



LEVERAGING DIGITAL

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OLTD 508
MAJOR PROJECT INQUIRY
SPRING 2018

Figure 1: Gamification clipart. (n.d.). Retrived April 18, 2018, from <http://iloveenglish.mixseller.com/gamify-english-class>

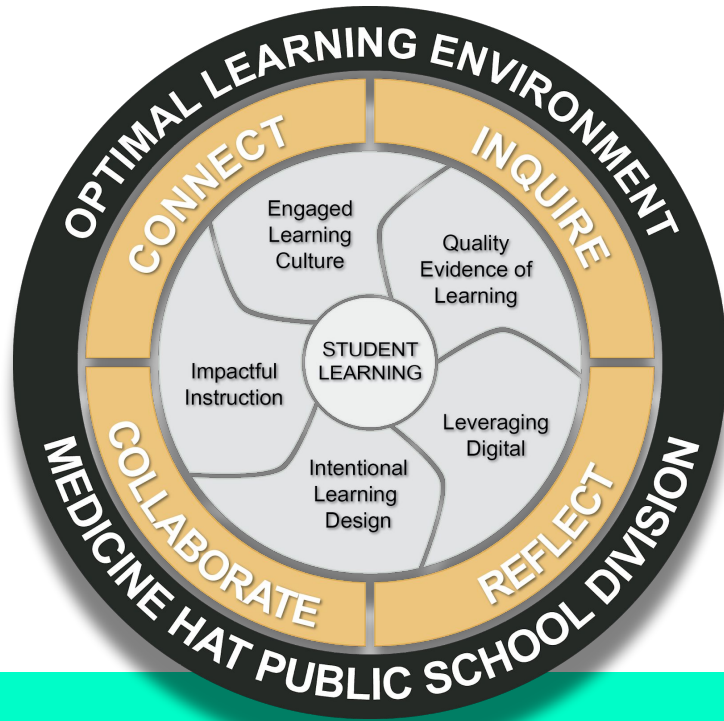
GUIDING FOCUS FOR INQUIRY: AN ELEMENT OF MEDICINE HAT PUBLIC SCHOOL DISTRICT'S (MHPSD) OPTIMAL LEARNING ENVIRONMENT FRAMEWORK (OLE) FOCUSES ON LEVERAGING DIGITAL TO PROMOTE, EXTEND, AND DEEPEN STUDENT LEARNING. THIS INQUIRY EXPLORES CLASSCRAFT AS A WAY TO GAMIFY LEARNING, FOCUSING ON GRADE 4 CURRICULUM, AND AIMS TO REINFORCE THE IMPORTANCE OF DIGITAL LEARNING AS PART OF THE OLE AS WELL AS EXPLORE WAYS THAT TECHNOLOGY - SPECIFICALLY GAMIFICATION - BENEFITS STUDENTS AND TEACHERS, BOTH IN AND OUT OF THE CLASSROOM.



Backgrounder on the OLE (Oh-lay)

Figure 2: OLE clipart. (n.d). Retrieved April 18, 2018, from <http://bit.ly/2KHwlj>

Earlier in the year, our team of Optimal Learning Coaches were tasked with organizing and synthesizing the thinking and learning that had been put forward by a committee of teachers and administrators last year. The focus of this work was on creating an aspirational framework that would help teachers design and ensure a learning environment that was rich in diversity, continually develop exceptional instructional practices, and implement effective and reliable assessments that would inform teaching decisions, gauge student understanding, identify areas of strength and weakness, and determine student mastery of intended learning goals. Extensive research of best-practice for student learning took our team down many paths of exploration, engaged us in lengthy professional conversations, and challenged us to consider every element of teaching and learning. The resulting (draft) framework is nearly complete and is in the process of being shared with the general teaching and administrative population within our division.



