Community Field Experience: Testing Apps and Linking them to the BC Curriculum - by Ursula Baer (PhD)

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Introduction: Use of Apps in Grade 6, 7 (BC Curriculum)

Considerations:

- What are the School District policies around apps, website and electronic devices?
- Not all schools have electronic devices for an entire class, and even if they do it does not mean that all those devices work optimally
- Does the app remain functioning for the duration of the project, and beyond so students don't lose their work?
- Consider apps and devices that can be used by all students (special needs)
- Apps, open source and any free programs should be introduced to students within the framework of Digital Literacy (A.D.S.T)
- Students should be introduced/taught
    - A) ergonomics in use of computers and computing devices (A.D.S.T)
    - B) effective and efficient keyboarding techniques (A.D.S.T)

Every connection made to the BC Curriculum (below) depends entirely on whether a school district and/or school allows apps that are not bought/provided by them. Private schools have fewer restrictions.

Apps

Rocket.Chat

"Rocket.Chat is a Web **Chat** Server, developed in JavaScript, using the Meteor fullstack framework. It **is** a great solution for communities and companies wanting to privately host their own **chat** service or for developers looking forward to build and evolve their own **chat** platforms." (www.google.com, Search term Rocket.Chat)

Easy to access and setup. Great to be able to chat with each other and send material.

Challenge: the elementary classes I have seen, have very clear guidelines on electronic devices, apps, programs, website, … and for what they can be used. Since elementary students are usually meeting in the classroom and don't have a lot of homework, giving them

access to Rocket.Chat might not make much sense. The school I was in uses Edmodo app, which allows teachers to upload links to e-textbooks, PowerPoints and any other document, and it allows students to comment and communicate. Having said that, teachers see what students do, and students cannot change the basic setup.
High school: students might be interested in using Rocket. Chat for projects they work on during class as well as before and after class. However, there would have to be a way to limit it to that class or a clear understanding of who they are allowed to invite (safety, as well as cheating). Teacher would need access to all channels, which might defeat the purpose of Rocket.Chat?

Potential use within BC Curriculum:
A.D.S.T. Prototyping (BC Curriculum)
A) Identify and use sources of information (6, 7)
B) Develop a plan that identifies key stages and resources (6, 7)

EtherCalc (Spreadsheet)
"Your data is saved on the web, and people can edit the same document at the same time. Everybody's changes are instantly reflected on all screens.
Work together on inventories, survey forms, list management, brainstorming sessions and more!
I think it is a great app that allows for collaborate work on a spreadsheet. It is not that easy to use unless one has some basic experience with Excel or other spreadsheets." (www.google.com, Search term EtherCalc)

For elementary school/secondary teachers: Could be used to record student performance, attendance, field trip notices and anything else that needs to be tracked. However, information on students is confidential and should not be shared, unless required by the school and school district.
As far as I know, teachers currently use what their district offers them, or if no such program/app is offered they choose their own – FIPPA BC compliant.
Elementary students: It could be used to collect data, e.g. science stations group work. Students would have to be given time to go over their spreadsheet and make sure nothing is double. It would need clear instructions and clear tasks would have to be given to different group members. It could be used to introduce students to spreadsheets; possibly even to basic formula setups.
Science, e.g. setting up tables for temperatures, precipitation, in different cities across CA, or the world
*However, elementary students will most likely be given tables and will learn how to read data, rather than gathering data from the web and creating their own table.
High school students: Could be used to collect data, e.g. science stations group work.
"*" might work for high school, once students gather their own data, be it from an article, a textbook or a website, Stat.CA, …
Q: is there an app that allows drawing simple graphs, circle graphs, Cartesian plane (plotting points)? – Could be used in grade 7 math.

Potential use within BC Curriculum:

Career Education: Personal Development

§ Project Management (6, 7)

Math: Reasoning and Analyzing

· Use tools or technology to explore and create patterns and relationships, and test conjectures (6, 7)

Science: Planning and Connecting

· Observe, measure and record (6, 7)

---: Communicating

· Communicate ideas, explanations, and processes in a variety of ways (6)

· Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate (7)

Socials: Curricular Competencies

· Use Social Studies inquiry processes and skills to — ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions (6, 7)

Hacker Slides

If it were easier to use it could be a great tool for teachers who want to go beyond using PowerPoints and create/design their own slides. As it is, teaches without coding experience will likely continue to use PowerPoint over Hacker Slides. It connects you to slides.com, a paid app.

