The Language of Coding: Using Unplugged and Plugged Opportunities in the Early Years


With Melissa Seco & Laura Collins
Hello!

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Why Coding?

Take some time to read or skim and scan the Coding Section in the book *Taking Shape* or *Computer Coding in the K-8 Mathematics Curriculum?*

*Section D: Locating, Orienting, Mapping, and Coding*
Session Learning Goals

- Minds-On
- What is coding?
- Why code? 21st Century Learning & Global competencies
- Unplugged vs. plugged coding
- Incorporating coding in a literacy context
- Exploration of unplugged & plugged coding stations
- Consolidation
Rubik’s Cube:

A question waiting to be answered...
WHAT IS CODING?
Logic will get you from A to B. Imagination will take you everywhere

Albert Einstein
21st CENTURY LEARNING & Global Competencies
A Framework For The Modern Classroom...

Collaboration
Creativity
Critical Thinking
Communication
Citizenship
UNPLUGGED VS. PLUGGED

What’s the difference?
The Many Languages of Coding
INCORPORATING CODING IN A LITERACY CONTEXT
Music that Promotes Coding Language

Cha Cha Slide song

Right foot again
Left foot again
Books that Promote Coding

Books about Coding

Books with a journey/narrative

Books promoting positional & directional language
Example: The Penguin Problem
Example 1: Unplugged Grid

Create a slope.
Use the grid to help your penguin move through the snow slope you have created.
Use **positional language**.
Use **coding arrows** to show how the penguins won the race!
Example 2: Unplugged Grid

The penguins are ready for the race, but they are all scattered in the slopes. Can you explain to your partner how to find all 4 penguins? (Similar to Battleship)

**Partner A:** Hide all 4 penguins on your Grid.

**Partner B:** Use *positional language* to Guess where the penguins. Can you find all 4 penguins?

**Resource:** [Grid](#) (from ICS - Taking Shape)
1a. 
Nerdy Birdy Tweets (Retell) 
Retell the story and what Nerdy Birdy learns about friendship.
1b.
The Water Princess (Inference)

What is the best route for Gigi to take from home to the well to get water each day?
Work with a partner. Each person creates a pathway to either the rock, paper, or scissors. One both partners are done, reveal! Code your way there and see who won!
1d. Have You Seen My Monster? (Vocabulary)

Pick a shape from the story on the map. Code your way to the shape and name the attributes and properties of that shape.
2a. Amazing Algorithms (Letter Recognition/Speech and Language Pathology - Games)

Work with a partner. 1st person rolls the letter dice. This is the start. 2nd person rolls the letter dice. This is the end. Say the letters and code your way from the starting letter to the ending letter.
2b.

Little Codr - (Games)

Locating objects in the room.
2c. Robot Turtles (Games)

Use the cards to show your program of getting your turtle to the gem.

Laser- melt ice blocks
Frog- Jump over barriers
3. Make a Coding Toolbox (Make & Take)

Take a set of cards, some loose parts, and a grid to make your own ready-to-use toolbox!
Unplugged Experiences

1. **Explore the various picture books & book prompts.** How can you use the various ideas presented to connect to various texts or language curriculum expectations?
2. Explore **games** that promote positional language.
3. Make a **mini coding kit**! Collect a grid, a peg person, a cube (to make a dice), loose parts (as obstacles or destinations), & arrows.
4. Use the **planning template** to guide/support your thinking.
4. Sight Word Challenge

Roll the dice. Code Blue-bot to travel to the matching sight word on the board.
5.
Retell The 3 Little Pigs

Create a story map of the 3 Little Pigs. Add a ‘cool moves’ code at each house. Retell the story as Ozobot travels on your story map.
6. Map Your Way Around The Farm

What animals does Henry meet as he creates his map? Use DASH to meet and greet the different animals.
7. Makey Makey Letters & Words

Test out a Makey Makey Vowel Sound board. Use the play-doh to make letters that will make a word. Record your voice sounding out the letters.
8.

Create a Story Using Scratch Jr.

Use the iPad to program Scratch Jr. Using the characters from Scratch or the story, how can you program Scratch Jr. to say ‘Hi’ to the penguin?
Plugged Experiences

1. How can you use **plugged coding centres** to extend and promote early literacy concepts?
2. How can you use as a Reading Recovery Teacher or Literacy Educator **use or promote the use of technology** in the school(s) you work in, to promote student engagement?
3. How might these centres **extend or connect** to unplugged coding?
Learning to code prepares our early learners for a 21st century world where new technologies, discoveries and innovation are constantly evolving and erupting, while also preparing them for the jobs of the future
Resources

- Storytelling with Scratch Jr Tutorial
- Ministry Site: Coding in Elementary
- STAO Science and Innovation In The Kindergarten Classroom
- STEM Booklist
- Code.org
- Creating Coding Stories or Game
- Connecting Coding to Literacy
- Why Kids Need to Code in Kindergarten
- Storytelling Coding
- Some iPad Apps for Coding
- Laura Collins website
- TDSB Global Competencies Website
Thanks!

Any questions?
You can find us at

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