The development of the Optimal Learning Environment saw many iterations and progressions. Ultimately, our research and conversations lead to the understanding that student learning must center around teachers who are engaged in inquiry, collaboration, connection, and reflection, to ensure *Impactful Instruction* (lesson delivery), *Intentional Learning Design* (creative and engaging lessons connected to curricular outcomes), an *Engaged Learning Culture* (a safe, challenging, student-focused classroom), *Quality Evidence of Learning* (assessment practices), and a focus on *Leveraging Digital* (meaningfully integrated technology).

Figure 3. The Optimal Learning Environment (OLE) model. (April, 2018). Retrieved April 18, 2018, from <http://bit.ly/2rpLztu>

ELEMENTS OF THE OLE

Too often, we see classrooms stocked with devices, apps, and digital tools that simply produce tech-rich environments--this results in 'tech for tech sake' and holds little value in deepening student understanding or ensuring mastery of the desired learning outcomes. Our focus for the OLE in leveraging digital, is to guide teachers to be reflective and intentional when putting technology in the hands of students.

Meaningfully integrated technology within the OLE framework for MHPSD means that students and teachers critically evaluate, apply, consume, and create digital content.



Figure 4. Definition of leveraging digital from MHPSD's OLE Framework (April, 2018). Retrieved April 18, 2018, from <http://bit.ly/2jzCGIz>

A FOCUS ON LEVERAGING DIGITAL

As my research furthered around the benefits of gamification, it became obvious that the teaching and learning tools within gamification reflect much more than just the 'Leveraging Digital' component of the OLE.

Impactful Instruction

Educators need guidance and best practices on how to integrate gamification with pedagogy...stronger principles around gamification ethics. And we need to keep the focus on learning as the ultimate objective. Gamification shouldn't be seen as a way to substitute cheap fun for the hard work of learning. Done right, it's a tool to help unlock the fun that was always there in the learning itself (Werbach, 2013).

Engaged Learning Culture

Gamification can transform an activity from something that is not-so-fun into something that individuals voluntarily want to be a part of. The application of gamification in education and the classroom is invaluable since it can spark curiosity and foster autonomous learning. (HCI Game Groups, 2013).

Quality Evidence of Learning

Using games for assessment is about tracking more than points. The past five years have seen a lot of growth in the digital games and assessment field, developing data collection engines that use sophisticated tools to measure student learning and provide teachers with targeted feedback (Rufo-Tepper, 2015).

Intentional Learning Design

Gamification is "about designing a meaningful learning experience for your students" (Rufo-Tepper, 2015), where teachers intentionally connect learning outcomes to creative learning opportunities.

GAMIFICATION - NOT JUST FOR LEVERAGING DIGITAL

GAMIFY FOR LEARNING

As I reflected on and pursued ideas for my final inquiry in OLTD 508, many pieces of my learning seemed to intertwine with my work as an educator and instructional coach. Meeting with a small group of grade 4 teachers, I explained that “Gamification...is the process of applying game based elements or mechanics to existing learning platforms or content to increase learner interest and motivation,” and I was able to provide my colleagues with examples of how “game mechanics can be applied in the form of achievements, rewards or recognition, opportunity of self expression, or even plain old competition” (Majumdar, 2015). We explored different parts of gamification and game-based learning. Rick Raymer of eLearn magazine suggests that “Almost as important as a definition of what it is, is a definition of what it’s not” (2011). The teachers and I discussed how “these mechanics help learners achieve more through goal orientation, increasing persistence, learning by repetition, or through collaboration with peers (Majumdar, 2015). Following our conversation, my inquiry was decided and I began my exploration of gamification tools, ideas, and software to meet their needs.

