtualinquiry.com/cases/high6.htm

Questioning and Exploration. Think about the process of questioning and exploration.

Divergent thinking focuses on knowledge that is flexible, changing, growing, emergent, and expanding. Answers may change with questions. Student information scientists may engage in questions of accuracy, point of view, precision, depth, consistency, purpose, logic, information, interpretation, sources, assumption, currency, and/or implication. Jamie McKenzie (http://questioning.org/) suggestions many different types of questions including: clarifying, sorting & sifting, elaborating, planning, strategic, and unanswerable.

Assimilation and Inference. **Assimilation** is the process of applying general schema to particular instances. Thinkers fit new ideas into existing cognitive structures. **Inference** is the reasoning involved in drawing conclusions based on evidence and prior knowledge rather than observation.



Deductive thinking applies general theories and principles to specific instances. Let's explore an inquiry based on deductive thinking. We wondered about the rock we found on Uncle Joe's farm in Arkansas. We began with the position that it was a marine fossil. Using rules, facts, and resources from paleontology websites, we concluded that it was a fossil from the root of a prehistoric tree. After organizing our findings, we created an e-scrapbook to share with Uncle Joe.

Inductive thinking moves from specifics to generalizations. You use information to develop arguments that support your hypothesis. Thinkers move from many observations and information collected to a single conclusion. Or, incorporate many perspectives into a proposed solution to a problem. With an inductive inquiry, the end product isn't a right or wrong answer. Instead, the product may be consensus, compromise or the best option for the situation. Let's say that you're exploring alternative energy sources for your home town. You explore forms of energy, interview residents, collect information and analyze the information seeking patterns and weighing options. Finally, you make a decision. Your product may be a wiki sharing on energy options that may continue to expand, as more information is available.

Conduct and Inquiry

The Philosophers' Club by Christopher Phillips - http://www.philosopher.org/
Concepts Across the Curriculum (PBS) - http://www.pbs.org/teachersource/thismonth/archives.shtm

Support for Student Information Scientists

Project Mulberry by Linda Sue Park
Levels of Student Maturation - http://virtualinquiry.com/scientist/
Student Snapshots - http://virtualinquiry.com/cases/index.htm
Project-based Approaches. Use project-based approaches to engage learners in rich inquiry environments.
Tele-mentors. Involve the community in teaching and learning. Develop programs that promote collaboration, cooperation, and mentoring.
Construction and Reflection. Encourage construction of knowledge and reflective thinking to promote retention and transfer of learning. Create wikis, blogs, e-scrapbooks, and electronic portfolios using technology tools such as digital cameras, scanners, microphones, multimedia and productivity tools.
Culminating Projects. What types of projects should students be able to complete by the time they graduate from high school?

Snapshots of Instructional Specialists

The role of educators is evolving. Teacher librarians, technology coordinators, classroom teachers, and other instructional specialists must collaborate to enrich the learning environment.

Instructional Specialists - http://virtualinquiry.com/specialist/

Modeling Inquiry
Addressing Diverse Needs
Techniques: tactile, textual, visual, auditory, blended
Collaborating. Not sage on stage, Or just guide on side → Cadre of collaborators
Inquiry guidance: Controlled, guided, modeled, free

A Dozen Ways to Support Self-Regulation

Model self-regulation
Provide choices
Encourage proactive behavior and risk-taking
Link new learning to prior knowledge
Anticipate student questions
Encourage self-evaluation
Shift responsibility to students
Assist in goal setting
Provide context-rich connections
Encourage a variety of strategies
Provide corrective, positive feedback
Promote reflection

The Evidence: A Decade of WebQuests

It “feels” right, but where’s the evidence? Focus on standards-based, info & technology-rich, authentic & meaningful, collaborative, project-based learning environments. What theories apply? Let's use WebQuests as an example and explore a decade of WebQuests. The WebQuest phenomenon began with Bernie Dodge and Tom March in 1995. Learn more about WebQuests at WebQuest.org. The following dozen connections are based on an article by Annette Lamb in Educational Media and Technology Yearbook (Vol. 30), 2005.

1 - Constructivist Philosophy
2 - Understanding: Thinking & Transformation
3 – Authenticity
4 - Situated Learning
5 - Interdisciplinary Approaches
6 - Scaffolding
7 – Differentiation
8 - Cooperative Learning
9 – Motivation
10 - Challenge & Engagement
11 - Multiple Assessments
12 - Inquiry-based Learning