Increasing Student Engagement in Existing Online Learning Experiences Through Incorporation of a Gamified Framework

by

Leslie J. McCurrach

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We accept the Process Paper as conforming to the required standard.

Greg Lewis, Major Project Faculty Supervisor
Faculty of Education,
Vancouver Island University

Dr. David Paterson, Dean,
Faculty of Education,
Vancouver Island University

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Abstract

Online learning presents challenges of student engagement, disconnection, opportunity for building relationships, and misalignment of traditional educational models with emerging needs of 21st Century learners. This paper addresses these issues by exploring the Critical Challenge Question, “How can teachers disrupt the traditional educational paradigm and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?” Based on a review of current research, a two-part applied design Major Project has been developed. First is an informational website for educators looking for practical support and tips for exploring the use of gamification in their teaching practice called Pedagogy: Level up! Second is a sample Gamified English 12 course website that functions in cooperation with Moodle as a Learning Management System and M.S. Office 365 as the means of communicating student learning and provision of a collaborative learning affinity space. Survey feedback validated the success of the two project websites, and suggested that the goals of both sites would be achieved, with suggestions from this feedback integrated into revised versions of both deliverables. Project limitations include learner preferences, student access to infrastructure and technology, as well as limited scope of target audience (high school educators/English 12 students). Future research and development is needed to expand use of these tools for a wider audience, especially younger students and students learning in different content areas.

https://sites.google.com/view/gamified-english-12/home
http://pedagogylevelup.weebly.com/

**Keywords:** Gamification, student engagement, student motivation, instructional design, disruptive innovation, language arts instruction, emerging pedagogy
Acknowledgements

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Next, I need to acknowledge two of my staunchest supporters, who also happened to pass away during my graduate studies. To my mom, Beryle, I attribute my love of creative and applied design. To my grandpa, Orv, from whom I learned hard work and personal discipline. Without both of these strengths, this project would not have been finished. To my dad, Allan, who fought and beat a brain tumor during my graduate studies. Thanks for teaching me the importance of unconditional love, and the benefit of a sharp wit and good sense of humour.

Finally, I must thank my children, Jean and Alison, who didn’t always know what I was doing on the computer in the spare room, but always brighten my life with their joy and love. And to my husband, Neal. None of this would have been possible without you. I don’t need to write more because you already know what I’m going to say before I even think it. Thank you.
List of Tables

Table 1 - Elements of Gamification ................................................................. 38
Table 2 - Curricular Big Ideas in English Studies 12 ........................................... 43
Table 3 - Pedagogy: Level Up! Intentions as stated in Google Form for Feedback ........ 54
Table 4 - Additional Comments on Website Comment from Google Form for Feedback .... 61
Table 5 - Comments about Navigation from Google Form for Feedback ..................... 62
Table 6 - Comments about the Gamified Course Site’s Design, Content or Navigation from Google Form for Feedback ........................................................................... 64
List of Figures

Figure 1 – Grade Levels Taught by Survey Respondents................................................................. 65

Figure 2 – Respondent Familiarity with Gamification Before Viewing Site............................... 66
# Table of Contents

Abstract ................................................................................................................................. 2  
Acknowledgements.................................................................................................................. 3  
List of Tables .......................................................................................................................... 4  
List of Figures ......................................................................................................................... 5  
Chapter 1 – Introduction ........................................................................................................ 10  
    Purpose of the Major Project .............................................................................................. 10  
    Justification of the Major Project ....................................................................................... 11  
    Applying gamified construct ............................................................................................ 12  
    Critical Question/Challenge to be Addressed .................................................................. 13  
    Key Deliverables ................................................................................................................. 13  
        Pedagogy Level Up! website ........................................................................................... 13  
        Sample English 12 course ............................................................................................ 14  
    Definition of Terms ............................................................................................................ 14  
    Brief Overview of the Project ............................................................................................ 17  
        Gamification elements .................................................................................................... 18  
        Instructional components ............................................................................................. 18  
Chapter 2 - Literature Review ................................................................................................ 20  
    Introduction ......................................................................................................................... 20  
    Background to Educational Paradigm and Student Engagement ....................................... 20  
        The need to disrupt the traditional paradigm ................................................................. 20  
        Problems with existing structures .................................................................................. 21  
        Designing for a new paradigm ......................................................................................... 22  
        Connection to the online context .................................................................................... 23
Sample course website development ................................................................. 44
Framing of quests .............................................................................................. 45
Required quests ............................................................................................... 45
Creation of instructional videos ....................................................................... 47
Course assessment redesign ............................................................................ 48
Microsoft Office 365 components .................................................................. 49
Pedagogy: Level Up! website refinement .......................................................... 49
Major Project Implementation and Feedback Process ..................................... 50
Project Timeline ............................................................................................... 51
Chapter 4 – Field/Beta Testing and Findings ................................................. 52
Field Testing-- Methods and Process ............................................................... 52
Feedback Questions ......................................................................................... 53
  Section 1: Pedagogy: Level Up! content ...................................................... 54
  Section 2: Pedagogy: Level Up! design ....................................................... 56
  Section 3: sample gamified course feedback .............................................. 56
  Section 4: demographic information collection ......................................... 57
Findings of Field Testing .................................................................................. 58
  Findings for section 1: Pedagogy: Level Up! content ............................... 59
  Findings for section 2: Pedagogy: Level Up! design ................................ 62
  Findings for section 3: sample gamified course feedback ....................... 63
  Findings from section 4: demographic information collection ............... 65
Significance of findings ................................................................................... 66
Chapter 5 – Conclusions and Recommendations ........................................ 68
  Conclusions as Applied to the Project Re-Design ....................................... 68
Chapter 1 – Introduction

Purpose of the Major Project

For educators, change is constant. Whether it’s adapting a lesson to suit different learners, updating a unit or two year by year, or changing courses or grade levels of instruction, this profession is built on the expectation that nothing is static and that educational success is dependent on a huge number of variables. Add to this a recent curriculum redesign in British Columbia, and you have the perfect storm of change and uncertainty.

Distributed Learning (DL) teachers and students alike will tell you that working asynchronously online is not always the most engaging learning environment. There are feelings of isolation, of a separation between the teacher and the learner known as transactional distance (Moore, 2012), and that there are fewer opportunities for collaborative learning (Bates, 2015). Many of these challenges could be addressed by making the online course synchronous, as some learners prefer and flourish in an online classroom where the content is “scheduled, sequenced, and directed” (T. Anderson, 2008, p. 60) but in my experience, the majority of students select online learning because they need the “flexibility of time and space” (T. Anderson, 2008, p. 53) that online learning affords them in order to fit with their brick-and-mortar timetables or personal lives.

Although there are a number of design innovations that can be employed to reduce transactional distance, increase feelings of connectedness, and build opportunities for collaboration, one of the most compelling problems that needs solving, in both the DL and bricks-and-mortar classroom is diminishing student engagement. A brief review of the literature around student engagement illustrates that much of the problem hinges on outdated notions about what school should look like (the traditional paradigm) and that educators and students need to rethink the purpose and structure of education in order to meet the changing demands of the 21st

Anderson (2008) states that in order engage students in the learning process and promote transformational learning, which is arguably the goal of all good teaching, instructors must create and maintain a sense of both presence and community in online learning experiences. This suggests that students who are connected socially to the learning experiences connect to the learning emotionally, and experience deeper learning as a result. Therefore, to start addressing the issue of student engagement, we should also target the problem of disconnection in our instructional design.

One innovative strategy that is worth exploring is the use of gamification in education. Gamification is understood to be the use of game design principles in non-game situations, such as school. Good game design principles are arguably good learning design principles, and include elements such as clear goals, challenging tasks, and copious feedback (Gee, 2004, 2013). I propose that by exploring and strategically applying chosen elements of gamification to existing online learning opportunities it is possible to transform the educational environment, increase student engagement in Distributed Learning (DL) coursework, and enhance opportunities for learner personalization and choice, which aligns with the goals of the redesigned BC curriculum (British Columbia Ministry of Education, 2018).

