Week 8 - Guided Inquiry

Structure

In earlier lessons, you explored a continuum of inquiry-based learning experiences. Each position along this continuum serves a purpose, depending on the goals of the learning experience, the experience of the educator, and the needs of the learners. Building on the idea of storytelling, this week focuses on one important position along that continuum: guided inquiry. Guided inquiry emphasizes the role of the teacher as a designer who carefully structures experiences that support student thinking without removing opportunities for exploration. When designed and scaffolded effectively, it allows students to engage in meaningful inquiry while providing the support needed to sustain and deepen that learning.

Anchored Instruction

Anchored instruction is one way to design for guided inquiry. It situates learning within a meaningful, problem-rich context that serves as a shared reference point for investigation. Learners are introduced to a complex scenario that requires them to ask questions, interpret information, and apply knowledge to make sense of the situation. Bransford and Vye note that the term anchored inquiry is often used to emphasize that the goal is the development of inquiry through engagement with complex problems, not simply instruction (Bransford & Vye, 2015).

The Jasper Woodbury series

One of the most well-known implementations of anchored instruction is the **Jasper Woodbury (https://jasper.vueinnovations.com/overview/adventures-jasper-woodbury%E2%84%A2-overview)** series. In this project, students engaged with video-based stories that presented realistic problems, often involving mathematics. These stories contained embedded data and multiple variables, requiring students to determine what information was relevant and how to use it. The problems were intentionally complex, making collaboration necessary. Later versions introduced interactive features such as searchable video and “what-if” scenarios, allowing students to test ideas and explore alternative solutions.

Jasper in the classroom. Note. From Moore (2014)

Evolution of Anchored Instruction

Jasper Woodbury is quite old. It leverages the affordances of media storage (CDs) to anchor the instruction through real-life problems. Elements of anchored instruction can be seen in more recent approaches to inquiry-based learning. These anchors are often designed as shared scenarios that require students to investigate and make sense of complex situations. Phenomenon-based learning, such as **resources developed by NOAA (https://sos.noaa.gov/education/phenomenon-based-learning/)** , begins with an observable event or system that students attempt to explain using real-world data. Learners explore patterns, ask questions, and construct explanations grounded in evidence. Similarly, **OpenSciEd units (https://openscied.org/why-openscied/instructional-model/)** begin with an anchoring phenomenon that establishes a shared purpose for learning. Students generate questions, build models, and revisit ideas over time, positioning inquiry as an ongoing process rather than a single task.

However, the selection of an anchor is not neutral. In the Ontario context, we must be mindful to select anchors from contexts that reflect multiple perspectives of “real-world” problems. The Ontario Federation of Indigenous Friendship Centres (OFIFC) has developed the **They Learn framework (https://ofifc.org/wp-content/uploads/2020/03/2025-they-learn-framework.pdf)** , which documents Indigenous learning principles within the Friendship Centre Movement. This framework is built upon four foundations: Stories, Teachings, Ceremonies, and Everyday Good Living. Expanding on our Week 7 exploration of storytelling, resources such as **Native Land Digital (https://native-land.ca/)** , **Natural Curiosity (https://www.naturalcuriosity.ca/educator-resources)** , and the **First Peoples Principles of Learning (https://www.fnesc.ca/wp/wp-content/uploads/2015/08/PUBLICATION-61496-Science-First-Peoples-2016-Full-F-WEB.pdf)** offer opportunities for educators to design anchors that are grounded in place, history, and relationships to land. This also includes reviewing resources like **The Secret Life of Canada (https://www.cbc.ca/radio/secretlifeofcanada)** which explores the

"unauthorized history of a complicated country," highlighting stories that were omitted from standard textbooks.

Scaffolded Knowledge Integration

Despite its promise, inquiry-based learning can be difficult to implement effectively. Classrooms may experience tasks that are too open, leading to unfocused exploration or perhaps tasks that are too structured which can limit authentic thinking. There are challenges with making student thinking visible and assessing both process and understanding. Research on technology-enhanced inquiry highlights that these environments require careful design, including clear goals, appropriate scaffolds, and opportunities for reflection and communication (Kim & Hannafin, 2011). To address these challenges, frameworks such as the Scaffolded Knowledge Integration (SKI) model provide guidance for structuring inquiry (Linn, Clark, & Slotta, 2003). These approaches emphasize:

- making student thinking visible
- supporting collaboration and knowledge building
- providing scaffolds that guide without over-directing
- encouraging revision and reflection over time

Technology plays a key role by enabling prompts, feedback, discussion, and opportunities to revisit ideas, helping maintain the balance between openness and structure (Kim & Hannafin, 2011).

Emerging Possibilities

New technologies continue to develop and there are emerging opportunities to support anchored inquiry in new ways. For example, the evolution of AI tools allow educators to create **dynamic story-based scenarios (https://gemini.google/overview/storybook/)** , generate differentiated prompts, and extend inquiry through adaptive “what-if” explorations. This raises an important question for us as educators: How can technology be used to support rich, shared inquiry experiences without reducing complexity or limiting student thinking?

Guided inquiry is not about reducing student independence. It is about designing learning experiences that provide the right supports at the right time, allowing students to engage deeply with problems, make their thinking visible, and refine their understanding through inquiry.

Suggested Readings:

Kim, M. C., & Hannafin, M. J. (2011). Scaffolding problem solving in technology-enhanced learning environments (TELEs): Bridging research and theory with practice. *Computers and Education*, 56(2), 403-417. https://doi.org/10.1016/j.compedu.2010.08.024

Ontario Federation of Indigenous Friendship Centres. (2025). *they learn.* **https://ofifc.org/wp-content/uploads/2020/03/2025-they-learn-framework.pdf (https://ofifc.org/wp-**

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Other References:

Allison Moore. (2014, November 16). *Jasper in the Classroom*. YouTube. https://www.youtube.com/watch?v=83gxuWjSpvs

Bransford, J. D., & Vye, N. J. (2015). Anchored instruction. In J. M. Spector (Ed.), *The SAGE encyclopedia of educational technology* (Vol. 2, pp. 28–29). SAGE Publications. https://doi.org/10.4135/9781483346397.n20

Kim, M. C., & Hannafin, M. J. (2011). Scaffolding problem solving in technology-enhanced learning environments (TELEs): Bridging research and theory with practice. *Computers and Education*, 56(2), 403-417. https://doi.org/10.1016/j.compedu.2010.08.024

Linn, M., Clark, D., & Slotta, J. (2003). Wise design for knowledge integration. Science Education, 87(4), 517-538