



# Building a Community of Coders: A Collaborative Learning Journey For Early Years and Intermediate Teachers and Students

### Team Members:

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## What We Did

At the inception of this project we held a virtual session with the Grade 8 students during which a coding expert from the Niagara-on-the-Lake Public Library (who is also working on her Masters degree in Computer Sciences), introduced students to the concept of coding, and worked on a micro:bits activity with the class to familiarize the students with this coding tool.

Subsequently, the Grade 8 students have completed a number of other projects using the micro:bits. I was released from my Kindergarten class for two periods on a bi-weekly basis, to team-teach with Scott in the Grade 8 classroom, in order to continue enhancing students' knowledge and understanding of various micro:bits applications.

Scott and I have also explored the Lynx program during our release days, and began to implement the Lynx terminology and basic programming concepts with the Grade 8 students. The Grade 8s will continue to work on building their knowledge of Lynx coding throughout the remainder of the school year. This will also help to support Scott in how he implements coding lessons with a new group of Grade 8 students next September (2021).

In my Kindergarten class, we have continued to work on unplugged coding concepts with the children, such as direction, position and movement on a grid. We have been using arrows and symbols on different types and sizes of grids before we take these coding concepts to the next level. We have also held three virtual coding sessions with our school board's Early Years Consultant and one of our Digital Learning Coaches.

My goal is to introduce the Microworlds Jr coding program in my classroom later in the Spring, as I was unable to adhere to our initial project timelines due to the unprecedented nature of this school year.



## What We Learned

We have engaged in a number of online workshops involving the use of micro:bits and block coding. We have also partnered with a Computer Science graduate student who runs coding programs for children, teenagers, and adults at the Niagara-on-the-Lake Public Library. She has been working with us and the Grade 8 students on coding skills and various micro:bits activities. We found it difficult to locate any professional development being offered on how to effectively use the Lynx and MicroWorlds Jr programs, as there seems to be greater emphasis on such programs as Scratch and Python in Ontario classrooms. Therefore, we engaged in self-directed PD to familiarize ourselves with the Lynx and MicroWorlds Jr programs.



# Sharing Our Learning

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From a Kindergarten perspective, we have gleaned a great deal of information on the importance of introducing unplugged coding concepts to our young learners prior to exposing them to actual online coding concepts. It is our hope that this background knowledge will assist the younger students in working with the Microworlds Jr program (with teacher assistance and support).

From an intermediate perspective, we have learned how to incorporate coding concepts into the classroom that will allow for authentic, innovative learning opportunities for students while also addressing the new coding expectations within the updated Math 2020 curriculum.



## How We Shared Our Learning With Others

Scott (Grade 8 teacher) has shared information about the use of the micro:bits with the other Grade 8 teacher in our building, who is very interested in incorporating this tool into her mathematics and science programs as well. Additionally, I have been discussing how to best introduce the MicroWorlds Jr program to early learners with two other Kindergarten teachers and ECES, as they are also interested in including coding concepts in their instructional plans.

As part of this project, we used some of our school's funds/budget to purchase a class set of 25 micro:bits. We have agreed to house these micro:bits in the school's library where they can be signed out and accessed by all Junior and Intermediate teachers. Our principal has asked that we meet with the Junior and Intermediate division leads to address how these coding tools can be used for the remainder of this school year and next year, to support students in developing coding knowledge and skills. This will also help teachers to address and meet the coding expectations in the math curriculum. Additionally, we have asked our Digital Learning Coach to conduct additional sessions with all junior and intermediate classes on introductory coding sessions, the Lynx program, and the use of the micro:bits.



## Links to Our Work

Throughout this project we accessed lessons and ideas on the micro:bits website ([www.microbit.org](http://www.microbit.org)), the Lynx website ([www.lynxcoding.club](http://www.lynxcoding.club)), and the Microworlds website ([www.microworlds.com](http://www.microworlds.com)).

Additionally, we took photographs of students working on various coding applications.