**Justification of the Major Project**

I fundamentally believe that in order for innovative pedagogies to become adopted and result in sustainable change for our learners, we need to disrupt the status quo, and to do this we need to transform the educational paradigm (J. Anderson & Rainie, 2014; Christensen, Johnson,
& Horn, 2008; Cohen, 2011; Dicheva et al., 2015; Gee, 2013; Jones, 2008; Lee & Hammer, 2011; Pink, 2009; Saveri & Chwierut, 2010; Zhao, 2012). This means we need to rethink and alter our mindsets around what school looks like, its function, and our roles within the system. A review of current educational literature defends the rationale for using non-traditional pedagogies with our students, particularly to support personalization and increased student motivation, through the development of autonomy, mastery and purpose (Gee, 2004; Pink, 2009).

**Applying gamified construct.** Much of the current research around gamification focuses on the fact that it motivates learners, rather than on practical ways it can be incorporated successfully into classrooms. Furthermore, the focus tends to be on the post-secondary context, which has different learner and instructor demands than the 8-12 public school in which I am working. Creating a piecework model for gamification will promote greater implementation rates by reducing upfront workload for educators, especially in the DL world where teachers often have a demanding scope of courses to instruct. The key deliverable of this applied Major Project (website) with resources for teachers may be implemented in part or in whole, opening the door to more choice and options for student personalization. Because the design incorporates the gamified elements into the *structure* of the course, rather than as an occasional occurrence, it has a more likely chance of being effective, as both students and teachers will develop the necessary fluency and comfort with the technology being employed. “The key to stickiness is not just the design of the innovation, it is the process of being embedded in the learning environment and the learning day” (Fullan & Donnelly, 2013, p. 17).

When considering gamification, it is important to think about the problems in our existing systems that we are trying to ameliorate through changes to our instructional design. Educators should aim to design enjoyable experiences that don’t suck the fun out of play, as this risks
converting the experience into “chocolate covered broccoli” (Lee & Hammer, 2011, p.4). It is crucial to maintain authenticity, clear expectations, and strong teacher support to help gamification initiatives succeed. It is also necessary to have “strong teaching staff able to design effective assignments, grade students’ work relatively quickly, and interact with students closely” (Dicheva, Dichev, Agre, & Angelova, 2015, p.83). The game elements that increase and encourage dialogue between learners and educator also serve to decrease transactional distance, which is also shown to improve student engagement and learning online (Moore, 2012). Finally, the content, pedagogy, and relationships with students must be strong in order for gamification to succeed (Chee & Wong, 2017), just as they would need to be in any classroom. The addition of game elements is not a magic solution to the issue of student engagement in online courses. However, through thoughtful application of research and strong pedagogy, I propose that it is possible to create a “game layer” or gamified construct that can increase student engagement in existing DL courses while simultaneously increasing student opportunities for personalization and choice.

**Critical Question/Challenge to be Addressed**

‘How can teachers disrupt the traditional educational paradigm and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?’

**Key Deliverables**

**Pedagogy Level Up! website.** The Pedagogy Level Up! Weebly site houses the resources, research, and links to the sample English 12 course that I created for this Major Project. It has checklists, instructional videos, discussion of how to rethink and reorganize existing content to fit the redesigned British Columbia curriculum, research to justify the changes
in delivery method, and explanations of my own experience creating a gamified course.

Essentially, for those secondary teachers considering gamification, it is a toolkit to implement changes to their delivery of content. The goal is to make gamification as an emerging pedagogy more accessible and more tangible for teachers who might otherwise struggle to connect the theoretical research evidence to their personal contexts and practice.

**Sample English 12 course.** This deliverable is a sample of a course I designed around existing online learning experiences, a Western Canada Learning Network English 12 course, but updated to include most aspects of my gamified framework. It features allocation of points (eXperience points or XP) for time spent learning and creating quality work, instructions, reframing of existing lessons, more availability for choice, and personalization through the form of a Quest-Chain.

### Definition of Terms

The following table provides definitions of key terms used throughout this paper.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Source</th>
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<tbody>
<tr>
<td>Asynchronous Learning</td>
<td>Coursework that does not require students work at the same time or in the same place on the same materials (synchronously), and does not have a fixed start date or due dates</td>
<td><a href="http://www.umich.edu/~elementalts/fogler&amp;gurmen/html/asyLearning.htm">http://www.umich.edu/~elementalts/fogler&amp;gurmen/html/asyLearning.htm</a></td>
</tr>
<tr>
<td>Blended Learning Environment</td>
<td>Use of both face-to-face and online teaching in the same classroom</td>
<td><a href="https://www.edglossary.org/blended-learning/">https://www.edglossary.org/blended-learning/</a></td>
</tr>
<tr>
<td>Distributed Learning</td>
<td>A method of learning that allows students to flexibly access content and educators outside of regular classroom schedules, typically using technology</td>
<td><a href="https://www2.gov.bc.ca/gov/content/education-training/k-12/administration/program-management/distributed-learning">https://www2.gov.bc.ca/gov/content/education-training/k-12/administration/program-management/distributed-learning</a></td>
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<td>----------------------</td>
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<tr>
<td>eXperience points (XP)</td>
<td>Often abbreviated XP, these are unit of measurement used in games to quantify a user’s progress</td>
<td><a href="https://en.wikipedia.org/wiki/Experience_point">https://en.wikipedia.org/wiki/Experience_point</a></td>
</tr>
<tr>
<td>Face-to-face classroom</td>
<td>The traditional classroom setting in which students access teachers daily and in person</td>
<td><a href="https://www.colleges.co.za/faceto-face-learning">https://www.colleges.co.za/faceto-face-learning</a></td>
</tr>
<tr>
<td>Game Based Learning</td>
<td>Learning that occurs during game play, and can then be transferred to the real world</td>
<td><a href="http://edtechreview.in/dictionary/298-what-is-game-based-learning">http://edtechreview.in/dictionary/298-what-is-game-based-learning</a></td>
</tr>
<tr>
<td>Game Dynamics</td>
<td>The behaviours that emerge as a user interacts with the game mechanics, including “desires and motivations” that lead to positive reactions</td>
<td>(Maican, Lixandroiu, &amp; Constantin, 2016)</td>
</tr>
<tr>
<td>Game Mechanics</td>
<td>The rules and rewards that are inherently built into the design of the experience</td>
<td>(Maican et al., 2016)</td>
</tr>
<tr>
<td><strong>Gamification</strong></td>
<td>The application of game elements, such as points scoring, competition, badges, to non-game activities</td>
<td><a href="https://en.oxforddictionaries.com/definition/gamification">https://en.oxforddictionaries.com/definition/gamification</a></td>
</tr>
<tr>
<td><strong>Learning Management System (LMS)</strong></td>
<td>Software used to manage student data and deliver online learning experiences</td>
<td><a href="https://en.wikipedia.org/wiki/Learning_management_system">https://en.wikipedia.org/wiki/Learning_management_system</a></td>
</tr>
<tr>
<td><strong>Ludus</strong></td>
<td>Refers to the enjoyment and playful fun derived from game play and achievement of goals within a set of rules</td>
<td>(Deterding, 2015)</td>
</tr>
<tr>
<td><strong>Online Learning</strong></td>
<td>Any form of learning that takes place in part or in whole over the internet</td>
<td><a href="https://www.tonybates.ca/2016/07/15/online-learning-for-beginners-1-what-is-online-learning/">https://www.tonybates.ca/2016/07/15/online-learning-for-beginners-1-what-is-online-learning/</a></td>
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<tr>
<td><strong>Transactional Distance</strong></td>
<td>The perceived distance between learner and educator in an online context, resulting from ease (or difficulty) of communication and dialogue</td>
<td>(Moore, 2012)</td>
</tr>
<tr>
<td><strong>Visible Status</strong></td>
<td>The use of some method (such as XP or Leaderboards) to make one’s progress or achievement clearly visible</td>
<td>(Dicheva et al., 2015)</td>
</tr>
<tr>
<td><strong>Quest</strong></td>
<td>For the purposes of this paper, a quest is a reframing of a traditional learning experience to be more open-ended in <em>how</em>_</td>
<td>(Kingsley &amp; Grabner-Hagen, 2015)</td>
</tr>
</tbody>
</table>
the learning is demonstrated, as long as it meets the intended learning goal or target.