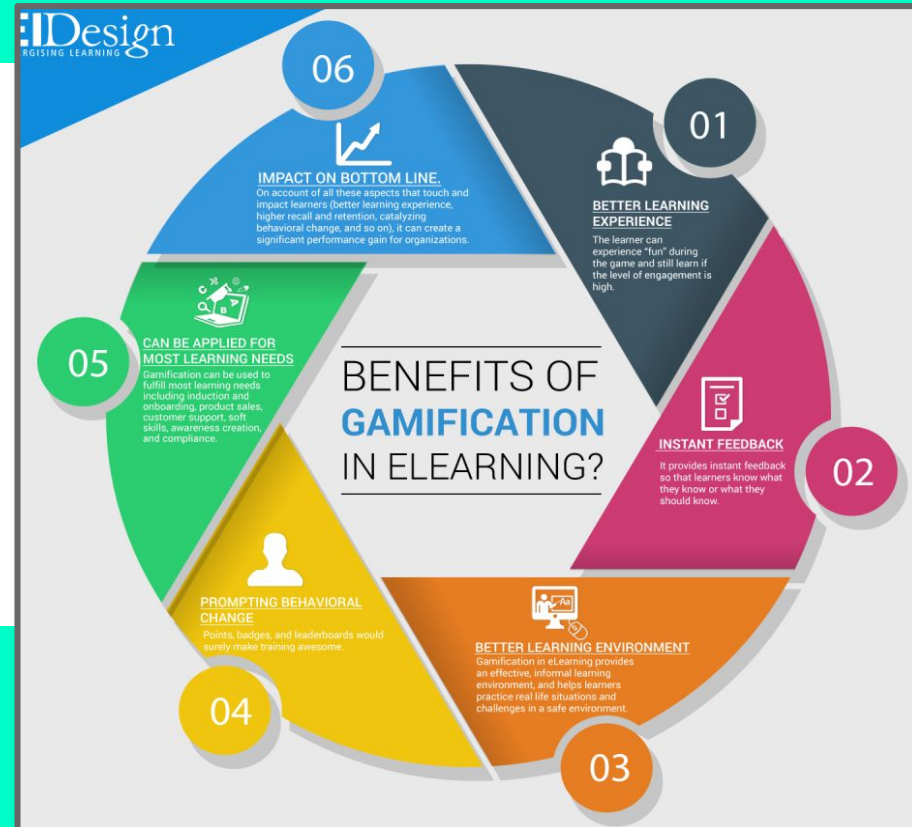


Figure 5: Illustrating the Benefits of Gamification for Learning. (March 24, 2016). Retrieved April 18, 2018, from <http://bit.ly/2lpGviu>

It was important to explore the research and effectiveness of gamification before bringing it to the grade 4 classrooms. Extensive documentation confirms that gamification & game-based learning are highly effective and engaging tools, strategies, and systems for student learning. Terry Heck, founder and director of www.teachthought.com, suggests, "The big idea here is to encourage a desired behavior. In this way, 'gamification' amounts to installing mechanics or systems that recognize and reward behavior." He further explains that "Through increased visibility of nuance, documentation of progress, and rewarding of seemingly minor (but critical) behaviors, a specific outcome can be achieved" (2015). The effectiveness of gamification extends far beyond the classroom; It seems that everywhere you turn, society is engaging in some form of gamification, adding interest to day-to-day tasks and responsibilities. On the surface, it may not be clear if there is learning in the mix of these gamified experiences, popping up in all areas of life, but what is clear is that people are engaged, interested, and challenged by the opportunities to participate. Heck suggests that life is "gamified—loosely, through informal social competition ('keeping up with the Joneses'), to the buzz extreme couponers get comparing receipts...Even sticking a push-pin into the map of every traveling destination you've ever visited is a form of 'gamification.' As are Boy Scout Badges" (2015).

The use of gamification in education is a step away from the old ways of doing things, and brings education closer to the future. When teachers include gaming concepts and game-based principles in their instructions - be it online, blended, or face-to-face--they see their students having an improved attitude towards learning and being highly motivated to learn. (Bran, 2017)

Classroom gamification allows students to make mistakes in a risk-free setting so they can actively learn and practice until they master a concept. The risk-free nature of classroom gamification frees students from the threatening anxiety of failure, which encourages students to take risks, work together and take control of their education. (Is it really just a game? 2017)

RESEARCH & TEACHER REFLECTIONS

Exploring a variety of teacher blogs and resources, I settled on Classcraft as the gamification tool for our grade 4 learning environment; it provides an excellent platform to easily engage students in the gamified environment, without being too onerous for the teacher.

