



Capacity Building Series

SPECIAL EDITION #24

Getting Started with Student Inquiry

What is inquiry?

"Inquiry is an approach to learning whereby students find and use a variety of sources of information and ideas to increase their understanding of a problem, topic or issue of importance. It requires more than simply answering questions or getting a right answer. It espouses investigation, exploration, search, quest, research, pursuit and study. It is enhanced by involvement with a community of learners, each learning from the other in social interaction."

Kuklthau, Maniotes & Caspari, 2007, p. 2

There is growing consensus, both provincially and internationally, that greater student engagement leads to greater student achievement (Cummins, et al., 2005; Flessa et al., 2010; Leithwood, McAdie, Bascia, & Rodrigue, 2006; Willms, Friesen, & Milton, 2009). While engaged students may appreciate extrinsic rewards such as good grades or praise, their motivation is not dependent on them. They are engaged in learning because they find it interesting, enjoyable and self-fulfilling. Intellectually engaged learners stay on task, view errors as learning opportunities and persist in their efforts to overcome challenges. They are passionate about and committed to solving problems, developing understanding and moving their thinking forward (Jang, Reeve & Deci, 2010; NCREL online).

Research suggests that students are more likely to develop as engaged, self-directed learners in inquiry-based classrooms (Jang, Reeve & Deci, 2010; NCREL online). In other words, "whether students use self-regulating tactics in school, what kinds of strategies they use, how they are rewarded for their use, and how much effort they expend being regulated and strategic, depends on the tasks and contexts that teachers create for students" (Paris & Paris, 2001, p. 93).

This monograph has been developed for teachers who are beginning to include student inquiry as an approach to learning. Drawing on models from Ontario, Manitoba, British Columbia, the U.S. and Australia, it anchors the inquiry process in four key phases and identifies teacher and student actions for each. It ends with six tips for getting started and a brief summary of key principles.

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The four phases of inquiry are fluid and recursive. For example, as students question and revise it according to new insights and information. Similarly, research. And when they share their findings, and engage in discussion, the new question or topic.

Focus

Initial engagement
Selection of an inquiry focus / question / topic

When students are engaged in this phase of the inquiry process, they ...

- notice, wonder and ask questions about a topic of interest
- share their thinking and questions with their peers and teachers
- dialogue about possible ways to learn more
- re-frame questions
- make predictions about possible outcomes or answers

When educators are supporting this phase of the student inquiry process, they ...

- value student thinking
- strategically model wondering and making predictions
- listen, observe and talk with students to assess interests, knowledge and needs
- introduce learning tasks that build on prior knowledge and engage students in thinking further about the topic
- identify a focus connecting the topic to a “big idea” in curriculum
- cluster expectations across curriculum that relate to the topic
- dialogue with students about ways of learning more about the topic
- provide time for student talk

Share Learning

Communicate
Communicate findings
Dialogue
Go further
Reflection

When students are engaged in this phase of the inquiry process, they ...

- plan ways to express their learning considering a variety of representations
- articulate connections between prior knowledge and new discoveries
- answer and refine questions
- pose new, deeper questions for independent investigation
- identify avenues for action and application
- apply understandings to different contexts and situations
- create opportunities together to celebrate the learning journey
- reflect on what, how and why learning happened

When educators are supporting this phase of the student inquiry process, they ...

- facilitate discussions in which students make connections between prior knowledge and new discoveries
- emphasize choice, differentiation and high level-thinking about the topic
- challenge and extend students’ understandings and skills
- provide opportunities for students to demonstrate the progress of their inquiry
- encourage students to assess their learning and ways of learning
- evaluate student learning related to curriculum expectations
- plan, with students, alternative experiences or avenues of inquiry to gain new or deeper insights
- create opportunities with students to celebrating the learning journey

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Inquiry Process

engage in the exploratory phase, they may return to their initial topic or in the analytic phase, they may discover that they need to return to their they may decide to return to the beginning of their inquiry and develop a

Explore

Find out more
Investigate

When students are engaged in this phase of the inquiry process, they ...

- gather information first-hand in a range of ways and from a variety of sources
- connect current thinking to previous knowledge
- clarify and extend questions
- talk about observations and thinking to generate more questions
- record information and keep work samples

When educators are supporting this phase of the student inquiry process, they ...

- introduce tasks in which students use prior knowledge to generate new ideas and explore questions and possibilities
- extend student thinking with open-ended questions
- challenge students' prior knowledge and beliefs
- model how to plan, observe and reflect
- encourage students to share their ideas with each other
- post banks of student questions
- provide additional information about the topic for students with limited knowledge/experience
- provide opportunities for peer and self-assessment
- talk with students about refining/adjusting initial plans

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Analyze

Summarize /synthesize
Draw conclusions
Construct new learning

When students are engaged in this phase of the inquiry process, they ...