<table>
<thead>
<tr>
<th>Quest Chain</th>
<th>The linking together of a series of quests. For the purposes of this paper, it refers to the pathway that students may select in order to navigate their own progress through course material in a gamified learning environment</th>
</tr>
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</table>

**Quest Chain**

The linking together of a series of quests. For the purposes of this paper, it refers to the pathway that students may select in order to navigate their own progress through course material in a gamified learning environment.

https://en.wikipedia.org/wiki/Quest_(gaming)

**Brief Overview of the Project**

Pedagogy Level Up! is a toolkit site for educators interested in using gamification as a method to diversify their teaching and reach more learners. It presents a gamified framework that other teachers can utilize to complement their existing online learning materials in order to create richer learning environments. Because my school district has a membership to Microsoft Office 365, and because I am cognizant of the restraints of B.C.’s Freedom of Information and Protection of Privacy Act, referred to as FIPPA (Office of the Information & Privacy Commissioner for British Columbia, 2015) around using products that house data outside of Canada, I created this framework to work with our District Office 365 account. However, the strategies and tools provided will be adaptable to different contexts and web applications.
**Gamification elements.** The primary gamification elements that are incorporated into my framework are eXperience points (XP), badges, and choice (co-design principle). Pedagogical connections include clear learning outcomes; transparent assessment; focus on mastery learning (no points without fully meeting expectations); and visualization of progress (badges & ongoing tally of points). I have provided choice via a quest chain to allow flexibility in determining how long a student takes to achieve an outcome, how they demonstrate their learning, and which topics they choose to explore in order to meet the outcomes. In the English Language Arts context, a goal that is implicit in this framework is to teach students how to receive and make use of feedback. This is accomplished through use of the XP system, and the level of communication and dialogue expected within the framework.

**Instructional components.** Pedagogy Level Up! features instructional videos/documents for students; a tutorial on using MS Office OneNote; a tutorial on Portfolio/Evidence; instructions for how learning can be demonstrated (creation of personal list of types of artifacts); and a detailed rationale and research section for teachers who may feel the need to justify the changes they are making in their practice.

I have also explored ways to reframe and reorganize existing content depending on particular school contexts, providing instructions and checklists for educators. For example, what are the main curricular outcomes/themes that need to be considered to select required assignments in the quest chain? How should I organize the quests? By topic? Theme? Learning outcome? What types of products can students use to demonstrate their learning? What degree of choice to do they have? Perhaps most importantly, I provide examples of how to integrate the use of gamification into one’s classroom context, so it can be seen as one method towards personalization for the students for whom it will be most effective, rather than presenting it as a
magic solution to solve engagement problems. These suggestions come in the format of examples from an English 12 course that I have built using many elements of my gamified construct, as well as personal connections and issues that have arisen in my own practice.

The design of the Major Project deliverable has been supported by a comprehensive Literature Review and research findings have been presented in Chapter Two of this Process Paper.
Chapter 2 - Literature Review

Introduction

‘How can teachers disrupt traditional educational paradigms and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?’ A review of the current research reveals that the existing educational paradigm and the engagement strategies that have been used traditionally are no longer appropriate for today’s learners. Furthermore, the literature exposes strong thematic and practical connections between student engagement and the use of gamification techniques to design learning opportunities for online students. As a result, it has been determined that the use of gamification strategies will provide a powerful option for online teachers hoping to improve student engagement.

Background to Educational Paradigm and Student Engagement

The need to disrupt the traditional paradigm. Much of the current research on student engagement hinges on the belief that our existing structures and systems are outdated and no longer support strong engagement nor deep learning in the 21st Century (J. Anderson & Rainie, 2014; Christensen et al., 2008; Cohen, 2011; Dicheva et al., 2015; Gee, 2013; Jones, 2008; Lee & Hammer, 2011; Pink, 2009; Saveri & Chwierut, 2010; Wiliam, 2018; Zhao, 2012). The traditional paradigm prepares students to fit into the mass-production economy and existing society, not for their future living and working conditions (Zhao, 2012). Furthermore, we can infer that our motivational and engagement strategies are no longer sufficient, nor are they effective, as teachers report a general decrease in engagement under the current system (Harris, 2011). If we are going to adequately prepare our students for their futures, we need to overhaul our existing notions of what engages them.
Problems with existing structures. Much of the current research on student engagement hinges on the belief that our existing structures and systems are outdated and no longer support strong engagement nor deep learning in the 21st Century (J. Anderson & Rainie, 2014; Christensen et al., 2008; Cohen, 2011; Dicheva et al., 2015; Gee, 2013; Jones, 2008; Lee & Hammer, 2011; Pink, 2009; Saveri & Chwierut, 2010; Wiliam, 2018; Zhao, 2012). The traditional paradigm prepares students to fit into the mass-production economy and existing society, not for their future living and working conditions (Zhao, 2012). Furthermore, we can infer that our motivational and engagement strategies are no longer sufficient, nor are they effective, as teachers report a general decrease in engagement under the current system (Harris, 2011). If we are going to adequately prepare our students for their futures, we need to overhaul our existing notions of what engages them.

Zhao deepens the discussion of the problems with the existing paradigm in World Class Learners. Instead of being engaging, the standardized ways we measure achievement (tests and grades) are negatively affecting our students by stifling their creative and divergent thinking abilities, while reducing the perceived value of non-academic talents (Zhao, 2012). Judging students by a single academic criterion means that only one (or very few) can be “the best.” Other students feel defective by default, causing them to lose self-confidence and internalize a sense of inferiority (Zhao, 2012). In the new paradigm, learners will need to distinguish themselves from the crowd, “to offer something unique, something different from what is already in existence. That uniqueness does not come from standardized experiences. Instead it comes from the freedom to be individuals” (Zhao, 2012, p. 175). In order to design effective and engaging learning experiences, we should offer a broad curriculum and a flexible program so
students can follow their own interests and passions (Sharkey, Quirk, & Mayworm, 2009; Zhao, 2012).

Christensen et al (2008) criticize the current educational structures for being overly interdependent, rather than flexibly modular. Everything, they argue, including teacher education, schools’ physical layouts, age-based student groupings, and curriculum design, promotes standardization. These restrictions also force districts to focus their resources on courses that are most valued by high stakes tests. “Schools are disinvesting in those ‘nice-to-have’ courses that are less critical to the mandates of improving test scores and leaving no children behind” (Christensen et al., 2008, p. 103). This focus on the “data” and “results” reduces options for learners, and creates a less engaging environment overall.

Designing for a new paradigm. Jones (2008) suggests a number of structural and systematic changes that educators should undertake if they want to affect sustainable change, such as rethinking grading policies, guiding principles, expected norms for behaviour, and fundamental proficiencies that students need to have in order to participate fully in classes. School leaders and educators need to disrupt the accepted paradigm and develop behaviours, initiatives, and organizational changes that will support student engagement on an intrinsic level (Christensen et al., 2008; Jones, 2008). Creating a “culture of effective student engagement” (Jones, 2008, p. 4) is the ultimate goal of these initiatives, often referred to as disruptive innovation (Christensen et al., 2008), contrasting with long-held beliefs about the purpose of schooling.

Traditionally, schools were designed to create graduates adept at completing “algorithmic” tasks, i.e. learning steps and executing them in order, similar to an assembly-line (Cohen, 2011; Pink, 2009; Wiliam, 2018; Zhao, 2012). The 21st Century economy demands
citizens who can tackle “heuristic” tasks with efficiency, i.e. tasks that demand approaching a problem, experimenting with solutions, and devising new solutions (Pink, 2009). However, the reality of extrinsic motivators is that they actually “impair performance of the heuristic, right-brain work on which modern economies depend” (Pink, 2009, p. 29). In order to restructure education to meet the needs of 21st Century learners, educators need to design learning experiences that put more emphasis on intrinsic motivation of the enjoyment and creativity of the process, and less on the extrinsic motivation of the reward received for the resulting product.