Ways that students become involved in the gamified environment as they progress through their learning :

- Students create an avatar; they choose from a *Warrior*, *Mage*, or *Healer*. Each has unique characteristics, as outlined [here](#). The teacher creates teams and teammates or the teacher can choose the team name, crest, and background
- Students earn XP (Experience Points), according to the customizable teacher list - in this case, XP is connected to success criteria and learning outcomes
- Students collaborate as a team to earn & keep their activity points and health points
- Students will complete teacher-created, curriculum-aligned quests to move through their learning
- The teacher awards badges and XP as students demonstrate learning. **might** - our goal for the week is 9 badges and 1000XP



CLASSCRAFT CONNECTIONS

Figure 14. Why use Classcraft in Elementary Classrooms? Rob McKenzie. (September 18, 2017.). Retrieved April 18, 2018, from <https://youtu.be/ozZsMzT9Jac>. Screenshot by author.

Presenting Classcraft to your students

Heather Virtue, classroom teacher, explores the teacher interface and explains the different gamified elements within Classcraft.



Figure 6. Classcraft in the Elementary Classroom. Rob McKenzie. (September 18, 2017.). Retrieved April 18, 2018, from <https://youtu.be/ozZsMzT9Jac>. Screenshot by author.

“Classcraft turns your class into a game that will last the whole school year” (Classcraft, 2016)

Rob McKenzie, 4th grade inclusion teacher, presents ideas for using Classcraft in the elementary classroom as well as leverages quests to further engage students in curricular connections and learning.

Parents & Guardians are provided a user code where they can follow along with their child’s progress.

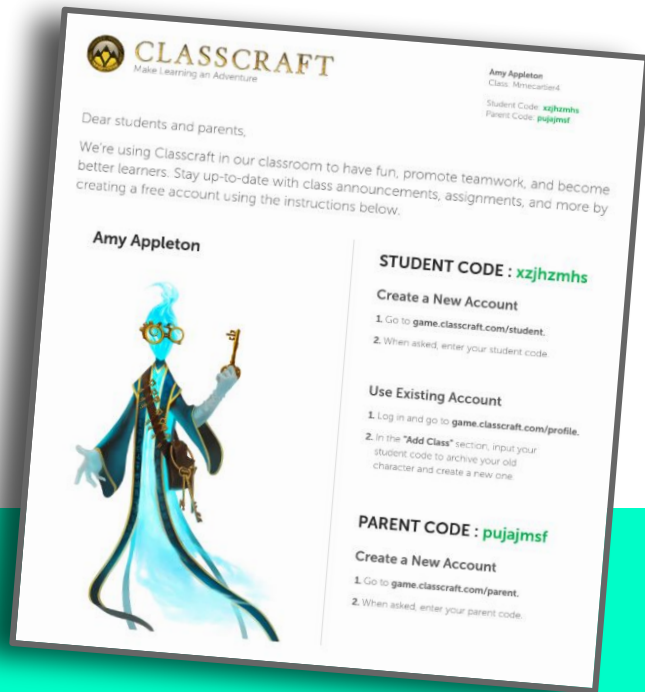


Figure 7. Parent communication letter sample (April 18, 2018). Retrieved April 18, 2018, from www.classcraft.com. Screenshot by author.

CLASSCRAFT TUTORIALS & PARENT LINKS

A balance of Warriors, Healers, and Mages within a team is important, as students can strategically leverage their unique powers and strengths, and offset one another's weaknesses.

