



## Networks of Inquiry and Innovation Aboriginal Enhancement Schools Network

### 2016 - 2017 AESN / NOII Case Study

**School Name:** James Kennedy Elementary School

**School District:** SD#35 Langley

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**Type of inquiry:** NOII

**Grade levels:** Primary (K - 3), Intermediate (4 - 7)

**Curricular area(s):** Applied Design, Skills & Technology, Arts Education, Language Arts - Oral Language, Language Arts - Reading, Mathematics / Numeracy, Science

**Focus area(s):** Community-based learning, Core competencies (for example, critical thinking, communication, problem solving), Differentiated instruction, Experiential learning, Flexible learning, Formative assessment, Growth mindset, Inclusion and inclusive instructional strategies, Inquiry-based learning, Self-regulation, Social and emotional learning, STEM / STEAM, Universal design for learning

**In one sentence, what was your focus for the year?**

How will teaching children how to code will it improve their problem solving skills and inspire educators?

**Scanning:** Briefly summarize your scanning process. How did you use the four key questions as part of the scanning process? What did you notice about the experiences of your learners that were most important to your team?

The scanning process was an interesting and intriguing experience for me. The girls I questioned really extended their learning by pondering the questions posed to them and their responses were really thought-provoking for me. The girls were from the Inspire Gifted program at James Kennedy Elementary School. So it was fascinating to observe how they reflected on previous experiences as well extending their thinking about the future potential for coding in their learning and their lives. Overall, it was the problem solving,



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critical thinking and inquiring of the scanning process which was a great experience.

**Focus:** In a few sentences, explain why you selected this area. What changes were you hoping to obtain for your learners?

We wanted to explore following three questions this year: If we teach children how to code will it improve their problem solving skills? How will learning coding improve my pedagogical practice? How does coding happen with limited tech? These three questions helped us navigate this year and assisted us with a focus as we interacted and facilitated learning experiences for our children. Our desire was to see children collaborate together through problem solving and critical thinking even with limited tech resources.

**Hunch:** Describe your hunches about the ways in which practices at the school may have been contributing to the experiences of your learners that were of concern to you.

Our hunches were based on previous years of pioneering coding in the classroom. We had the hunch that children would develop problem solving and critical thinking skills by using codeable robots which in turn would inspire. As we journey on this adventure, we continue to believe that when educators see the long-term benefits of learning coding such as community building, inclusion and critical thinking, educators will realize the importance of teaching coding. We are starting to see this, which is so exciting!

**New professional learning:** What new areas of professional learning did you explore? What resources were most helpful? What specific designs did you use to support the learning of your colleagues?

We have had the wonderful opportunity to glean from each of our own explorations of learning in this wonderful world of MakerSpace. From on-line courses to websites to Pinterest boards, the group of us seem to be on a weekly basis contacting each other with new exciting learning endeavours. The book 'Moonshot Learning' was transformative to me and encouraged me to continue to be an early adapter with this idea of Blending Learning in our MakerSchool.

**Taking action:** Describe strategies you and your team decided on and how your actions worked out.

The strategies we decided on were shaped by the importance of building problem solving skills within the children in our school and by doing so allowing other professionals in our



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community to take the jump into coding. I believe that we have a very passionate group of teachers who want to bring coding into the classroom which is truly contagious to other educators. This will truly ignite more of an interest in other educators, children and the wider community. There were three specific example we launched this year: our new morning program 'Breakfast Bots', our lunch hour program 'Coding Club' and our Inspired Gifted program. All of these programs were extremely successful due to our strategic aim to make these opportunities collaborative, innovate and inclusive.

**Checking:** Summarize the differences you made. Were they enough? Were you satisfied?

The two main differences that were made: firstly the children felt included and inspired, and secondly was the growing openness towards coding in our community. As a team, we were satisfied yet know that this is a process and that this will continue to flourish with many more exciting adventures to come. Our baseline, was the NOII questionnaire and the levels of interest towards borrowing the robots and participating in Inspire activities. The learners answers continue to ponder and explore the importance of coding for future generations.

The learners answers to the four questions were very interesting. The girls that were interviewed were gifted and so they were very thoughtful in their answers to me. What came out overall was the experience of hands-on learning with the robots and coding which were all fantastic. They all believe that there were opportunities to build on what they learned throughout this year in the Inspire Gifted group.

Here are some paraphrased statements that I heard during the questions I asked them:

"Mme VanBremmel helps me sort out my problems"

"Mme Gammel is kind and teaches a lot of stuff that develops detail and my creativity"

"I shared these exciting things with my parents and people in my class"

"I want to develop more Math skills"

"I can teach others how to code"

"I do like robots and computer science"

"This has been foundational for my future"

"I want to volunteer and do leadership opportunities now"

**Reflections/Advice:** Finish by sharing what you learned from this inquiry, where you plan to go next, and what advice you would offer other schools with a similar interest.

The Inspire Project has great potential. Myself and other educators are learning that



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Canadians are lagging behind the global competition in preparing future generations for a world of expanding fields of technology. Technology and innovation industries will continue to grow and expand and we need future generations to be equipped to be successful in that world. The importance of digital literacy can no longer be ignored and educators are realising this. This new curriculum is designed to focus on student inquiry and innovation as they engage with technology. This project will allow us to be a fresh voice in tech education and speak into this new curriculum with novel ways to engage students.

We plan to continue to educate other teachers about codeable robots and their wonderful potential for innovation and inclusion through workshops and conferences. It would be wonderful to be able to continue to lend out our robots for 'Robot-Sitting' so other schools can try out robots without the price tag. Continue to be inspired by the Network of Innovation and Inquiry.

Advice we would give the schools would be just start small and see what how the children respond to codeable robots. Their response will change the way you see education. So take the risk in exploring robotics and coding with children, and Dr. Seuss says it well, 'Think and Wonder, Wonder and Think' and that is exactly what we are going to do together and hope to inspire in others!