Connection to the online context. Lee and Hammer (2011) indicate that educators considering course redesign should identify problems and design solutions for those problems. A number of unique design challenges exist in online learning. Asynchronous courses can lead to feelings of isolation, perceived distance and lack of relationship with the instructor, and fewer opportunities for collaboration (Bates, 2015). Moreover, the Learning Management Systems of today possess limited ways to integrate asynchronous motivators, such as freedom to fail, personal choice, and collaboration (Dicheva et al., 2015). All too often, online teachers recreate a traditional lecture, textbook, and test style educational experience, rather than taking full advantage of the benefits of the digital medium (Bates, 2015; Cohen, 2011).

One paradigm-breaking suggestion from Laurel Papworth is that by 2025 the workplace, and by extension our learning, will be redefined by breaking it into “microjobs” (J. Anderson & Rainie, 2014). This chunking of content into smaller, creditable units may replace the course as the major measure of learning, creating conflict with structures such as bell schedules and daily class rotation (Weise, 2014). However, this increase in “modular” curriculum design will make it easier for educators to create customized, student-centric learning experiences, allowing people to assemble modules as desired into entire courses (Christensen et al., 2008, p. 136). The online
design challenge centers around the need to have teachers who are savvy and open-minded enough to create appropriate online learning materials, maintain the technological infrastructure, and identify ways to integrate the fundamental elements that motivate learners into their courses while rethinking the appearance of learning (Bates, 2015; Christensen et al., 2008; Cohen, 2011; Dicheva et al., 2015; Fullan & Donnelly, 2013; Weise, 2014). Design challenges aside, one must not ignore a large hurdle to implementing challenges to the status quo, namely the amount of time that busy educators would have to dedicate, largely on their personal time, to allow the paradigm shift to actually manifest in classrooms.

**Student Engagement**

**By definition.** The literature on student engagement presents a multifaceted concept comprised of interactions between the learners and their environment (Fredricks, Blumenfeld, & Paris, 2004; Jones, 2008; Sharkey et al., 2009). Fredricks et al (2004) explain that engagement can be emotional, behavioural, or cognitive in nature, while Appleton et al (cited in Sharkey et al, 2009) also include academic engagement in their definition, which references credits earned, homework completion, and time on task, in addition to a deeper psychological component. Harris (2011) further refines the definition to differentiate between engagement in schooling (behaviour, adhering to rules, etc.) and engagement in the learning itself. Ultimately, we can conclude that a number of elements contribute to how a student may be engaged.

**Autonomy, agency, and relevance.** Research conclusively shows that autonomy increases intrinsic motivation, student engagement, and academic achievement (Harris, 2011; Pink, 2009; Sharkey et al., 2009). Identified as one of the three main elements of motivation in *Drive*, autonomy connects to the innate human desire to be curious and self-directed (Pink, 2009). Acting with a “full sense of volition and choice” (Pink, 2009, p. 88) gives learners a sense
of well-being and enjoyment, promoting a culture of engagement and resulting, often, in increased effort in classroom activities (Jones, 2008).

Autonomy provides students with a sense of agency and control over their learning. The opportunity for personalization afforded by designs that promote autonomy has been connected with “students invest[ing] more of themselves, work[ing] harder, and learn[ing] better” (Jones, 2008, p. 5). Furthermore, engagement increases when students have a choice in how they demonstrate their learning, allowing them to showcase a variety of different talents (Newmann, 1991 cited in Fredricks et al., 2004). In fact, the flexibility in how students conceive of and execute learning is one of the greatest implications of choice and autonomy in educational design, largely by allowing students to select relevant tasks. Relevance motivates students to “invest more of themselves, work harder, and learn better” (J. Anderson & Rainie, 2014, p. 5).

Mastery, authenticity, and nature of tasks. In order to increase student engagement, research shows that tasks should allow for mastery of topics, provide enough rigor to be pleasantly challenging, and place the emphasis on learning as a goal (Dweck, 2012; Fredricks et al., 2004; Gee, 2013; Jones, 2008; Pink, 2009; Shernoff et al., 2016). “Students who adopt learning [goals] rather than performance goals are focused on learning, mastering the task, and trying to accomplish something that is challenging” (Fredricks et al., 2004, p. 79). By designing learning opportunities in this manner, our students can develop the right mindsets to respond to and be motivated by challenging, rigorous tasks (Dweck, 2012). Furthermore, we need to dissociate the learning from the grade, for far too often teachers are guilty of trying to “spur student engagement in otherwise boring and meaningless activities by tying it directly to a grade, by giving reward in hopes that the students would complete their school work” (Jones, 2008, p. 3). Engagement can be further developed by creating authentic learning tasks (Fredricks et al.,
ENGAGEMENT VIA GAMIFICATION

2004; Harris, 2011; Jones, 2008; Lee & Hammer, 2011; Pink, 2009). Students are apt to be engaged when tasks feel purposeful (Pink, 2009), and connections to culture, backgrounds, and previous experiences can also lend authenticity to the experience (Jones, 2008).

**Class structures and environment.** Class structures and expectations can be powerful ways to increase student engagement in learning. One crucial element is clarity of expectation, as knowing what is expected in terms of both social and academic behaviour is shown to increase engagement (Fredricks et al., 2004; Shernoff et al., 2016). Making progress and achievement visible is another effective tool to increase clarity (Dicheva et al., 2015; Shernoff et al., 2016). However, the most influential element educators can control is arguably classroom culture and community.

Feelings of belonging and relationships with teachers and peers are absolutely critical for student engagement (T. Anderson, 2008; Dweck, 2012; Fredricks et al., 2004; Jones, 2008; Sharkey et al., 2009). Students thrive in environments that combine high standards and nurturing relationships, and teachers should create atmospheres of “trust, not judgement” while demonstrating “affection and deep personal commitment to every student” (Dweck, 2012, pp. 299–300). “Teachers’ potency to engage students lies in their ability to create, shape, and influence the whole learning environment” (Shernoff et al., 2016, p. 53), so controlling and designing intentionally to build opportunities for relationships and collaboration is important.

In the online learning environment, interaction and creation of community is central to developing social presence, promoting transformational learning, and decreasing transactional distance (T. Anderson, 2008). Additionally, these collaborative learning opportunities engage students more than traditional means of delivery (Jones, 2008). Finally, the culture created through community and collaboration can promote student engagement through norms and
expectations, especially if strong positive relationships are the foundation upon which this culture is built (Dweck, 2012; Jones, 2008). All of these elements aimed at increasing student engagement can be incorporated into an online learning experience through the application of game elements and principles of design.

**Gamification as an Innovative Pedagogy**

**Definition of gamification.** Gamification, or the addition of game elements to non-game situations, shows promise as a tool to engage students while improving achievement (Çakıroğlu, Başibuyuk, Guler, Atabay, & Yilmaz Memis, 2017). Numerous benefits and challenges to gamification have been documented, but the overwhelming conclusion points to the strategy as a powerful way to increase student engagement in ways that diverge from the traditional educational paradigm (Çakıroğlu et al., 2017; Chee & Wong, 2017; Dicheva et al., 2015; Gee, 2013; Kim, 2015; Kingsley & Grabner-Hagen, 2015; Lee & Hammer, 2011; Martí-Parreño, Méndez-Ibáñez, & Alonso-Arroyo, 2016). The mindsets and elements of gamified learning environments are already familiar to our students, not only from recreational video game play, but from their real lives, as game-elements are incorporated into marketing, politics, and health and fitness (Chee & Wong, 2017; Lee & Hammer, 2011). Gamification is not an exclusively online or computer-assisted process, but for the purposes of many educators, computers and online services are the primary tools used to create the gamified environment.