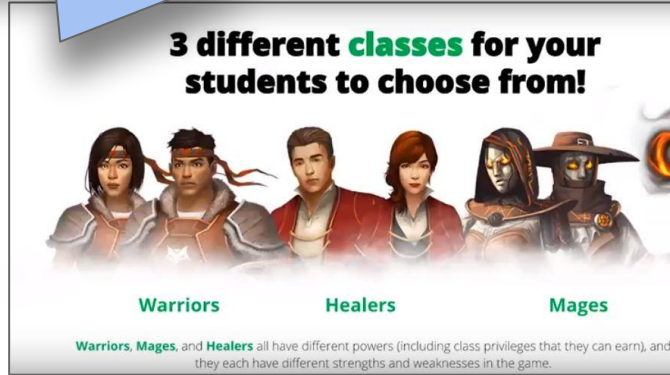


Figure 9. Student Avatar Choices. Rob McKenzie. (September 18, 2017.). Retrieved April 18, 2018, from <https://youtu.be/ozZsMzT9Jac>. Screenshot by author.

AVATARS, POINTS, AND TEAMS

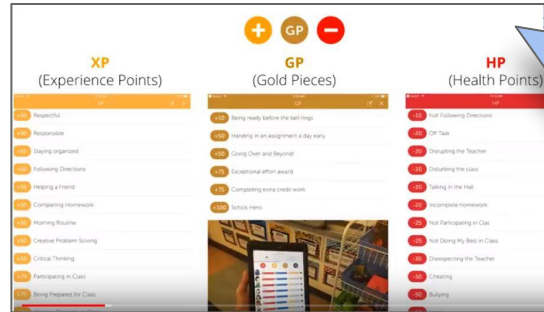


Figure 8. Points in Classcraft.(April 18, 2018). Retrieved April 18, 2018, from www.classcraft.com Screenshot by author.

Experience points, Gold Points, Health Points, and Action points are all part of the earning potential at Classcraft. Each is fully customizable to suit the classroom needs.

A focus on collaboration, teamwork, and accountability comes through as teams work to earn and maintain their points.

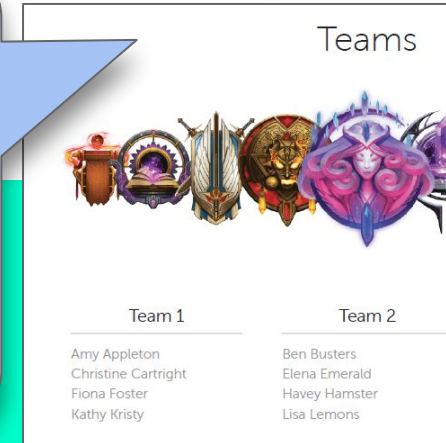


Figure 10. Making Teams.(April 18, 2018). Retrieved April 18, 2018, from www.classcraft.com Screenshot by author.

- [Setting up your Class](#)
- [Customizing your class settings](#)
- [Using Quests](#)
- [Creating a Quest](#) & [Welcome to Quests](#)
- [The Class Tools \(Suite of Features\)](#)
- [Classcraft Teacher Resources](#)
- Free Webinars for Classcraft (pre-recorded) [Introduction](#) or [Advanced](#)

CLASSCRAFT LEARNING FOR TEACHERS

Gamification



Adding Game Inspired Elements to Your Course



Applying Game Mechanics to a non-game environment to encourage behavior



Typically Incorporates Badges, Awards, Achievements



Experience Points (XP) may be Used as Substitute for Traditional Grades



Adding Game Inspired Elements to Your Course



Could Provide Students with Choice in Learning Path

Badges: I've decided to use badges as rewards, along with XP throughout our learning. There are several tools and applications - both free and paid - that allow for badge design. I chose to learn about [Open badges](#), where users can edit everything from font to image to colour. Badges are saved as PNGs, and can be added to student blog pages, uploaded into eportfolios, awarded through Google Classroom, or even printed and handed out to students. Teachers can also register for an account where they can store, share, edit, and award badges.



