Bring Your Own Device (Students) Guidelines

Student learning increasingly depends on available access to computers or mobile devices. Students may use technology for online services to access and curate information, to collaborate and communicate, and to design and create programs and applications.

The BC curriculum includes numerous references (see details below for examples) to ways and types of learning that to be fully realized, require ready access to digital tools. A Bring Your Own Device (BYOD) model can potentially enable more students access to technology. Schools that adopt a BYOD model can channel their resources to fill gaps in access where students are unable to bring their own devices.

The Bring Your Own Device Guidelines are designed to assist schools in their successful implementation of a BYOD model of enabling greater student access to technology for use in their classrooms. A successful BYOD initiative requires purpose, sponsorship, communication, structure, and support. An important tool to support a BYOD initiative is an agreement by students and their parents. The Digital Responsibility Contract for K-7 Students is an important agreement document provided for teachers to use. Teachers can download the document by navigating to the Bring Your Own Device page off the http://govsb.ca/technology site.

This information will be revised and published from time to time as technology and processes change and to improve the effective use of technology.

**Audience:** VSB Students, Parents, Teachers, and Principals

**Related Documents**

- VBE Acceptable Use of Technology Policy
- VSB IT Standards and Guidelines
- VSB Cloud Computing Guidelines for Students (coming soon)
- VSB Social Media Guidelines for Students (coming soon)

**Contact Information and Technical Assistance**

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1. Purpose

Schools commonly provide computers for students to use at school, most often organized in a lab model where teachers schedule class time in the lab for students to access computers. This model provides for basic skill development and in secondary schools supports specific course (business education, computing technology, media arts) based requirements. The model does not support project oriented learning and general use of technology where learning occurs – in classrooms and other learning spaces.

Imagine that adults, who depend on computers and mobile devices to do their jobs, have to schedule time in a shared lab environment to do their writing, presentation development, email communications, architectural designs, financial tracking and modeling, or any number of other related tasks. How productive would their work lives be? Students will never fully realize the benefits computers and mobile devices can bring to their learning until access is available at any time and any place learning and teaching occurs. It is not practical to expect learning and teaching to substantially shift to enable more digital practices until students (and teachers) have anytime access to effective digital tools.

When an individual owns their own digital tools, their use becomes a regular, seamless, part of the rhythm of their work, learning, and play. They become more familiar, comfortable, and capable of using their technology for appropriate tasks. Their technology becomes assistive to and enabling for their diverse needs and they will more readily think of ways to use it effectively.

Students with ready access to technology are able to participate in new assessment models such as digital portfolios suggested in https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/agpa-final-report.pdf. A BYOD initiative supports student contributions to digital assessment tools and models that include self-assessment and show casing learning (eg, capstone projects), etc.

A key purpose for a BYOD initiative is to enable and empower students to use technology for undertaking projects, completing learning tasks, experimenting, communicating, sharing, and collaborating. Such use prepares students to use their technology for purposeful tasks, as described in the new BC curriculum, and not just for entertainment and socializing - common technology uses most often associated to younger people. A related purpose is that students see their technology as powerful and transformative learning and work devices, not just as SnapChat, Instagram, Phones, and Texting machines.

2. Important Considerations

In a BYOD classroom, students will bring a variety of devices and have access to a variety of software and apps. In this environment teachers will not be prescribing the use of specific software or apps, rather they will provide instruction and guidance on process, learning outcomes and expectations, and deliverables. Classroom activity will be organized more around projects than specific assignments where students select appropriate software, apps, or cloud tools to accomplish the various activities. Teachers will learn to tap into their students’ ability to learn new tools and have them teach others how they work for supporting learning activities.

Teachers should guide students to seek out web-based applications when they do not have software or an app on their device to support a particular activity. Office 365 provides online Word, Excel,
PowerPoint, and OneNote apps that should meet the needs for writing, calculations, presentations, and note taking. For storage, OneDrive provides unlimited space for storing documents, photos, videos, etc. There are great (free) online photo editing, video editing, presentation, and other tools as well.

