

2012-2013 Inquiry Case Study



NOII

School Name: Nakusp Secondary School
District: #10 Arrow Lakes
Inquiry Team Members: Julia Flesaker and team

Question/Focus:

Will using inquiry and project based learning improve engagement, scientific literacy and competency?

Scanning

Our students generally do not own their learning. They complete one assignment and move on to the next without internalizing the information or seeing its application beyond the classroom.

Focus

Will the construction of unit portfolios based on inquiry learning and lab activities increase student ownership of their learning as demonstrated by surveys constructed around textbook engagement and learning preferences?

Hunch

Students generally do not reflect on their learning and apply their understanding to real world situations. They do not see the larger picture.

New professional learning

We have completed a lot of research on portfolio development and read articles on inquiry based learning in science classrooms. We will be presenting student portfolios as a demonstration of their power to colleagues and communicating with students about the power of the reflection process. These reflections may lead to more individualized learning plans for particular students. In classes we focus less on content and more on what the content can mean to the student.

Taking action

We had students construct portfolios where they identified their strengths, areas to improve and the relevance of the information they have learned. We elicited feedback from students regarding their portfolios and modified teaching practices where applicable. We applied a more inquiry and competency based learning model in our classroom.

Checking

We completed a student survey at the beginning of the year asking students about the use of textbooks and their preferred learning methods. At the end of the project we asked them to reflect back on that survey and examine their answers. We asked what they think about portfolios and their understanding of science as it applies to their lives. How would their experience have been different if they'd just used a textbook? We found that students' work

quality improved throughout the year, this was because they had to keep track of their assignments and they knew that the work was going to be used later in the term. Students thought more about their learning, particularly the misconceptions that they had prior to learning new material. The course material took on a new light when they could apply it to their lives.

These results did not surprise us but it was good to have the verification. Many students did not enjoy the increased freedom, they wanted to just read and do questions out of the textbook, followed by a multiple choice test. This was particularly the case at the beginning of the inquiry project. Textbooks are still viewed as an essential resource for studying and understanding the material even though most students only use the glossary!

Students enjoyed completing the portfolios and found them to be a valued reflection tool. Even those students that were not invested in the assignment had to reflect back on the term and think about what they had learned. We hope through continued use of these strategies in the classroom that students will begin to feel more liberty to explore and find ways to expand their own learning.

Reflections/Advice

We learned that focusing on the core learning outcomes in a course allowed more freedom to teach varied content that is more personalized and local. The textbook can be very formulated and restrictive. Students will rise to the occasion, even if it takes them a while to break from the status quo – no one has ever done science portfolios in our district. Portfolios are a great reflective tool and complement inquiry/project based learning.

Next year we plan to have all our classes complete portfolios using the competency and inquiry-based model, including biology, science and social studies. We would like to share the work with colleagues in my district and get more input from them. Advice -- just leap in and try something new, it might not work out, but there is always something to learn!

EVERY learner crossing the stage with dignity, purpose and options.