

## **OLTD 508 Final Project**

### **Game Based Learning and BC Core Competencies:**

#### **How can Game Based Learning be used to explore Core Competencies?**

With the full implementation of the Revised British Columbia curriculum in Grade 10 in the 2018-19 academic year comes the importance of incorporating Core Competencies into school consistently and continuously. The Core Competencies are an integral part of the revised curriculum, as they are “sets of intellectual, personal, and social and emotional proficiencies that all students need to develop in order to engage in deep learning and life-long learning” (BC Ministry of Education, 2018). The strengthening of our students’ skills with regards to Core Competencies will have a positive effect on our overall school culture. As our team of educators works to prepare students to be lifelong problem solvers, critical and creative thinkers, and strong communicators in addition to solid academics, we need to ensure that we are effective in engaging all students in open dialogues and encouraging them to practice metacognition. While teachers try to weave Core Competencies with Curricular Competencies, I believe it is crucial that we explore Core Competencies exclusively as a community of teachers and learners, in an effort to come to a shared understanding of their values.

The challenge of motivating students to explore Core Competencies in our climate is that our students’ motivation towards success is heavily dependent on grades, thus a drive through external motivation; as Core Competencies are not graded by teachers but rather self-assessed by the students themselves, the motivation factor is a challenging one. Van Eck states that “all successful games are intrinsically motivating, meaning the player wants to play them for their own sake” (Van Eck, 2009). Can we as a team of educators at Maple Leaf International Schools – Hainan BC High School collaborate on an inquiry-based project involving game-based learning that will inform and benefit our teaching practices while offering alternative learning experiences for students (Lewis, 2018)? If games are natural motivators that can encompass the skills and attitudes outlined in the Core Competencies, I wonder, “How can Game Based Learning be used to explore Core Competencies?” (Lewis, 2018). If we create an opportunity for our students to explore technology-based games while simultaneously exploring BC Core Competencies, then will the process benefit the students and teachers in our school both in and out of the classroom (Lewis, 2018)? The purpose of this paper is to investigate the tangible possibility of creating a school-wide inquiry project that involves game-based learning using COTS (Commercial Off the Shelf) games to explore BC Core Competencies.

Before tackling the design of a game-based inquiry project as the planner and designer of facilitation it's necessary for me to first explore the composition of our teaching team. Comprised of both BC-Certified teachers, Chinese teachers, and both International and Local ESL teachers, we would have to come to a shared understanding of the purpose and value of this project. This understanding will come through a shared professional development experience, where I will present my vision and we will have an open dialogue including questions and concerns, as well as the roles that we will play as shared facilitators of the project. The assumption I am making is that we have some understanding of the BC Core Competencies already, as I have led pro-d sessions about them. I am also assuming that since the Core Competencies are a relatively new concept in our teaching, that we need an opportunity to explore their inclusion in our daily practice. The questions I anticipate have to do with how we will engage students in their teams to follow the vision of exploration of Core Competencies. Through this game-based learning inquiry project then, I believe that we will collaboratively explore Core Competencies inclusion, thereby benefiting our students in and out of our classrooms.

As our team of educators is one that consistently works hard to meet student needs, I anticipate some frustration over the medium of the inquiry. Only 20% of our staff has shared that they play video games, so I think it will be a challenge for them to become familiarised with a technology-based game. While students will be required to lead their inquiry, I believe it is necessary for staff to understand the premise of each game as well as the roles included. These games may include *World of Warcraft*, *Rollercoaster Tycoon*, *Civilisation V*, and *Zoo Tycoon*. Therefore, at the preliminary professional development session, we will also be introduced to a selection of team-based, strategy games in the form of a description and short clips. Once teachers, either in pairs or groups of three choose a game that they can facilitate with students, they will be responsible for becoming familiarised with their game's walkthrough, which I will provide a link for and "which are documents written by game players to literally walk you through a game solution from start to finish" (Van Eck, 2005). The initial investment of time in becoming familiar with one of the inquiry's games should serve to alleviate some teacher apprehension about the project and will serve our students in their efforts.

Our student body is currently comprised of Grade 10 and 11 students, who are all unique in their interests, levels of English, and abilities to communicate, think critically and creatively, and problem solve. Combining students into teams will require careful planning to ensure that personality types and skill levels complement one another. Many of our students are self-proclaimed gamers, while others state that they don't see the value in investing time away from their studies; several of these students are athletes, while others are introverted readers. While those introverts might experience some discomfort working in a group where problems including technology

would need to be overcome communally, “students are able to solve a wide variety of such problems on their own if the learning is designed for groups rather than individuals,” and they would be able to build a rapport with their group as they would be working with them for an extended period of time (Van Eck, 2009). The reality of our students’ future is that they will need to be active in their pursuit for contributing to the global community, and that community will require participatory culture (Squire, 2011). Even if they don’t feel as though they are on the same level as their teammates, through game-based learning there is great “potential for users to participate on equal terms regardless of academic achievement and some kinds of disability”; it’s our job as educators to guide them towards that understanding (“Using Video Games...”). Our students’ futures will require “computer and technology skills, critical thinking and problem solving, teamwork and collaboration, ethics and responsibility, and global awareness” – skills they will have an opportunity to practise through game-based learning (Prensky, 2008).