The literature warns us of several conditions that must be met in order for gamification to be successful. First, the process requires teachers who are “able to design effective assignments, grade students’ work relatively quickly, and interact with student closely” (Dicheva et al., 2015). Much of the research asserts that the content, feedback cycle, pedagogy, and online relationships
must be strong, or the gamification efforts will be unsuccessful (Çakıroğlu et al., 2017; Chee & Wong, 2017; Dicheva et al., 2015; Lee & Hammer, 2011; Martí-Parreño et al., 2016).

A strong pedagogical foundation for the addition of game elements is vital; “adding points and badges in tacky ways, looking at ‘gamification’ as an easy way to make boring things seem interesting” (Chee & Wong, 2017, p. 594) is faddish and likened to “chocolate covered broccoli” (Lee & Hammer, 2011, p. 4). For this reason, it is important to link game elements to solid pedagogy and to address issues in course design, such as problems with student engagement in asynchronous online coursework.

Gaps in the literature include which game elements should be used for which type of learning tasks, where elements should be used in course design, and how they should be embedded (Çakıroğlu et al., 2017).

**Autonomy, agency, and relevance.** Much of the research around gamification looks at methods to include learners as active participants in the learning process (Gee, 2013; Kingsley & Grabner-Hagen, 2015; Martí-Parreño et al., 2016). Agency can be increased by giving students choice over the path their learning takes, which allows students to be co-designers of their educational experience (Gee, 2013). Designing around personal selection of “quests” rather than a list of mandatory assignments is one way to increase autonomy in a gamified environment (Kingsley & Grabner-Hagen, 2015). It allows students choice in how they accomplish learning goals, which, in turn, results in students being “more invested in what they learn and how to approach it” (Kim, 2015, p. 22). Gamification also increases students’ opportunities for individualization by allowing choice of which tasks are completed and, where educationally sound, in what order they are completed, how learning is demonstrated, and by scaffolding instruction based on each individual’s need (Kingsley & Grabner-Hagen, 2015). Furthermore,
the non-traditional learning environment allows students who have previously felt unsuccessful at school to “try on the unfamiliar role of a scholar” becoming more active participants in their learning (Lee & Hammer, 2011, p. 4).

**Mastery, authenticity, and nature of tasks.** As with student engagement research, the literature on gamification explores the nature of the tasks and focuses on learning as the primary goal (Çakıroğlu et al., 2017; Chee & Wong, 2017; Dicheva et al., 2015; Kingsley & Grabner-Hagen, 2015; Lee & Hammer, 2011). The accumulation of experience points (or XP), for example, is one strategy to reward effort over product (Lee & Hammer, 2011). The assessment cycle in gamified environments is typically faster than in traditional classrooms (Dicheva et al., 2015), and the nature of assessment itself differs dramatically.

Gamified learning environments can be perceived as having a lower threat of failure, and are thus more engaging, because they provide “opportunities to repeat content, complete alternate assignments, or request additional time before passing quests, allowing students to demonstrate mastery learning of the topic” (Kingsley & Grabner-Hagen, 2015, p. 56). This mirrors what is seen in gaming when players persist in challenging levels, rather than quitting when the playing becomes difficult. As pressure for timed achievement is removed, students may become more motivated to complete challenging tasks (Jones, 2008).

Gamification can also facilitate engagement with higher order thinking, digital literacy, creativity, critical thinking, communication and collaboration when it is coupled with appropriate and effective pedagogy (Kingsley & Grabner-Hagen, 2015). Finally, even though many of the motivators used in gamified environments, such as badges and the acquisition of points, are extrinsic, it is possible for these to convert to intrinsic if the motivator itself is “found meaningful, pleasurable, and consistent to a person’s worldview” (Chee & Wong, 2017, p. 594).
In other words, if the extrinsic motivators are fun and enjoyable, they can become intrinsically motivating.

**Learning environment and structures.** Gamification, though the use of online technologies, is one way educators can allow for collaboration between and with their students. The creation of an affinity space, or online platform for interaction and collaboration, allows students to collaborate and share their learning (Gee, 2013). The use of avatars can allow students to escape social norms that may feel restrictive and experiment with learning roles that might be unavailable to them in a traditional classroom (Lee & Hammer, 2011). The social context of the online gamified environment can shift the focus away from grades and spur them to create stronger work, as they have a heightened awareness of how their work will be received by an authentic audience: their peers (Kingsley & Grabner-Hagen, 2015).

Visible status is the mostly widely used game element in education (Dicheva et al., 2015). This clarifies progress and expectation and creates obvious goals for learners, thus improving engagement (Fredricks et al., 2004). Leaderboards are another element that can make progress visible, while digital badges are a symbolic representation of progress and achievement. Educators can use badges to emphasize competencies and skills over general accomplishments (Dicheva et al., 2015). However, when using badges, there is a caveat when it comes to student engagement. Badges for actual achievement of learning outcomes have a positive effect on student engagement, but badges for participation, which would require little rigor or challenge to achieve, have a negative effect (Chee & Wong, 2017).

**Challenges and Design Considerations**

**Differences in context.** As mentioned previously, gamification as a pedagogical strategy is not a one-size-fits all solution to the misalignment of traditional educational paradigms and the needs of 21st Century learners. Delivery, content, pedagogy, and relationships must all be in good
order for gamification to succeed, and understanding how to successfully apply these elements in a gamified format involves deep understanding of the purpose and nature of the tasks, the platforms being used in the gamified environment, as well as the students’ individual contexts and learning styles (Buckley & Doyle, 2017; Çakıroğlu et al., 2017; Chee & Wong, 2017; Christensen et al., 2008; Da Rocha Seixas et al., 2016; Deterding, 2015; Fullan & Donnelly, 2013; Maican et al., 2016; Saveri & Chwierut, 2010; Veletsianos, 2011). Designing tasks for an online environment is different than a face-to-face classroom (T. Anderson, 2008; Bates, 2015).

**Quality of and access to technology.** Technology used in creating and using the gamified DL classroom is critically important. Ideally, the interactive platform and online experiences are so delightful and easy to use that both students and teachers are hooked (Fullan & Donnelly, 2013; Maican et al., 2016). Fullan and Donnelly describe it as similar to a viral video; “[i]n the best cases… [t]he change and product design is so absorbing, so automatically useful and so easily embedded that it spreads like wildfire” (2013, p. 20). Unfortunately, the platforms that are readily available in the K-12 context are not necessarily compatible with “gameful design” which means they might not be appealing and fun for students to use (Maican et al., 2016, p. 186). Furthermore, novelty seems to breed engagement with a platform (Da Rocha Seixas et al., 2016; Maican et al., 2016), which raises the question of what next in the case of platforms that have been used over time. The literature indicates that selecting a platform can certainly be a challenge from a design perspective; however, the software is not the sole indicator of gamified program or course success (Maican et al., 2016). One also needs to consider the content, how the learning experiences are designed, and how the learner interacts with these elements.
It is important at this point to differentiate between gamification, which is the use of game design principles in non-game environments, with Game-Based Learning (GBL). GBL immerses users within the game, and any learning that takes place is part of the game narrative or immersive experience (Gee, 2004). Because gamification in education remains within the context of the classroom, whether virtual or face-to-face, it is crucial that our instructional design centers around the learner’s experience.

Clear goals for learners. Deterding (2015, p. 296) references the principle of *ludus*, or “the rule-structured pursuit of goals” as an important target to aim for when designing gamified learning opportunities. We derive enjoyment from the attainment of goals, which has been well-established under the umbrella of Self-Determination Theory; therefore, designers need to establish these goals and create ways to users to achieve them (Deterding, 2015). In the educational context, this would mean designing around the learning outcomes and skills and knowledge that we want our students to be able to master. Chunking the tasks into small goals that can be reached on a daily or short term basis is one powerful way to improve the success of gamified learning experiences and the use of educational technology in general (Fullan & Donnelly, 2013; Maican et al., 2016).

