Resources

Program Theory - Inquiry Learning

The Dancing Backwards educational experience is based on the concepts of Inquiry Learning as a model of education that engages learners at a deep level. Though the following information is taken from an environmental education model, and the language is based in that world, Inquiry Learning can easily and effectively be applied across disciplines. In particular, combined with the value-belief-norm behavioral model (described in the program introduction), Inquiry Learning applied to political history and political awareness is a prime source of motivation for political engagement and citizen involvement. This in turn is one of the Dancing Backwards overall goals.

Chapter 2, Section 2.6 taken in entirety from: *Conservation Education and Outreach Techniques*; Jacobson, McDuff, Monroe; Pages 49-51

Inquiry Learning is a teaching method that uses and cultivates our natural sense of curiosity. Most commonly used in science education, Inquiry Learning also fosters an understanding of the scientific process. In Inquiry Learning, learners actively question, engage in an experience, seek information, and use that information to make sense of the world. Educators who practice Inquiry Learning emphasize the process of questioning and help students learn to ask questions effectively. Because youngsters do a better job of asking questions when they have learned something about the topic, many inquiry lessons begin with "guided inquiry" where the educator asks questions that lead students toward a discovery. "Pure inquiry" encourages learners to ask their own questions. For some, answering the question is less important than asking, predicting, and figuring out how to test a hypothesis.

Of course the topic of inquiry matters. Learners may not be motivated to invest time in questions that others have already answered. Instructors may use questions like, "what is this butterfly?" or "why is the sky blue?" to guide learners to the Internet or library to learn to find answers. Other questions are not so easily answered. "What is wrong with this tree?" could lead learners and teachers on an exploration of soil fertility, insect damage, or tree diseases. A teacher using inquiry methods would help guide learners as they continue to make sense of their questions.

Educators who use the inquiry method acknowledge that the world is changing. Simply teaching students information will be limiting, because the information may become obsolete. In an uncertain and changing environment, a better strategy is learning to question, to make sense of the world, to appreciate the inquiry process, and to develop habits that will continue to promote inquiry (Matsuoka 2004).

Biologists use inquiry when setting up an experiment to determine if burrowing owls use dung to attract their food supply—dung beetles. Community planners also use an inquiry process when using traffic data and growth projections to determine which roads should be widened. Inquiry Learning is the process we use to answer questions we raise in all types of situations.

Inquiry is not merely using questions to engage learners in discussion. Likewise it is not simply allowing learners to ask questions, and then answering them! Inquiry Learning focuses on using questions and curiosity to guide the learner's efforts to figure out an answer.

“Why do you suppose there is more water in this pond in November than in September?” a naturalist might ask a group. If she responds to the guesses with a “no” or “you are getting close”, this is just a questioning technique to motivate the audience. It would be guided inquiry if the subsequent conversation went more like: “How could you find that out?” When a group member suggests it might have rained more in October, the naturalist could distribute rainfall data and ask the group to determine which month had more rainfall. If someone suggests a creek was dammed, a topographic map could be pulled out and the group could compare the existing land forms to the map. If the group needs help, a clue might be, “Instead of thinking about more water entering the pond, consider what might change in the watershed to make the water level higher.” An aerial photograph of the watershed might help the learners realize that it is mostly forested, and that between September and November the leaves fell from the trees, removing the tree’s ability to pump gallons of water into the air, making more groundwater available to increase the pond’s depth.

Inquiry is more than asking questions, hands-on learning, or experiential education. It is structuring a learning opportunity to engage learners in the process of pursuing their questions. Because experiences with single objects or problems do not usually generate understanding, it is important that learners continue a line of inquiry with several different scenarios, tools, or hypotheses. Our naturalist may with to identify another question or event related to seasonal change or groundwater movement (depending on program topic) that allows the learners to build on what they experienced at the pond. This type of “rehearsal teaching” allows learners to use a concept in a similar but not identical way, using what they just learned. It helps build connections in the brain and more firmly place this new information or skill in an appropriate mental model (Lowery 1998). Because this process takes time, it may be better suited for classroom teachers than non-formal field trip programs.

Some critics complain that Inquiry Learning takes too much time, and takes time away from studying the content that will be on standardized tests. In areas where learners are required to take such tests, educators must prepare learners for them. For tests that try to assess student ability, not just knowledge, teachers may better prepare students with an inquiry-based, problem solving approach to learning.

Other critics recognize that learners who are accustomed to learning content and receiving rewards for getting the right answer could be terribly frustrated when a teacher changes the rules of the learning game. Some youth will not easily switch from traditional to Inquiry Learning programs. Poorly orchestrated inquiry could encourage students to ask the wrong questions or lead them to incorrect conclusions

Supplemental Resources

Use these resources to enhance and supplement instruction:

- Canada's System of Government
  http://www.parl.gc.ca/about/parliament/senatoreugeneforsey/home/index-e.html

- CBC Digital Archives: Women become Persons http://www.cbc.ca/archives/categories/politics/rights-freedoms/general-2/women-become-persons.html

- HeForShe Gender Equality Movement: UN Women
  http://heforshe.org & https://www.facebook.com/HeForShe

- UN Speech by Emma Watson on Gender Equality
  http://www.unwomen.org/en/news/stories/2014/9/emma-watson-gender-equality-is-your-issue-too

- Video of Emma Watson's Speech
  https://www.youtube.com/watch?v=Q0Dg226G2Z8&feature=youtu.be
https://www.youtube.com/watch?v=Q0Dg226G2Z8&feature=youtu.be
- We are the Vote
  https://www.youtube.com/watch?v=A21LCyuAaiE
  This video has a number of different Aboriginal actors and people from Canada stating that Aboriginal people should get out and exercise their right to vote

- *A Bold Vision: Women Leaders Imagining Canada's Future*; Editorial selections by A Bold Vision Steering Committee; published by Women's Network Inc.

- Consider using excerpts or quotes to engage students from Harry Potter star and UN Women Goodwill Ambassador, Emma Watson

- Status of Women Canada: http://www.swc-cfc.gc.ca/index-eng.html

Take Action Resources

- Petitions: e.g., http://elizabethmaymp.ca/get-involved/

- Writing Letters to the Editor

Also consider independent online news services e.g., The Tyee, The Vancouver Observer, Rabble.ca, Common, Dream, The Toronto Star

Picture Books

Amelia to Zora: Twenty-Six Women Who Changed the World by Cynthia Chin-Lee and Megan Hasley

Assessment Resources

- BC Performance Standards for assessing Reading, Writing and Social Responsibility http://www.bced.gov.bc.ca/perf_stands/

- Co-constructing Criteria with Students: http://ssla.ca/ckfinder/userfiles/files/usingcriteria%20to%20co-constructcriteriaforwriting_schampmvaughn_winter2011.pdf

- Project-Based Learning Rubrics – Buck Institute http://bie.org/objects/cat/rubrics