**Wireless Access Essential**
A BYOD initiative requires a robust wireless and Internet network to be successful. Teachers who feel such access is insufficient in their classrooms should request an evaluation and potential improvement through their Principal – the Principal can request this through the Foot Prints system.

**Charging the Devices**
It is important to regularly emphasize student responsibility to charge their devices the night before school. However, students will forget from time to time and teachers will need to provide some charging capability some place safe in the classroom for students to plug in their devices when they do forget to charge them the night before. To support this, teachers will need common power adapters that work with the variety of devices students bring to school as students may not remember to bring their own chargers.

### 3. Elementary Schools

The BC Curriculum has increasing reference to the need for technology as students progress from grade K-7 so the benefits educationally increase with this progression.

For the greatest benefit, elementary schools are advised to consider starting a BYOD initiative with the intermediate grades. As they realize success at this level, they could consider the viability of adding in grade 3, 2, etc. based on the perceived educational benefits, teacher interest, and parent support.

**Teacher Participation**
It is very important that teachers are interested working together to champion and lead the BYOD initiative in their classrooms and their school. These teachers can support each other and their colleagues with the processes, practices, and structures necessary for supporting a BYOD initiative. Principal / VP support is also important with respect to providing funds for the small things, supporting communication needs, providing time to share through staff meetings, and freeing up time for lead teachers to support their colleagues.

**Communicating the BYOD Initiative**
Parents and students are key partners with teachers in the BYOD initiative. Teachers will need to hold a meeting with parents who must bring their child, to learn about the BYOD initiative, go through the Digital Responsibility Contract, and explain how learning, teaching, and assessment will change as a result.

It is helpful for teachers to arrange Parent (with their child) meetings in September for classrooms that are operating a BYOD initiative and in June for students who will be (next school year) in a BYOD classroom in September. It is important to provide two meeting times to accommodate the availability of parents and might involve meetings after school and in the evening.
Digital Responsibility Contract (DRC)

It is critical that all students and their parents are oriented to the BYOD initiative, its purposes, expectations, and responsibilities. A key requirement is for students and their parents to read, understand, and sign off on a Digital Responsibility Contract which includes a student responsibility part overall and a parent responsibility part related to home use.

Teachers should instruct students on the rules contained in the DRC. Teachers should also work collaboratively with their students, develop consequences for when students violate the rules. Using material from https://www.commonsensemedia.org/educators/digital-citizenship, teachers can teach digital citizenship awareness and skills throughout the school year which is supportive of the new BC curriculum.

Student Personal Device Security

A lockable filing cabinet is the best option for storing and securing devices during lunch, recess, physical education, or other times that the students are not in the classroom. One or more students should be assigned the role of device monitor. They are responsible for checking that all the devices have been stowed in their assigned spots and then locking the cabinet. After breaks, these monitors can unlock the cabinets so students can access their technology.

Dealing with Technical Challenges

Teachers should form a small ‘digital guides’ team of 3-4 students whose job is to support other students with technical problems. When a student encounters technical difficulties, they can ask a digital guide for assistance. This frees the teacher from needing to be technically knowledgeable about a diverse set of technologies, software, and apps.

Additionally, teachers should have backup plans in mind for learning activities that can carry on if the wireless or Internet network glitches, apps students require don’t work, or any number of other potential technical hiccups that could occur. Having alternative ways in mind for students to accomplish their work, will go a long way to minimizing the stress that technical failures can cause.

Supporting Students Without Their Own Device

It is likely that not all parents will support their child in bringing a device to school. This can be for financial, philosophical, or safety concern reasons. It is important that the school provide a set of devices (eg, iPad minis) for two classes to share but have one class be the keeper of the set. On a daily basis, students from either class know where to go to get a device ‘on loan’ to use for the day. The student who is the designated device monitor in the class managing the loaner devices, can track who has loaner devices so that they are always accounted for each day.

Additionally, teachers can design learning activities around shared use of devices. When working in groups or on projects, not all students need access all the time to a device. They can share between two or three students and learn to coordinate their ‘jobs’ such that they share access or collaboratively access devices, regardless of these being personally or school owned.