Deterding (2015) warns we must not forget to design for both challenge and enjoyment, and that part of our design process should allow for the opportunity to rework and rebuild based on how the different iterations are received by the target audience. James Paul Gee reminds us that games are meant to be fun and challenging, while simultaneously allowing players to practice their skills within an engaging framework (2013). In order to do this, teachers and designers need to have a strong understanding of both their students and the learning outcomes in order to identify potential challenges and “restructure them in a motivating manner” (Deterding,
Arguably, this means that to start the design process, one must study the contexts in which the learning will take place.

**Design challenges.** One contextual element that can cause challenges is that of infrastructure. In studies where students had difficulty connecting to the internet, for example, gamified programs were less likely to be successful (Da Rocha Seixas et al., 2016). Programs must also have teachers fluent with the technology, and savvy enough with design to create, maintain, and instruct within this emergent educational environment (Dicheva et al., 2015; Fullan & Donnelly, 2013). Additionally, Hamari (2013, as cited in Maican et al., 2016) explains that gamification is more successful in pleasure-seeking contexts rather than utilitarian contexts.

In the DL realm, this is a challenge, as high school students are often taking the courses for utilitarian purposes, such as credit recovery or the achievement of graduation. However, whether a task is fun – hedonistic – or work –utilitarian – is largely due how it is perceived by the student. Deterding refers to this as the “situational framing”, so working to reframe the activity in a more fun manner is a crucial part of what he calls “gameful design” (2015).

Gamified design success is also dependent upon the individuals who are using it. Some gamified programs failed because they did not align with learners’ motivations (Buckley & Doyle, 2016; Huang, Ge, & Law, 2017; Maican et al., 2016). Others failed because they added game elements that were discouraging of desired behaviours, such as adding elements of competition to environments where learners actually needed to be able to collaborate or think creatively (Maican et al., 2016). The literature on gameful design repeatedly shows that you need to have a good understanding of your learners and target audience in order to determine which game mechanics will be most effective (Buckley & Doyle, 2016; Da Rocha Seixas et al., 2016; Deterding, 2015; Maican et al., 2016).
Choice of game elements. It is important to consider which game elements to select for your particular learners and their preferred learning style, and to do this we must differentiate between game mechanics and game dynamics. Game mechanics are the rules and rewards inherent in your design, while game dynamics are the “desires and motivations” that lead to positive reactions (Maican et al., 2016, p. 188). While the two are interconnected, the implication is that we need to design for what we can control, and consider a range of different game mechanics so that we can differentiate for the range of learners we will be teaching in a public school context. Some students might respond well to mechanics that indicate status, while others might respond better to altruism (Maican et al., 2016).

Learner differences. Additionally, we must acknowledge that students have varied learning preferences, and this will affect their perception of and success in the gamified learning environment. Students who are motivated by recognition of achievement tend to respond positively to the gamified environment (Da Rocha Seixas et al., 2016), while others have a strong desire for closure, which makes open-ended tasks requiring lots of revision difficult (Huang et al., 2017). Furthermore, personality traits affect how students perceive and experience the world, and learning styles that affect how they interact with and integrate educational material (Buckley & Doyle, 2016). These differences, in turn, affect how they perceive and react to the learning opportunities that we design for them, whether face-to-face, online, gamified, or traditional, as well as impacting their performance and achievement of learning outcomes (Buckley & Doyle, 2016). A massive challenge in the DL context, and with the gamified online classroom as well, is to design for this level of differentiation when your course is largely designed before you meet your learners.
Buckley and Doyle (Buckley & Doyle, 2016) suggest it is wise to consider gamification as one tool of many that could be used to modify learner behaviour, as the effects of learning style and personality traits on the success of gamified education environments is not yet clearly understood. Deterding extends this thought by stating that, due to the vast differences in traits of users, “gameful design will often have to be underspecified, open to customization, or support dynamic personalization (2015, p. 307). Ultimately, as with any educational innovation, designers need to put students at the center while including all three elements of Fullan and Donnelly’s trifecta for sustainable change: technology, pedagogy, and knowledge of the larger systemic changes that need to occur (2013).

**Conclusion**

Gamification, when employed thoughtfully by educators, has the potential to “shape users’ behaviour in a desirable direction” (Dicheva et al., 2015). It is shown to be a powerful tool, but not a magic solution. The stronger tool is actually to identify proper motivators, deeply understand our learners and their contexts, and redesign learning experiences to address issues of student engagement. However, the particular game elements that allow for autonomy, create relationships and community, and move toward student understanding of intrinsic motivators do fit with expectations that successful implementation of a gamified construct would increase student engagement. It was with these game elements and their benefits for student learning in mind that I transitioned into the applied design portion of my Major Project.
Chapter 3 – Procedures and Methods

Major Project Development

In order to meet the expectation of answering my critical challenge question, I took a two-pronged, qualitative approach to deliverables. First, I wanted to create a framework and toolkit that could help any DL teacher make use of the engaging strategy of gamification with a minimal amount of restructuring and redesign. I feel strongly that gamification is still emerging as a pedagogy and most educators do not yet have a strong sense of how they could practically employ it in their classrooms, whether bricks-and-mortar or online. Therefore, one of my goals was to construct a gamification resource website for educators.

My second key deliverable is the sample course I prepared for use with a cohort of my English 12 students. This practical sample of gamification in action served two main purposes. First, it allowed me to experiment with the framework I was synthesizing from my research and experiences as an online student in the Online Learning and Teaching graduate Diploma (OLTD) program at Vancouver Island University. Second, it allowed me to create an exemplar that I could use to supplement my website for educators. The process of creating this gamified course gave me valuable insight into the resources that I would need to provide on my Pedagogy: Level Up! site, as it grounded the design process in reality, rather than keeping it purely hypothetical.

My critical challenge for this design was to discover how teachers can disrupt traditional educational paradigms and increase student engagement through the use of a gamification construct to enhance existing online learning experiences. Together, my Pedagogy: Level Up! website and sample English 12 Gamified Course address both how teachers can use gamification
to change their existing online courses and *what* this restructured learning environment might look like for learners.

**Major Project Design and Considerations**

**Early website development.** Development of my Pedagogy: Level Up! website began with determining which resources teachers would need access to in order to gamify their own existing online courses. This design process exemplifies Backwards Design (Wiggins, 2005), as I started with the goal in mind and worked my way back to a product that I hoped would meet all these targets. I aimed to make the course redesign process as unintimidating as possible; teachers already have challenging workloads, especially in the DL world where the number of courses they are instructing is often far higher than a typical enrolling classroom teacher. Therefore, the design goal for Pedagogy: Level Up! was to provide resources that teachers can use to reframe their existing materials, perhaps for as little as one unit, but with the ultimate intention that teachers can use this engaging strategy to rethink the educational paradigm and shift the value for students away from grades for a finished project and on to the learning process instead.

I chose to build the Pedagogy: Level Up! site using Weebly for Education as I had previous experience building Weebly, and the free web application offered both ease and adequate functionality for my purposes. Before I could begin the build, I needed to determine what content would be needed for educators to be able to gamify their own existing courses, and how would I organize this content in order to make it both easy and delightful to use (Fullan & Donnelly, 2013). I was able to apply my research on gamification as well as my experience as both an online educator and online student to these choices.

First, the literature informed the choice of game elements that I would explain and provide as examples. Deterding (2015) states that we must choose game elements based on the
needs and desires of the end user – in this case, high school students in the British Columbia public DL system. These game elements must “match [the student’s] objective and support autonomy, competence, and relatedness” (Deterding, 2015, p. 305). In other words, I needed to identify which game elements would align with the needs of my students and the students of other educators who might make use of my instructional site. Table 1 lists several of the game elements that I considered for both my course and website design.