- use information to answer questions and test hypotheses
- draw conclusions about questions and hypotheses
- describe characteristics and notice patterns
- compare, sort, classify and interpret information
- talk about their learning/concept understanding
- think about the information to create new questions and hypotheses

When educators are supporting this phase of the student inquiry process, they ...

- introduce new concepts, processes and skills that relate to the inquiry
- observe and strategically question students to clarify and extend their thinking
- provide opportunities for students to demonstrate their understanding, skills and new learning
- provide a variety of opportunities for self and peer assessment
- revisit initial questions and thinking with students
- strategically model ways to describe patterns, analyze information and draw conclusions from a variety of sources

Adapted from:

ONTARIO SCHOOL LIBRARY ASSOCIATION http://www.accessola.com/data/6/rec_docs/677_OLATogetherforLearning.pdf

MANITOBA INQUIRY PROCESS OR CYCLE <http://www.edu.gov.mb.ca/k12/docs/support/multilevel/chap6.pdf>

THE STRIPLING MODEL (U.S.) <http://tps.govst.edu/pdfs/StriplingModelInquiry.pdf>

POINTS OF INQUIRY MODEL (British Columbia) <http://bctf.ca/bctla/pub/documents/Points%20of%20Inquiry/PointsofInquiry.pdf>

INTEGRATED INQUIRY PLANNING MODEL (Australia) <http://www.inquiryschools.net/page10/files/Kath%20Inquiry.pdf>

INQUIRY PROCESS IN EARLY LEARNING-KINDERGARTEN CLASSROOMS (ONTARIO)

http://www.edu.gov.on.ca/eng/curriculum/elementary/kindergarten_english_june3.pdf

6 Tips for Getting Started

- 1 Make the curriculum work for you – connect the “big ideas” to the daily questions and interests of your students.
- 2 Design learning opportunities that encourage students to explore authentic, “real-life” experiences based on these curriculum expectations.
- 3 Don’t take over – tune in to your students, not just the topic.
- 4 Talk with your students about ways of learning more about the topic by asking:
 - *What do we want to understand more deeply?*
 - *What big questions will we explore?*
 - *What is important to know about this?*
- 5 Slow down – give your students time to explore their thinking with each other while you listen and think about:
 - *What are my students showing me? What should we do next?*
- 6 Talk to students and reflect every day about what, how and why learning is happening:
 - *What are we learning about this topic?*
 - *What are we learning about ourselves?*
 - *What do we think and know now?*
 - *What does this mean for us as learners?*

In Sum

Inquiry allows students to make decisions about their learning and to take responsibility for it.

Teachers create learning contexts that allow students to make decisions about their learning processes and about how they will demonstrate their learning. They encourage collaborative learning and create intellectual spaces for students to engage in rich talk about their thinking and learning. They create a classroom ethos that fosters respect for others’ ideas and opinions and encourages risk-taking. Teachers introduce instruction and assessment strategies that keep students focused on personal improvement. They make sure that students have the necessary knowledge, skills and strategies “to operate independently, make appropriate choices, and expand their abilities by attempting challenging tasks” (Perry, Phillips & Dowler, 2004, p. 1856). Collectively, these actions lead to a strong sense of student self-efficacy.

Inquiry is about asking questions to expand understanding.

Asking questions and making sense of information to expand understanding lies at the core of all inquiry. Inquiry is not an occasional classroom event, nor is it limited to any particular

subject area or appropriate for only some students. It is “at the heart of learning in all subject areas” (*The Ontario Curriculum, Grades 1–8: Language*, 2006, p. 29; *The Full Day Early Learning – Kindergarten Program*, 2010–2011, pp. 14–16; *The Ontario Curriculum, Grades 1–8: Science and Technology*, 2007, pp. 12–18; *The Ontario Curriculum, Grades 1–8: The Arts*, 2009, pp. 19–28).

Inquiry builds on children’s natural curiosity and leads to the development of higher-order thinking skills.

Children are “open to wonder and puzzlement” (Galileo Educational Network) and are eager to learn about their world. This natural inquisitiveness is nurtured when teachers adopt an inquiry approach. As teachers give students opportunities to seek answers to questions that are interesting, important and relevant to them, they are enabling them to address curriculum content in integrated and “real world” ways and to develop – and practise – the higher-order thinking skills and habits of mind that lead to deep learning.

References and Related Resources

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