If it were easier to use, and if schools and school districts allowed it, something like “Hacker Slides” could be used within the BC Curriculum as follows:

Potential use within the BC Curriculum:

A.D.S.T.: Computational Thinking

· Intentionally select and apply materials, movements, technologies (refers to both digital and non-digital implements) and the processes that artists employ in the creation of art, in traditional and experimental ways, environments, tools, and techniques by combining and arranging artistic elements, processes, and principles in art making (6, 7)

· Create artistic works collaboratively and as an individual using ideas inspired by imagination, inquiry, experimentation, and purposeful play (6, 7)

---: **Communicate and Document**

A) Experience, document, choreograph, perform, and share creative works in a variety of ways 6, 7)

Science: Communicating

· Communicate ideas, explanations, and processes in a variety of ways (6)

· Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate (7)

Socials: Curricular Competencies

· Use Social Studies inquiry processes and skills to — … communicate findings and decisions (6, 7)

Brainstorm I love the idea of having a mind-mapping/brainstorming app for free. I am either not able to use the app's full potential or, it is very limited in its use. It is visually not very appealing, especially keeping young learners in mind.
A mind-map app could be used by teachers as well as students, or by both at the same time: Instead of brainstorming on the whiteboard, with the teacher and/or students writing things down, the mind-map app could be open and projected to the whiteboard. Students would have to be able to contribute in real time, or teachers types what students say.
I like the **Draw.io** app better. It offers more teachable moments for elementary and even high school than "Brainstorm." E.g. geometric forms, flow charts and so on can be introduced, explained and applied. Could also be useful to teachers. The drawback/challenge of Draw.io is that you need to know where you are going. Meaning, you need to know what kind of map you create as you have to create it yourself, rather than having a program with pre-set map structures. Having said that, that "drawback" could be used to show students that they do have to draft and try and retry before having a finished product, even for mapping.

Use within BC Curriculum:
Career Education: Personal Development
§ Project Management (6, 7)
Arts: Curricular Competencies - Exploring and Creating
· Create artistic works collaboratively and as an individual using ideas inspired by imagination, inquiry, experimentation, and purposeful play (6, 7)
English Language Arts: Curricular Competencies - Create and Communicate (writing, speaking, representing)
· Use writing and design processes to plan, develop, and create engaging and meaningful literary and informational texts for a variety of purposes and audiences (6, 7)
Science: **Curricular Competencies** - **Planning and Conducting**
· With support, plan appropriate investigations to answer their questions or solve problems they have identified (6)
Socials: Content
· Media technologies and coverage of current events (6)
---: **Curricular Competencies**
· Develop a plan of action to address a selected problem or issue (6)

EtherDraw
12 contributors, 0 releases, latest commit 077c34e on Nov 26, 2017.
I love drawing with EtherDraw and it is easy. It is not that intuitive.
EtherDraw allows to exported. Zoom works great (two fingers on the track pad). However, to erase/delete you have to use white and draw over what you want erased.

Potential use within the BC Curriculum:
A.D.S. T.: Content - Media Arts

- digital and non-digital media, and their distinguishing characteristics and uses
- techniques for using images, sounds, and text to communicate information, settings, ideas, and story structure
- media technologies and techniques to capture, edit, and manipulate images, sounds, and text for specific purposes

Arts Education: Curricular Competencies - Exploring and Creating

- Create artistic works collaboratively and as an individual using ideas inspired by imagination, inquiry, experimentation, and purposeful play (6, 7)

  EtherDraw could be used to do an art journal entry or to do a group art exercise using digital technology. This could be used from grade 3-7, possibly even earlier, and in higher grades. The focus would change throughout the grades.

  To create a larger piece where each student can do a piece of a bigger art project

Framadate

To create a class poll. However, it is a very simple poll system. It could be used to introduce polling (advantages and limits) to students – in socials. Teachers could use it for attendance. It can be exported, printed. The security and safety restrictions implemented by the school districts and schools apply.