Table 1

<table>
<thead>
<tr>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievements</td>
<td>A specific, defined objective within the game</td>
</tr>
<tr>
<td>Avatars</td>
<td>A visual representation of a player's character</td>
</tr>
<tr>
<td>Badges</td>
<td>A visual representation of achievement</td>
</tr>
<tr>
<td>Boss Fights</td>
<td>A particularly hard challenge at the culmination of a level</td>
</tr>
<tr>
<td>Collections</td>
<td>A group of related badges</td>
</tr>
<tr>
<td>Combat</td>
<td>A zero sum interaction between players for a reward</td>
</tr>
<tr>
<td>Content Unlocking</td>
<td>The provision of new content upon reaching an goal</td>
</tr>
<tr>
<td>Gifting</td>
<td>The provision of aid to other players</td>
</tr>
<tr>
<td>Leaderboards</td>
<td>Allow the direct comparison of players' expertise</td>
</tr>
<tr>
<td>Levels</td>
<td>Difficulty moderated based on player expertise</td>
</tr>
<tr>
<td>Points</td>
<td>Numeric record of players' performance to date</td>
</tr>
<tr>
<td>Quests</td>
<td>Predefined challenges</td>
</tr>
<tr>
<td>Social Graphs</td>
<td>Social networks enabled with gamified activity</td>
</tr>
<tr>
<td>Teams</td>
<td>Groups of players collaborating to achieve goals</td>
</tr>
<tr>
<td>Virtual Goods</td>
<td>Assets with perceived value within the game</td>
</tr>
</tbody>
</table>

Although I did not intend to use all of these elements in my sample course redesign, I felt it was important to include and define them on the Pedagogy: Level Up! site. Because a goal for gamification is to increase personalized learning, and because other teachers will certainly teach
students different than my own, including a wide variety of potential elements seemed prudent. Furthermore, one of my goals for this website was to step away from the notion of gamification as a “unitary whole” and to help educators view it as “part of a suite of tools that can be used to mediate behaviour” (Buckley & Doyle, 2017, p. 54). In order to achieve this toolkit paradigm for the site, I would need to include more than those tools that I chose to employ.

After defining gamification and various game elements, my next consideration was to view the process of gamification from the educator/designer lens. Why should DL teachers consider gamification? What would a colleague of mine require in order to make changes to his or her practice? What practical tools and instructions would I require if I were to make these changes to my own courses? The obvious choice in my mind was to begin rationale and research. Just as good educators state a learning target when beginning a lesson, good course designers should explicitly state their end goals and reasons for making the selections they chose. For this reason, I chose to include a Why Gamify? in the early website, which featured a Call to Arms, definition of Gamification, Rationale, and Research section to persuade educators that gamification is a worthwhile.

Since my literature review revealed a need for explicit instructions in how to gamify (Deterding, 2015), I added a ‘How-To’ checklist and more detailed instruction section to model and guide other educators through the process. However, I quickly realized that it was impossible to predict all of the steps required working from a purely hypothetical viewpoint, so I decided to step away from the Pedagogy: Level Up! site building at this point and concentrate on my own sample course, with the intention to make notes of choices and requirements as I went, and build these back into the site from a position grounded in experience.
Course redesign for gamification. Deterding (2015) tells us that reframing how the player (or learner) perceives the context, i.e. whether they experience the activity as work or play, is crucial to designing a gamified learning environment. I would argue that you cannot reframe a student’s perception unless you have an understanding of their current perceptions. In order to successfully redesign a course for student success, one must have a least a basic understanding of the characteristics and needs of one’s students, just as one would in the face-to-face classroom. For my sample gamified English 12 course, I started by reflecting on my classroom and DL teaching experiences, as well as my experiences as an online student, and selecting game design elements based on the trends that I observed.

I knew from my experience teaching online that increasing the competition between individuals by means of leaderboards or combat would likely decrease motivation for many of my students. Many of the students who select my online courses are introverted, and many of these students cite anxiety or difficulty in the face-to-face classroom as their rationale for opting for a different delivery system. This meant that a leaderboard would not be part of my online course, though I did hold on to the idea of combat, in the format of optional weekly challenges that would not be required for all students, but could offer additional competition to students who found it engaging.

Ultimately, I decided on several game elements that I found personally engaging, that were supported by research into gamification, and that I suspected would fit well with my cohorts of learners. First, I knew that visible progress was a problem with which many of my DL students struggled. They often had difficulty budgeting their time in order to comfortably finish their courses on schedule. Although I had installed the Course Completion block in my Moodle courses, this widget didn’t represent student progress very accurately because it didn’t allow for
optional units or different pathways through the material. I knew that I needed to find a different way to represent student progress clearly, while continuing to allow for greater personalization and choice, as this is both in line with the redesigned curriculum in my context (British Columbia Ministry of Education, 2018) and my personal philosophy of education.

As a result, I decided to use the collection of eXperience points (XP) as the basis of my new grade accounting. This was introduced to me in my graduate studies at Vancouver Island University, where I was able to take a course taught by professor Avi Luxenburg that used an XP accounting system and Student Tracker (Luxenburg, n.d.). Avi granted me the permission to use and adapt his Tracker for my own students, so I set about determining the parameters for this paradigm-shift in my understanding of how student marks are accumulated. The Student Tracker system awards one experience point for one minute of focused learning (Luxenburg, n.d.). This required me to determine how many minutes of learning I considered appropriate for a high school course, within the ministerial directive, which indicates that the length of a course is 100-120 hours (British Columbia Ministry of Education, 2018).

I determined that an appropriate amount of focused time learning in one week in order to fully meet my expectations is five hours, or 300 minutes/XP. I then based the accounting for a semester, which is 20 weeks in length, around 16 weeks of active learning (4800 XP for 100%) allowing four weeks at the end of the semester to create and present a final portfolio. Following the example from Luxenburg (n.d.), I presented all of the grading calculations in a spreadsheet that was owned by me, but shared online with my students for increased transparency. I determined that the best application for my purposes was Office 365, as my district had a membership to this service, I was already familiar with the Microsoft software programs, and I
would not need to obtain consent to store personal information online, as Microsoft’s servers are in Canada and are therefore compliant with FIPPA (Hengstler, 2014).

My next task was to create the Student Tracker using MS Excel. I linked rubrics for Independent Learning and a final Portfolio to the XP accounting, just as Luxenburg does in his Student Tracker (n.d.). This required familiarity and understanding of how to use the formatting and formula functions in Excel. Unlike Luxenburg’s example, I was not going to use a third party gamified program, such as 3D Game Lab (“Rezzly,” n.d.) to organize my course, so I needed to devise a way to collect and track XP within my spreadsheet. I decided to build an XP sheet within the tracker, and have students enter the name and date for their learning activities, while I would manually enter the number of XP. If I were to teach this course a larger scale, I might rethink this choice, but since I provide detailed feedback and direction to students one-on-one anyway, and the amount of additional time required is negligible. I also wanted to encourage collaborative learning in the online environment, so I included Luxenburg’s concept of “The 500” which is a suggested number of non-assignment related minutes of on task learning that doesn’t fit into the traditional grading scheme, but relates to coursework, such as helping a peer edit an essay. I adapted this to a suggestion of 400 minutes, and added it to the online portion of the course worth 70% of the final grade. Independent Learning skills (10%) and final Portfolio (20%) completed the Grade accounting for the sample course. All aspects of the student grade were located transparently in the Student Tracker spreadsheet that was shared individually with each participant in the sample course. See Appendix A.

Course Restructuring Around Curricular Big Ideas. The power of gamified interventions is that they serve to make learning environments more holistic rather than reductionist, meaning that they help learners understand the big picture and then categorize the
smaller chunks of learning into a meaningful conceptualization of the overall goal (Buckley & Doyle, 2017). I decided to reframe my existing learning activities as quests that contribute to understanding the curricular “Big Ideas”. However, I needed to determine how I would link these quests together, and which aspects of the course materials I would require my students to cover, and which I would leave up to personal choice.

