

OVERVIEW

Project Title: Engaging Exploration Stations

Description: Embedding technology stations and engaging activities into my grade 2 classroom. Proposal included a class robot, interactive sandbox, and investigating coding as a form of literacy.

Outcomes: In hindsight, the original goals were ambitious and lofty. An interactive sand table was planned to be built over the summer; but, due to a flooded basement and the challenges of preparing for my first year as a classroom teacher, it was not possible. I refocused on making the most of what the technology had to offer in the areas of Literacy, Math, and the thinking competencies. In short it was learned that while technology will never replace good teaching, it is important to carefully select tools that offer feedback, additional practice, opportunities for expression, visual supports, and a high level of engagement.

IMPLEMENTATION:

Computer Expectations

We will . . .



use gentle hands

pull only the plug
carry with two hands,
tap technology softly



share and take turns

trade the mouse often, talk to each other



do what we are supposed to do



Use only the web site or app we
have been asked to use.



finish happy

stay in the green zone



[Extend Page](#)

Storage and Responsibility Training: Well before the equipment arrived, it was very important to think through and design a storage solution that allowed students to be as independent as possible. It should be accessible to all and the charging of equipment must be extremely straightforward. See blog post on the [`second story storage`](#) solution. This allowed for a gradual release of responsibility. Pairs of students got the class `technology` job until all students had proven themselves responsible to get out and return equipment.

Rules and Expectations: Class rules around using technology were developed and turned into a Smartboard Notebook file to add interactivity. Physical actions went along with the rules to help reinforce and practice what was expected. These rules were reviewed routinely.

Technology to support Literacy:

To help students think and reflect about their literacy learning, two key tools were introduced early on: Epic and Raz-Kids. The purpose of reading was reinforced with these two tools. Raz-kids offered leveled texts at just the right level for them. If they wanted to challenge themselves and get better the choice was Raz-Kids. Epic on the other hand is the `Netflix` of books offering 25,000 titles for teachers to use for free. The business model sees families paying for home use. Epic was used for interest based reading. It offered many texts that had professional quality audio narration and for those that did not any word could be double clicked and it was read aloud and a definition provided. Epic was the choice for high interest based reading with built in accessibility features. The Notebook Software was also installed on the devices and offered a variety of opportunities for students to practice using the activities used on the Smartboard just using a mouse. This allowed embedded recordings to be attached to text and interacted with in a variety of ways.

Word Study: Of note, I created a method of individualizing word study lists for my students. Typically 200+ high frequency words (ie Dolch or Fountis and Pinnell high frequency lists) are broken into smaller groups for students to study. Instead I invented a way for students to be given individualized lists of words. This was done by creating an excel spreadsheet that contained the names of students on each row and all of the words beside them. The view was zoomed in so that only one word could be viewed and if they knew the word just by sight (quickly and automatically, not by attempting to sound it out) it was removed. This created a word list of customized words that they would find challenging. A mail merge was then used to create worksheets, memory games, and opportunities to practice the words.

CHALLENGES

Academics: The literacy levels of the students was a considerable factor in this project. Only two of the students were reading within the widely held grade level expectations for grade 2. Almost half of the students were reading at a Kindergarten level (A-D) and several did not have pre-reading skills (knowledge of letter names and sounds, ability to blend, segment and rhyme sounds). While the technology could be used to provide access to higher interest materials than traditional print books from the library, it limited both what the students were capable of creating even using block based programming like Scratch. There was also the added constraint of how much time should be spent on coding and thinking competencies when they are so far behind in literacy skills.

High Needs: In addition to academic challenges, a large percentage of students in the school face additional barriers to learning. Poverty and nutrition were continual issues. Students often arrived hungry or with no lunch. The school has a breakfast and lunch program but students would very often choose to play with friends rather than enter the school early to eat. While English was the only language spoken in the home, almost a third of the class is designated `English Language Learners` due to their low vocabulary and ability to use or identify proper grammar. Multiple students were in foster care, or experienced transitions between foster homes regularly. A trauma informed teaching practice is necessary to both support the students and maintain a healthy work life balance for myself.

SUCSESSES

Independence: I am very proud of the students` high level of respect and care for the equipment. While the storage system is designed to make it simple and efficient, the students have done very well to keep machines charged and secure. A TTOC remarked how very impressed they were with how students so young could be so responsible, when high school students often to not show as much care or follow through.

Teacher growth: While the technology clearly benefitted student learning, most clearly in the area of access to information and high interest nonfiction texts (Epic), overall it was I who learned more than the students. I was very mindful in how and where to apply and use technology. We discussed how the technology has the ability to change the way we think. One student remarked that they liked Epic because they don`t have to sound out words, and it lead into a rich discussion and exploration about the role of technology in our learning journey. It should be used to make possible what was not possible without it.

Video based instruction: I only dabbled in video based instruction for the [100s Day coding activity](#), but it was so promising that I expect to invest more time in recording lessons for future use in other areas. More complicated card games (crib) and instructions that needed repeating multiple times (ie explaining class jobs) or challenging topics are potential areas to explore.

Sharing: It is very rewarding to share what one knows. Raz-kids allows you to print out text copies of their leveled books. However assembling the books is time consuming. I learned how to use the complex features of our photocopier so that one could print from the computer and have the books both folded and stapled for you. I recorded a [demonstration of how to do this](#) and got thanks from many of my peers.

Scratch Cards: While only a few students managed to delve into coding in Scratch, they benefited greatly from my having printed and laminated the collection of [Scratch activity cards](#). These cards allowed students to independently explore, experiment, and make their own creations.

Culture of Reading: While the reading levels of my students were quite low, I am very pleased and how the technology added to my efforts to create a culture of reading in our classroom. Splitters were used to share computers when students were permitted to `read with a friend`. My classroom library of print books is adequate, but the selection of books from both Raz-Kids and Epic made for an immense selection of books for students to choose from. Hearing books read aloud was a great opportunity for them to also enrich their vocabulary.

RECOMMENDATIONS

If I could speak to myself prior to beginning this year I would encourage making my goals less ambitious, especially considering this was to be my first year teaching. I would also consider starting offline activities sooner, even before the equipment arrived. The cup stacking and `machine instructions` activities were a great way to visualize and conceptualize what it means to write code. I look forward to next year when I will have access to the equipment from the first day and therefore will have much more time to work towards supporting more students coding and delve more deeply into using technology to further support creative thinking.

To others, I would encourage you to follow my lead and do not underestimate the importance of a storage system that fits with your students.