Open badges design, as seen above and at right, makes the process of creating badges simple and effective, by layering elements, and it only takes a few minutes to complete each one.



Figure 11: Gamification vs. Game-based Learning. (January 15, 2015). Retrieved April 18, 2018, adapted from <http://bit.ly/2HWMloa>

BADGES

Figure 12. Creating Badges. (April 18, 2018). Retrieved April 18, 2018, Screenshot by author.v

As the grade 4 team and I started exploring and learning more about Classcraft, we decided to use a learning experience with which we were all familiar, and one that we had all engaged in previous planning and thinking about. My goal switched from an exploration of a large portion of the Grade 4 Social Studies content for my final inquiry to applying gamification features to our Community Classroom week at [Medalta Potteries](#). Students spend a week - 5 school days - and have the opportunity to learn about a historic site within their own community of Medicine Hat, Alberta. I began the process of adding a gamified twist to our student activities, connected to our learning log, through Quests that I developed within Classcraft. As this learning experience happens in mid May for our grade 4 students, I was able to add some gamified ideas to the learning and get feedback from the grade 4 team, as ideas developed.

About our Learning:
[Parent Letter Sample](#)

Medalta [Learning Log - part 1](#)

[Part 2](#)

COMMUNITY CLASSROOM [@MEDALTA](#)



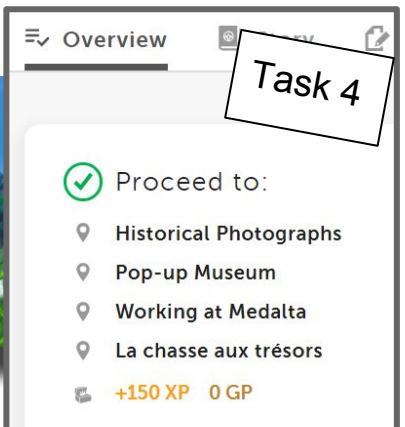
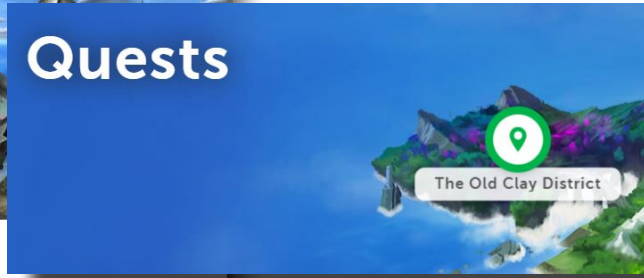
Figure 13. The outdoor kilns at Medalta Potteries, Medicine Hat, Alberta, May, 2017.



- Previous introduction to Classcraft and some initial experiences with the gamified environment ensure success during the classroom community week.
- Students login to Classcraft first thing in the morning to determine what gamified activity or learning opportunity they need or want to explore each day.
- Based on identified success criteria, connected to curricular outcomes, badges and XP are awarded as students show evidence of their learning.
- Students not achieving the desired success criteria would have the opportunity to improve their understanding and learning during the week at community classroom or in a follow-up activity - accessing learning supports, as needed

AN OVERVIEW OF GAMIFIED ELEMENTS FOR OUR COMMUNITY CLASSROOM

Screenshots capture the teacher's view of "The Old Clay District" Quests. Once students finish the first 4 quests, they may choose where they would like to continue their learning first (which order). More quests to be added in preparation for the next group of learners, to allow for a little more variety.



The Story

home to "state of the art" machinery that crushed and transported clay. Travel back in time to the earliest days of mining, jigging, and the Schuster spin press.

The Task

Factory Demonstrations

Visit each of the 3 stations with your group. Listen and watch as the guide takes you through the process of slip moulding, jigging, and the Schuster spin press. What words, ideas, and questions come up about these machines? Turn to pages 11 and 12 in your book and start thinking.

To earn your **Factory badge and 150 XP**, add 2 observations to your journal as well as identify 2 simple machines that you see in each of the 3 stations.