Potential use within the BC Curriculum:

A.D.S.T.: Testing - Curricular Competencies

Understanding context

- Empathize with potential users to find issues and uncover needs and potential design opportunities

Testing

- Gather peer and/or user and/or expert feedback and inspiration

Science: **Curricular Competencies** - **Planning and Conducting**

A) With support, plan appropriate investigations to answer their questions or solve problems they have identified (6)

B) Observe, measure, and record data, using appropriate tools, including digital technologies (6,7)

---: **Processing and Analyzing Data and Information**

A) Construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data (6, 7)

B) Demonstrate an openness to new ideas and consideration of alternatives (6)

---: Communicating

- Communicate ideas, explanations, and processes in a variety of ways (6)
- Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate (7)

Socials: Curricular Competencies

- Use Social Studies inquiry processes and skills to — ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions (6, 7)
- Develop a plan of action to address a selected problem or issue (6)

Let's Chat
“29 releases, 63 contributors, last commit 2017”
“Way back in 2012, we didn't like any of the existing chat services out there. So we decided to write our own. Let's Chat is a persistent messaging application that runs on Node.js and MongoDB. It's designed to be easily deployable and fits well with small, intimate teams.
It's free (MIT licensed) and ships with killer features such as LDAP/Kerberos authentication, a REST-like API and XMPP support. Let's Chat is a side-project of the development team at Security Compass. (A real life 10% time project!)”
(www.google.com, search term “Let’s Chat”)
Let’s Chat, like all other apps, would have to be approved by the school (principal, possibly by the school district)
After inviting, the invited person needs to create a new chat room for the chat to begin. It seems the control lies by the invited person rather than the one that invites.

Potential use within the BC Curriculum:
A.D.S.T.: Testing – Content
Media Arts
· Influences of digital media for the purpose of communication and self-expression
---: Curricular Competencies- Testing
· Gather peer and/or user and/or expert feedback and inspiration

SandChat
“Real time chat in node using express and mongoose. I contributor, 0 releases; Latest commit 129d971 on Jan 9, 2015.”
I have invited a couple of people but not heard back from them
SandChat would need to be approved by the school (principal, possibly by the school district)
No chat room has to be created, one can immediately start writing in the message box.

Potential use within the BC Curriculum:
A.D.S.T.: Testing – Content
Media Arts
· Influences of digital media for the purpose of communication and self-expression
---: Curricular Competencies- Testing
· Gather peer and/or user and/or expert feedback and inspiration

MediaWiki
Easy to install. Not suitable for elementary students, unless it is a student in grade 6 or 7 who shows great interest in coding and who might already have accessed MediaWiki on

her/his own. Would run it by the principal first before offering the use to a student, after s/he has done all assigned work.
Great for teachers and anybody else who wants to contribute and/or use MediaWiki

Simple Todos
3 contributors, 0 releases. Latest commit fcbce76 on Aug 1, 2016
"Use it to share a single todo list with your friends. The list updates on everyone's screen in real time, and you can make tasks private if you don't want others to see them."
Many Elementary schools have a no-phone policy. Having said that. When dealing with internet safety, the idea of "open source" could be introduced, and some of the products could be introduced.

Sandpass
2 contributors, 6 releases, Latest commit 1e5ab0a on Mar 7
"Sandpass is a web-based password manager based on the KeePass database format that runs on Sandstorm."
I thought it might be a great app for teachers, given all the passwords we have today. However, I would not use it, since the app has not had a security review. ("Sandpass has not undergone a formal security review: use at your own risk")

Potential use within the BC Curriculum:
The app could be introduced to students as part of the A.D.S.T. introduction (open source products, free apps and programs)

Translation Apps: There are free apps to download, e.g. jibbigo, translation cat, google translator, vocre, word lens, myLangugage. However, they are all linked to google.com (storage issues)

WordPress:
Is used by UBC teachers education. Teacher candidates create a blog. Great app, that can be used by any teacher, and it could possibly be used by students to create a class blog or a blog for a research project, or for one strand (socials, science, A.D.S.T., languages, Math….)

Potential use within the BC Curriculum:
A.D.S.T.: Content - **Media Arts**
- Techniques for using images, sounds, and text to communicate information, settings, ideas, and story structure

Arts Education: **Curricular Competencies**
Exploring and Creating
- Intentionally select and apply materials, movements, technologies (refers to both digital and non-digital implements) and the processes that artists employ in the creation of art, in

traditional and experimental ways, environments, tools, and techniques by combining and arranging artistic elements, processes, and principles in art making (6, 7)

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