Managing School Devices

It is important to securely store and manage school provided devices such as iPads. Schools should designate a secure storage room or closet for the iPads (carts, cases) that has electrical outlets for
charging. The WiFi signal must be able to reach the iPads while stored so that they can receive overnight updates and app deliveries.

A possible workflow for managing the iPads on a daily basis could be:

- Assign a set (cart, case) of iPads to one or more classrooms for sharing
- One of the assigned classrooms should be designated responsibility for the iPads and two students assigned responsibility to pick up the iPads in the morning to take to their classroom
- A BYOD device monitor (student) picks up the iPads their class requires for supporting students without their own and brings them to their classroom (in a case)
- At the end of the day, the same monitor brings the iPads back to the designated classroom
- The iPad pickup students take the iPads back to the secure room, plug in for charging, and close the door

**Programs and Apps**

Since teachers will be faced with students bringing diverse types of devices, they cannot prescribe specific apps – not all students will have the same apps or programs. Students should be encouraged and guided to find apps or online websites to use that will support the deliverables or outcomes for projects, assignments, and activities. Students could be assigned tasks in small teams to research apps and websites and report back and demonstrate on behalf of their classmates.

Teachers will find that fewer apps is better than more. There are many apps or websites that purport to do the same thing. Ultimately, the desired outcome should drive app selection. For example, if a presentation is a culminating outcome, the criteria set out for the presentation should guide students to choosing the best presentation method, app, website, or program. Students can teach each other how to use apps and sites while the teacher teaches process, content, organization, and quality.

**Classroom Management**

Assuming that teachers instruct students on the rules and develop consequences with them for violations, the impact of a BYOD initiative on classroom management should minimal. When teachers need students to pay attention, such as during direct instruction time, they should have a code phrase such as “Devices Down” to signal to students that their devices should not be used while the teacher is direct teaching. With students, agree on a designate spot to place their devices when the teaching or learning activity does not require them.

It is important to regularly emphasize student responsibility through the lens of the Digital Responsibility Contract and the Acceptable Use Policy for Technology. These documents can be used throughout the school year to instruct students on best practices for using their technology.

Arrange the student desks or tables to be more conducive to small group work and easy monitoring of student activities for the teacher. Some students will be more easily distracted and off-task when having ready access to their technology – just like adults are. It is important to recognize this and have ready strategies to keep students on-task and focused but also have some free time for them to access their technology for personal reasons – this will take some of the pressure off.
4. Secondary Schools

Currently, VSB secondary schools allow students to bring their own technology to school but students are not generally allowed to choose to use their technology in class as most use is prescribed or specifically granted by the teacher. Students today use technology for many things in their daily lives. By adopting a BYOD model of technology access, schools invite students to bring the tools they already own and use every day in their lives, into classrooms to use in support of their learning.

The BC Curriculum has increasing reference to the need for technology as students’ progress from grade 8-12 so the benefits educationally increase with this progression.

--- TO BE WRITTEN ---

5. BC’s New Curriculum and Access to Technology

A selection of competencies and content areas are provided to highlight areas where access to technology is critical. It is possible to theorize about these topics but for students to fully engage with them requires ready access to technology to match the world they are growing up in and will enter as they complete their K12 education. See https://curriculum.gov.bc.ca/ for details.

The core competencies are not written with specific reference to technology but when interpreted in a modern world sense, the need for technology becomes clear. Technology use for learning is most powerful when it is used by students to create something new.

Communication (core competency)

- I present information clearly and in an organized way
- I can present information and ideas to an audience I may not know
- I can represent my learning, and tell how it connects to my experiences and efforts

Creative Thinking (core competency)

- I can get new ideas or build on other people’s ideas
- I can develop a body of creative work over time
- I build on others’ ideas and add new ideas of my own, or combing other people’s ideas
- I deliberately learn a lot about something (e.g., by doing research, talking to others)

Critical Thinking (core competency)

- I can analyze evidence from different perspectives
- I can evaluate the credibility of sources of information
- I can experiment with different ways of doing things

Personal Awareness and Responsibility (core competency)

- I can imagine and work toward change in myself and the world
- I take the initiative to inform myself about controversial issues

