VR, AR, and the QEP

When we started our project, the participants had heard of Virtual Reality and seen its acronym VR linked to various media, but we could not really describe nor visualize this experience nor imagine its pedagogical applications. We had observed some Augmented Reality experiences in social media, mainly "fun" add-ons. Again, we weren't using it in class despite having access to devices capable of providing VR and AR experiences for our students.

Starting our PDIG with a presentation from our IT-RECIT consultant was essential for us. She really differentiated these terms, illustrated them with examples, answered our questions, and provided starting points.

We recommend that teachers new to VR and AR use the free VR guided lessons provided with the Nearpod platform. There are 7 free lessons that are a great way for beginner teachers to get started with VR in the classroom. We also suggesting using the HP reveal app in the class. Our students used this app for an ELA reading assignment involving proverbs. Students created a video overlay showing the meaning behind words or phrases. They drew pictures of Greek Gods and filmed monologues of themselves speaking as those Gods. Others drew flags of countries participating in the Olympics, and filmed themselves speaking as athletes from that country. Discovery Education and Expedition provide easy to consume VR experiences. Even the CBC offers educational VR experiences.

A favorite part of our meetings was sharing. Between meetings, each teacher explored and researched different apps that offered AR and VR experiences to consume or opportunities for our students to create. We would spend the first period of the day listening to each other, showing the apps we had found, and deciding which we needed to explore further.

Some of our conclusions:

- Many AR and VR apps and sites exist
- Many are "gimmicky" : cute but limited in terms of productivity, learning, adaptability
- AR and VR can be consumed, providing students with opportunities to explore different environments and topics and learn information within these environments
- AR and VR can be created, providing students with opportunities to extend, reinvest, and share their knowledge.
- AR and VR applications are increasing in popularity.
- AR and VR, allowing students to experience immersive situations not otherwise possible, potentially increase the depth and complexity of learning.
- AR and VR apps do not age well. They quickly become obsolete.
- Some apps are not available in Canada.

- Some AR and VR platforms require School Board buy in.
- AR and VR apps require up to date hardware in order to function properly.
- Students of all ages can consume AR and VR.
- Students in cycle 3 or higher and create AR and VR experiences.

In fact, some of the biggest challenges we faced involved technical difficulties. We would research apps, and create lists to investigate in more detail. With colleagues, we would try to figure out how the apps on the list worked. We viewed tutorials, examples, and chose some apps to shortlist. We downloaded the short listed apps to play with. If we thought the app still provided strong possibilities for use in the classroom, we added it to a top list. Then we created classroom activities for the apps on the top list for our students to field test.

Back in the classroom, it was sometimes frustrating to note that some apps no longer worked, or didn't work on all the devices in our classrooms. Some apps were too complicated to use in classroom setting due to sign-ins, in app purchases, multiple steps, etc.

We purchased a 360 camera to use for VR production, and we did succeed in creating short films. However, editing the films proved challenging.

We are grateful to have had time to explore VR and AR with PDIG days. Without this time and the support of colleagues, we would not have persevered to actually find some apps that we are now using and will continue to use. More importantly, our eyes are open to the potentially powerful pedagogical applications of AR and VR in the classroom. We understand these concepts and have considered some classroom uses. AR and VR are not going away. For us, the seed is planted. We are not intimidated by the idea of changing the way we teach. AR and VR epitomize the "R" of the SAMR model of meaningful digital education, but getting acquainted with these concepts requires time, patience, and confidence.

We created lessons, two are attached, to illustrate how AR and VR apps can help students achieve objectives in all courses of study of the QEP.

We found and read several articles about schools and classrooms using the VR experience. We really liked the idea of VR as a tool to help kids reconnect with their fellow humankind, as a teacher from New York points out in an article from the online Slate magazine,
"My students live and die by their phones. They 'like' somebody's Snapchat and move on. It's so temporary and removed," he said. "So much of the technology our kids use removes empathy. But in this case, by placing kids in the moment, [VR] breaks that distance down.""
The full article can be found here: http://www.slate.com/articles/technology/future_tense/2017/02/can_virtual_reality_in_

the_classroom_help_teach_empathy.html

Our IT-RECIT consultant was able to see first hand what kind of VR and AR apps were useful to real teachers in real classrooms. We shared our experiences in our respective schools and modeled some our of successes with colleagues. It's all about "planting the seed". We believe that AR and VR can enhance all subject areas of the QEP.

AR/VR is all very new to us. We know that, thanks to the time we were able to invest this year, we will continue to explore effective and efficient means of infusing our teaching with these technologies.