As students move through their learning over the week, they have the opportunity to earn a collection of badges, along with up to 1000XP.

Students who meet the objectives of their learning will be rewarded the following badge and XP values.



LEARNING IN ACTION

@MEDALTA

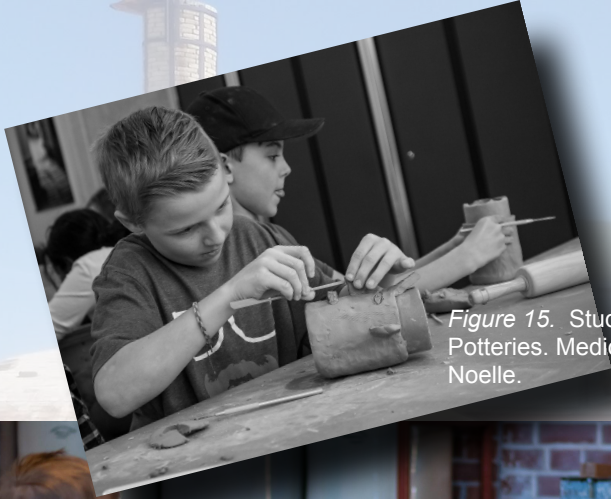


Figure 15. Student forming his slab pot at Medalta Potteries. Medicine Hat, Alberta, May, 2018. Credit: Dave Noelle.



Figure 16. Students journaling their learning at Medalta. Medicine Hat, Alberta, May, 2018. Credit: Dave Noelle.

As seen in my Adobe Spark introduction, above, students experienced a variety of activities and learning opportunities at Medalta and with its surrounding community partners, earlier this month. Gamified elements were well-received and added interest to the learning.

Reflection of Inquiry and Course Guiding Questions

Guiding focus for Inquiry:

An element of Medicine Hat Public School District's (MHPSD) Optimal Learning Environment framework (OLE) focuses on leveraging digital to promote, extend, and deepen student learning. This inquiry explores Classcraft as a way to **gamify learning, focusing on grade 4 Curriculum, and aims to reinforce the importance of digital learning as part of the OLE** as well as **explore ways that technology - specifically gamification - benefits students and teachers, both in and out of the classroom.**

Many interesting conversations and explorations took place as a result of my interest in gamifying a learning environment for our grade 4 students. This format was entirely new for the team of teachers I was working with, and as we dug into the *how's* and *why's* of gamifying learning, more questions seemed to come about. I was determined to lead our professional learning in alignment with the OLE framework; I found that Classcraft gave me the opportunity to extend learning and create a more intriguing learning environment than what students had experienced in the past at our Community Classroom site. Mornings were exciting as students logged in to their Classcraft account to choose their quest and plan their learning by previewing the criteria for success. For this reason, teachers were able to act more as facilitators and guides while on site, as students took ownership over the learning in which they wanted to engage. Some of our gamified opportunities happened without a digital component and was equally well-received. The students' excitement and motivation to not only complete tasks but to aim for mastery learning, by helping to identify success criteria connected to the learning outcomes, gave students a clear focus as they moved from quest to quest and task to task. The benefit of leveraging this digital tool--in connection with the elements of the OLE--was the opportunity to create and use quests. The "choose your own adventure" model sparked an excellent level of engagement. Classroom management took care of itself as students identified ways to gain and lose points by selecting actions and behaviours that reflected a safe and caring learning environment for all students. Progress monitoring by referring students back to the learning criteria each day allowed for effective clear feedback from adults (teachers and parents) to students. Not only did the level of engagement raise through gamification, so did the quality of student learning.

Focus for Next Steps...