Applied Design, Skills, and Technologies (curriculum)
(4) Use familiar tools and technologies to extend their capabilities when completing a task
(4) Choose appropriate technologies to use for specific tasks
(4) Demonstrate a willingness to learn about new technologies as needed
(4) Do research to understand the background of the design issue
(4) Record iterations of prototyping
(5) Gather information about or from potential users
(6) Gather peer and/or user and/or expert feedback and inspiration
(6) Evaluate tools and technologies that are present in their everyday lives
(6) Identify the impact, including unintended negative consequences, of the choices they make about technology use
(6) Identify how technology use can differ depending on culture, economics, access to resources, and social expectations
(6) Identify personal, social, and environmental impacts of technology use
(9) Make informed choices as consumers of technology
Computational thinking:
   o (6-7) algorithms, visual representations, programming languages
Computers and Communications Devices:
   o (6-7) architecture, networks, personal devices, troubleshooting hardware/software problems, inputs/outputs
   o (8) social, cultural, economic impact of mobile devices; information transfer and communications (video, blog, podcast, social media)
Information and Communications Technologies:
   o (9) drag and drop mobile development; programming; development and collaboration in a cloud-based environment; functions of operating systems; current and future impacts of web standards and cloud-based technologies; design for the web; relationships between technology and social change; strategies to manage content consumption and creation
Digital Literacy:
   o (6-7) internet safety, digital self-image / relationships / communication, personal media management, search techniques and evaluation, personal learning networks
   o (8) strategies for curating persona digital content
Entrepreneurship and Marketing
   o (8) recognition of a market need, identification of target market; forms of advertising and marketing; role of money management in financing an idea or developing a product
Media Arts:
   o (6-7) types, characteristics, uses, techniques for using images/sounds/text to communicate information, media technologies and techniques

6. Choose a Device

In an ideal world, students would have a laptop computer and a mobile handheld device (smartphone, iPod) or tablet available to them. It will be important to advise parents of the benefits of each tool so that they can make informed choices.
Texting capability, although a useful tool for some educational activities, is insufficient for teaching and learning purposes. Students will require a laptop, tablet, or smartphone type device to be able to effectively participate in digitally enabled learning.

Here are the recommended choices for parents and students to make:

<table>
<thead>
<tr>
<th>Device Choice</th>
<th>Benefits</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac OSX laptop computer</td>
<td>Full size keyboard, Large screen, Sophisticated software</td>
<td>Cost, Can be bulkier to carry, Less flexible, Complicated software</td>
</tr>
<tr>
<td>Windows 7, 8, or 10</td>
<td>Full size keyboard, Large screen, Sophisticated software</td>
<td>Cost, Can be bulkier to carry, Less flexible, Complicated software Must use the VSB-Visitor wifi network which has bandwidth limitations and requires a monthly password – this limitation will be removed for Windows 10 in Nov/2016</td>
</tr>
<tr>
<td>Google Chromebook or Windows 10 Cloudbook</td>
<td>Cost, Weight, Local software not required, Cloud computing (Office 365, Google Docs, others)</td>
<td>Very little local storage, Internet access required</td>
</tr>
<tr>
<td>iPad (mini or full size)</td>
<td>Large selection of educational apps, Mobility, Common in VSB schools</td>
<td>Fragile, Cost</td>
</tr>
<tr>
<td>iPhone or iPod Touch</td>
<td>Large selection of educational apps, Very mobile, Always accessible</td>
<td>Fragile, Cost, Small screen, Small keyboard</td>
</tr>
<tr>
<td>Android tablet</td>
<td>Cost, Large selection of educational apps, Mobility</td>
<td>Fragile, App quality</td>
</tr>
<tr>
<td>Android Phone</td>
<td>Cost, Large selection of educational apps, Very mobile, Always accessible</td>
<td>Fragile, App quality, Small screen, Small keyboard</td>
</tr>
</tbody>
</table>

7. Recommended Resources

- [https://curriculum.gov.bc.ca/](https://curriculum.gov.bc.ca/)
• https://www.commonsensemedia.org/learning-with-technology
• https://www.commonsensemedia.org/privacy-and-internet-safety