A challenge I foresee is intrinsically motivating students to grow and develop in their exploration of Core Competencies alongside exploration of the game, because “content that is not tightly integrated with the fantasy context of the game will result in COTS GBL that is *not* intrinsically motivating” (Van Eck, 2009). While it will be a challenge to set up this project to suit our students, we have had success in previous inquiry-based projects with our diverse student body, so I am confident that we will create an atmosphere conducive to productivity. One way we will address this challenge, is carrying out a preliminary student survey; this will include whether they are gamers, what kinds of games they like to play, and what they deem to be their strongest and weakest attributes when working in a team. This way, then, we will be able to create teams where individual students will complement others well.

The premise about team-based gaming that I especially appreciate is that it is a “creative way for students to work together and to realise how their individual parts fit into the ‘big picture’ of the group,” regardless of who they are in any other area of life, inside or outside of school (Allen, 2016). The necessity for our students to gain an appreciation for themselves and others can be gained through game play. This form of cooperative learning has great potential to help students reflect on their own skills and learning, to make sense of new information and tackle problems while deepening their understanding of concepts and strategies (Pitler et al., 2012). What we would essentially be doing then, is allowing students an opportunity to explore their own skills outlined by the Core Competencies, maximising their potential for applying skills in a variety of situations; the confidence to practice these skills independently when the game-based inquiry project is done would be strengthened, as they would have had time to practise these skills in a non-threatening environment with peers while role playing.

When formal grades are involved, students tend to contribute to their team only when they feel confident that they have something valuable to offer; the same may hold true in a game-based learning inquiry, except that the stakes are far different in this case. In a cooperative atmosphere involving games, especially those afforded by COTS that are designed for a variety of roles, each person has their strengths that the group can capitalise on to be stronger as a unit. 'We' are stronger than 'I' (Gee, 2013). Gee's Sandbox Principle of gaming has a considerable role in a project like this, as participants need to be willing to take risks, leaving their comfort zone to explore possible strategies and solutions with their group even though they may prove unsuccessful. In contrast to a formal learning environment where grades are a consideration, however, this is 'only a game', so the stakes are lowered. The Sandbox Principle allows students to experiment without risk of doomed failure, to practice Growth Mindset without fear. And the idea that each student would be taking on a role within the game is an important concept, as should their suggestions prove unsuccessful, it doesn't reflect on them personally.

The key aspect of this game-based learning inquiry is that students practice metacognition, both as an individual and as a group member. As teachers and learners, we need to remember that exploration of Core Competencies through game play is the main focus and must parallel ongoing opportunities for self-reflection and self-assessment of Core Competencies. As educators and facilitators of inquiry, we "must strive to make the content, classroom activities, and game world seamless and integrated into a meaningful whole" (Van Eck, 2009). That is, students need to be able to utilise their game-based learning for metacognition and presentation of the skills acquired with regards to Core Competencies.

By utilising COTS we are not only integrating technology into the learning process, but using technology as part of the process itself, which includes problem solving. As a general trend in our school, students respond well to utilising technology for their learning; what will be important here is to promote the use of the game to inspire student reflections and self-assessment on the Core Competencies. These reflections would involve examination of their roles in the game, including challenges and celebrations. While our high school students are beginning to exhibit understanding of the Core Competencies, self-assessing these skills is a challenge. The self-assessments are doubtfully going to be as engaging as the game itself, but the balance that will be created through the self-reflection process should create progressive balance overall (Van Eck, 2009). Continuing with the theme of a shared learning experience then, students need both accountability and a place to celebrate and reflect on their experiences.

Shared reflection and celebration of student exploration of the Core Competencies will be documented in the form of brief written thoughts on a communal web-based page and evidenced by either photos or screenshots of game play. The particular tool used will depend upon the staff preliminary discussion, but the medium will be one that our students and their parents will be able to readily access without the use of a Virtual Personal Network. Regardless of the COTS game that the students are assigned to the problems, technology, and game-based learning will be used to explore BC Core Competencies.

“Video games present players with simulated worlds, which if well constructed embody particular social practice [...] and can be successful in an educational context to improve the development of skills in collaboration, socialisation and cooperation” (Van Eck, 2005), -- those outlined in the BC Core Competencies in addition to communication, creative and critical thinking, and problem solving. Not only will students have to communicate with team members, but they will need to think critically about a problem and put forward their creative ideas to solve problems together. Through game-based inquiry and learning, students will have “interpersonal interactions and develop important social skills related to empathy, cooperation, conflict resolution, and self-control, which will be used throughout life to maintain healthy relationships with others” (Clare, 2015). Increased development of students’ skills toward mastery of Core Competencies as well as the metacognition required to reflect on the learning processes afforded by game-based inquiry will have a positive effect on the teaching and learning in our school, our school culture, and in the future, our students’ abilities to contribute to the global community.

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#### Walkthrough Resources

[www.gamefaqs.com](http://www.gamefaqs.com)

[www.game-revolution.com](http://www.game-revolution.com)

[www.happypuppy.com](http://www.happypuppy.com)

[www.gameboomers.com](http://www.gameboomers.com)

[www.youtube.com](http://www.youtube.com)