As we continue to evolve the ways in which we add gamification to student learning in our Community Classrooms, I'd like our planning to focus on a variety of learning approaches - inquiry-based, problem-based, and project-based. By continuing to shift the focus to student ownership over learning, gamification will enable us to add extra incentives and challenge to each student's learning path. The 21st Century Pedagogy graphic by Andrew Churches, at right, helps to identify the importance of technology and elements that students need to engage with, to ensure technological fluency. When technology is leveraged based on the learning intentions, student engagement, understanding, and application of learning is enriched.

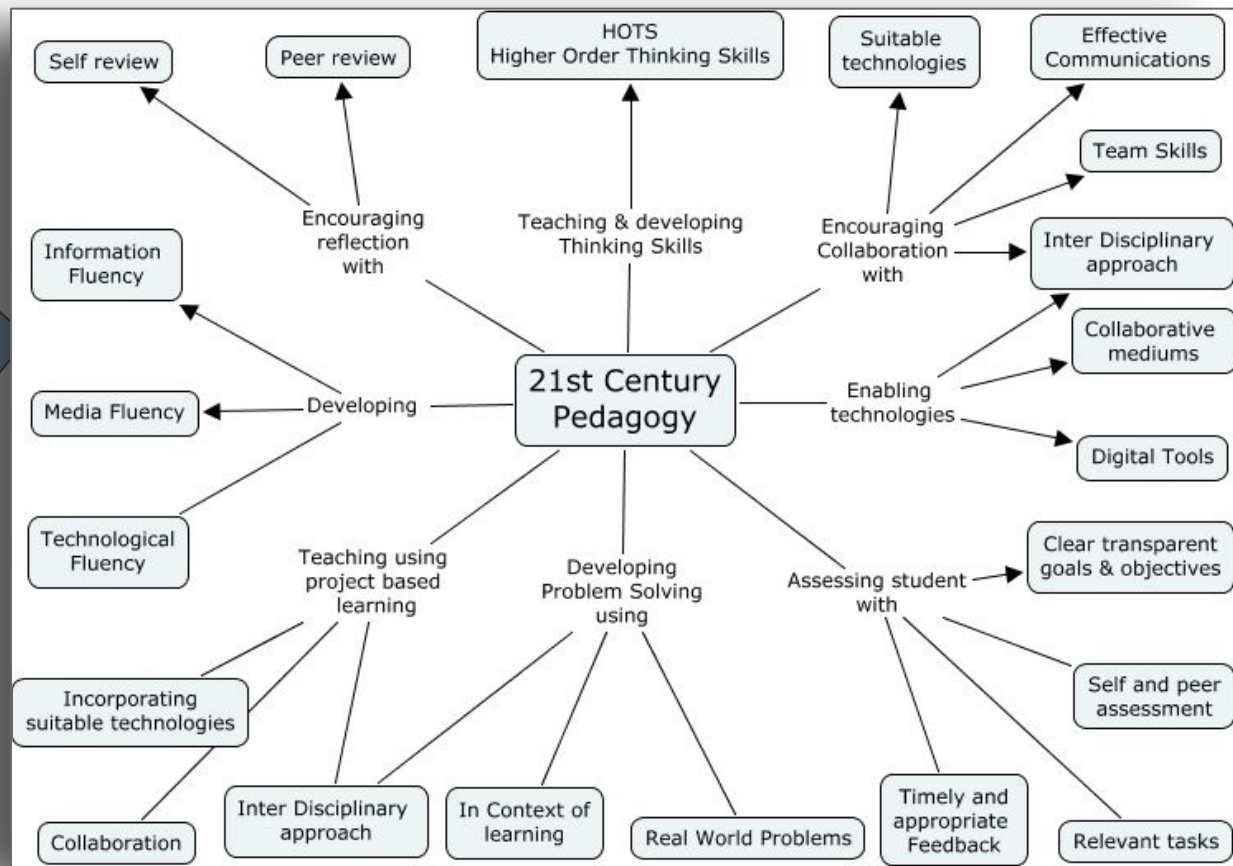


Figure 17: 21st Century Pedagogy. Andrew Churches, 2013.

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