

The following statements and references are from *Focus on Inquiry* (Alberta Learning, January 2004 Draft, pp. 21 - 22).

Mathematics K - 12

An inquiry approach to mathematics is evident throughout the curricula. Each program of studies includes an Instructional Focus that emphasizes that **"problem solving, reasoning and connections are vital to increasing mathematical power and must be integrated throughout the program"** (Alberta Learning, 1996, p. 13; Alberta Learning 1997, p. 13; Alberta Education, 1998, p. 15; Alberta Learning 2002, p. 3; Alberta Learning, 2003, p. 14).

Science Grades 1 - 6

Learner expectations for elementary science are linked to two main areas of skill emphasis: science inquiry, and problem solving through technology. **"Inquiry is the process of finding answers to questions...Engagement in inquiry is not a linear process; it can have a variety of starting points, and the steps followed may vary from one activity to another"** (Alberta Education, 1996, p. A.3).

"The skills of science inquiry include asking questions, proposing ideas, observing, experimenting, and interpreting the evidence that is gathered" (Alberta Education, 1996, p. A.3).

Science Grades 7 - 12

The science programs for grades 7-9 and Science 14-24 are based on four foundations; the third foundation reflects the inquiry process:

Foundation 3: **"Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively and for making informed decisions"** (Alberta Learning, 2003, p. 3). The skills that students need to develop are: Initiating and Planning, Performing and Recording, Analyzing and Interpreting, and Communication and Teamwork (Alberta Learning, 2003, p. 3).

The program rationale and philosophy in Science Grades 7-8-9 and Science 14-24 states that students **"must also develop the broad-based skills needed to identify and analyze problems; explore and test solutions; and seek, interpret and evaluate information"** (Alberta Learning, 2003, p. 1).

Other senior high school science programs, including Science 10, Biology 20-30, Chemistry 20-30, Physics 20-30 and Science 20-30, **"place an increased emphasis on developing methods of inquiry that characterize the study of science. For example, students will further their ability to ask questions, investigate and experiment; gather, analyze and assess scientific information; and test scientific principles and their applications. They will develop their problem-solving ability and use technology"** (Alberta Education, 1994, p. 1).

Social Studies K - 12

Although the current social studies curriculum is under revision, both the existing and proposed programs reflect an inquiry process throughout. The existing programs of study use models for problem solving and decision making from grades 1 - 12.

The Social Studies Kindergarten to Grade 9 Program of Studies, Validation Draft, May 2003, states that Kindergarten to Grade 12 **social studies "is designed to promote metacognition through critical reflection, questioning, decision making and consideration of multiple perspectives on issues"** (Alberta Learning, 2003, p. 6).

The section on Outcomes Related to Skills and Processes identifies four core outcome categories: Dimensions of Thinking, Social Participation as a Democratic Practice, Research for Deliberative Inquiry, and Communication (Alberta Learning, 2003, p. 8).

The **Dimensions of Thinking** category includes critical thinking, creative thinking, metacognition, decision making and problem solving. (Alberta Learning, 2003, pp. 8 - 9).

The **Research for Deliberative Inquiry** category states that **"the research process develops learners who are independent, self-motivated problem solvers and co-creators of knowledge. Developing research skills prepares students for the world of work, post-secondary studies, lifelong learning and citizenship in a complex world"** (Alberta Learning, 2003, p. 10).

References

(all retrieved on November 6, 2003, from <http://www.learning.gov.ab.ca>)

- Alberta Education. (1994). Senior high science programs vision statement.
- Alberta Education. (1998). Mathematics applied and pure programs. Interim 1998.
- Alberta Learning. (1996). Mathematics grades 7-8-9 program of studies.
- Alberta Learning. (1997). Mathematics kindergarten to grade 6 program of studies.
- Alberta Learning. (2002). Mathematics preparation 10 program of studies.
- Alberta Learning. (2003). Mathematics 14-24 program of studies.
- Alberta Learning. (2003). Science grades 7-8-9 program of studies.
- Alberta Learning. (2003). Science 14-24 program of studies.
- Alberta Learning. (2003). Social studies kindergarten to grade 9 program of studies, validation draft, May 2003.