



Kindergarten students at St. William School, WECDsB, dive into their inaugural coding experience.

Coding with Kinderkids!

By Carl Bull, Principal, St. Williams School

Sandwiched among the many responsibilities of administrators is the hope that innovation can be fostered at your site. Technology innovation can be a challenging minefield with multiple platforms (Apple, Microsoft, Google, etc), a formidable number of applications and wildly varying staff skill levels. My goal with this blog is to foster a conversation and provide some starter points for those elementary administrators who hope to push their school along the continuum of enriched technology experiences for their students.

There has been a significant amount of discussion in regards to coding. Jurisdictions as diverse as Estonia, Great Britain and here in Canada, British Columbia, have mandated the inclusion of this process in their curriculums. Although it can be very challenging to discern between what is a fad and what is “mission critical” for our students, I believe coding represents the latter. I love how it mimics the logic of STEM subjects, especially math, but in a fun and cleverly “masked” fashion for our pupils.

Today, I would like to discuss the ease with which one can get started on coding with our youngest pupils, the kinderkids. The “gear” requirement is very basic, pretty well anything you have will work with the topic of today’s discussion (PC’s, laptops, chromebooks, iPads etc).

Although it might seem surprising that students this young can gain from coding experiences, my work with the teachers and pupils of this level has been some of my most rewarding work in the classroom. Why? It’s amazing to see an activity that demonstrates and develops cognitive skills from pre-readers. I believe we underestimate what the mind of a 4 or 5-

year-old can accomplish, as we often evaluate this process from the lens of a language. The removal of this barrier is an eye-opening and illuminating experience!

At my current school, St. William, each of our four JKSK classrooms has a mini “kinderlab”, a dedicated table with five refurbished Dell Latitude laptops (Windows OS). I like the mice for little hands as well as tough exterior of the machines (and the \$350 per unit cost was within the budget!). The application utilized is one of the best out there, code.org, although as we progress we will migrate to other apps such as lightbot.



The following path, as well as a brief foundational discussion and demonstration, were provided to our JKSK teaching staff to launch the experience:

Go to Code.org > click on Learn dropdown > Grades K to 5 > Computer Science Fundamentals for Elementary Schools > Courses A and B > Course A, please start with #4 - Sequencing with Drag and Drop (you can skip video and simply click *Continue*).

These initial mouse and logic skills are the foundational pieces for the challenges to come. Proceeding to #7 initiates the actual coding experience; additionally there are videos and “unplugged” activities to support the electronic exercises. This underscores balance with the students and highlights the (surprisingly) interactive social dynamic encouraged by venture. Additional features include revealing the basic code structure supporting the visual icons, as well as investigating in a guided fashion the process of “debugging” the code (both of which our students enjoyed!).

This application utilizes characters from the movies *Frozen*, *Star Wars* and others that greatly appeal to students. In a gentle step-wise and consistent fashion, one can move up the coding ladder and include challenges more suited to primary / junior pupils.

There are many other applications to try for your 4 and 5-year-olds, two of my favourite are “Light bot” and “The Foes”. Dive in!

There is an exciting world to discover that will illuminate talents in students previously hidden (one of the most rewarding aspects of our jobs), set your staff upon a new course of professional development, cultivate STEM skills as well as connect them socially.

An excellent introductory coding video, especially suited to staff and parent presentations, can be found at <https://www.youtube.com/watch?v=nKlu9yen5nc>.

Happy coding and please feel free to connect with me on Twitter at [@carl_bull](#).