This required a huge shift in pedagogical mindset. I needed to let go of the idea that all of my lessons were right for all of my learners, and instead extend trust to my students to select learning activities based on their personal preferences and the scaffolding I could provide. However, I was still obligated to ensure that my students were demonstrating the learning outcomes prescribed by the curriculum document (British Columbia Ministry of Education, 2018). For this reason, I decided to organize the course around the “Big Ideas” listed in the curriculum document, while offering a variety of methods and activities for students to choose from in order to demonstrate their understanding of these Big Ideas. For English Studies 12, the English Language Arts course required for graduation, there are six organizing concepts.

Table 2
Curricular Big Ideas in English Studies 12. (British Columbia Ministry of Education, 2018)

| The exploration of text and story deepens our understanding of diverse, complex ideas about identity, others, and the world. | People understand text differently depending on their worldviews and perspectives. | Texts are socially, culturally, geographically, and historically constructed. |
| Language shapes ideas and influences others. | Questioning what we hear, read, and view contributes to our ability to be educated and engaged citizens. | The examination of First Peoples cultures and lived experiences through text builds understanding of Canadians’ responsibilities in relation to Reconciliation. |
My consequent steps involved looking at lists of my existing units and lessons in Moodle, breaking them apart where appropriate, and reorganizing them under the headings of each of the Big Six concept areas. Once I had an outline on paper, I started the Sample English 12 Course online build.

**Sample course website development.** For this key deliverable, I chose a different online application, as I wanted to explore a different website structure. I decided upon Google Sites, as they offer free website hosting and allowed me to easily link the types of content I needed to include for this layer of my gamified course. Building websites using two different providers increased my fluency with online technology, and gave me valuable experience that I could reflect upon and use to offer advice in my Pedagogy: Level Up! toolkit site.

I knew from my experience as an online teacher and learner that optics would be a major design consideration for this site. Unlike Pedagogy: Level Up!, the audience for this site was high school students, so I would need to rely less on large chunks of text, and more on images, video, and brief captions in order to allow for differing abilities and all learners. I also needed to ensure that navigation was intuitive, and didn’t require too many “clicks” – the bane of any internet site intended for regular use. I bought a Professional subscription to Piktochart, an easy to use Infographic site that allowed me rights to create, use, and adapt images and designs. This service allowed me flexibility and options in how I would present content with visual impact. I created images and a site structure that reflected my teaching presence and clearly communicated the learning objectives for the gamified course.

The home page for the site listed the learning objectives and Big Six concepts, so students would immediately be informed of the overall concept and ultimate goal for the course. In my initial build I created this home page, a quest chain page that would link to the learning
activities, and a portfolio page that would provide detailed instruction on the expectations for and creation of the final portfolio. Next, I needed to create links and descriptions for the quests under their new Big Six concept frames.

**Framing of quests.** The most time consuming part of reframing my existing course in order to add a gamified user interface was evaluating and making instructional changes to each assignment in order to convert them into a quest. For me, it would not be enough to simply list the assignments as-is beneath a Big Idea umbrella. I needed to make changes to the expectations and directions for each task in order to have them better suit my research into authentic 21st Century learning and student motivation. My goal was to offer more options for personal choice; I would engage students more deeply by offering them a “broad curriculum and flexible program to follow their own interests and passions” (Zhao, 2012, p. 246).

Even with a revolutionary grade and progress accounting method (Luxenburg, n.d.), I needed to do more to encourage challenging work, divergent thinking, and individual growth, rather than conformity to my externally imposed expectations. Furthermore, I wanted to create more opportunity for collaborative work, as asynchronous DL courses do not traditionally offer many of these (Bates, 2015). In order to set the stage for such personalized learning, I needed to establish the “game rules” or standard set of expectations for the course by outlining a set of required quests that explicitly teach the students how the course works and how to progress through their personalized quest chain.

**Required quests.** Because the Sample Course was designed for asynchronous online learners, the first several quests would need to establish the “game rules” by providing direction to the students, most of whom will never have experienced a gamified course before and might feel some trepidation if they do not have a clear sense of how it will function. In a face-to-face
classroom, you might establish these norms in the first week or so of school, but in the online world, these need to be formally built into the course design, especially if students are to be successful. Additionally, a major goal was to increase student engagement, so these initial quests were also designed as a “Call to Arms” with which I would present a compelling argument for why a gamified structure would help them learn more and how they could make best use of this structure to explore their interests and passions.

The first required quest, which was designed to instill a sense of purpose for the course, was called “Getting Started in Gamified English 12”. For this quest I created a YouTube video of myself explaining my rationale for this structural change, while giving an introduction to the XP method of recording learning and the Big Six concepts that form the backbone of the course structure. It was important to have my face and personal stories included in this video as an introduction to both the course format and the instructor. The purpose was to create a real sense of who I am and encourage students to feel comfortable taking the risk inherent in submitting written work for assessment and subsequent reassessment. Resubmission is expected in this course format, as the XP system requires that students repeatedly resubmit work until it meets a high standard. Trust is important to any educational relationship, and having video instructions that feature my face and voice goes a long way to beginning to create this trust.

Following the introductory quest, I created several that walked students through the technology behind the course: the Student Tracker, the OneNote Class Notebook, the Communication Expectations, and their options for Ways of Knowing and Showing Learning. Some of these quests featured YouTube instructional videos, while others were text and image based, using screen shots from the web applications involved. They each had a short task for the
students to complete in order to demonstrate that they had read, viewed, and understood the quests, along with a chance to ask questions and establish rapport in a very low stress context.

Finally, I ended the required quests with a Quest Chain intro that featured a video of me explaining and reemphasizing the fact that the quest chain offers opportunity to select tasks and show understanding based on personal interest, thus allowing the students to create their own learning pathway. This culminated with a task to click through the gamified site, become familiar with the interface and options, and to select several interesting looking quests as a jumping off point. This was designed to leave students ready to approach the quest chain with confidence and direction.

**Creation of instructional videos.** An important design consideration was the inclusion of instructional videos. Ideally this makes the course more suitable for students of various abilities, rather than targeting solely students who can comprehend written instructions easily. As a side note, I also broke the text from the original Moodle course instructions into smaller chunks, as is in line with Universal Design for Learning (UDL). UDL theory suggests that in order to make learning meaningful for the greatest number of students, content should be presented in various formats, including videos, outlines, and graphics, and students should be offered multiple ways to show what they know and check for understanding (Gordon, Meyer, & Rose, 2016). A further purpose for the instructional videos, as alluded to earlier, is to create “teacher presence” in the course by letting students see my face and hear my voice. This teacher presence gives students a sense of who I am as an educator and decreases transactional distance, which has been shown to increase student success in online learning (Moore, 2012).

Creation of these instructional videos required scripting and storyboarding, filming using my laptop computer, video editing, and uploading to YouTube for reliable embedding in my
course. For video editing software I used a paid subscription to Camtasia by TechSmith. This software allowed me to add text and graphics to my videos to enhance the content, and reasonably slick editing for both sound and transitions.

**Course assessment redesign.** As mentioned earlier, this course implemented a revolutionary grading method via the Student Tracker and XP system. A further fundamental change is the ability to “fail forward.” By building multiple attempts in learning into the assessment cycle, it encouraged students to use feedback (formative assessment) by requiring that all work eventually demonstrate full understanding before XP are awarded. If a submitted quest is not yet meeting expectations, it is returned to the student with instructions for how to make necessary changes.

One of my major frustrations as an English teacher is that I spend hours providing thoughtful descriptive feedback, only to have it ignored in favour of the alpha-numeric grade on the assignment. The XP system removes the grade, so that students can focus on achievement of understanding, and rewards greater effort, as students receive XP for the number of minutes they spend focused on the task. In order to reward students who work quickly and can still demonstrate mastery, there are Base XP listed for each quest, based on my estimates of how long they should take. If students require less time than the Base XP to complete the task, the receive the difference as “bonus” points (Luxenburg, n.d.). This means that I during each quest redesign I had to consider how long it should take to complete, and provide a Base XP amount.

The final assessment redesign was the outlining of a portfolio to replace a final exam as the summative assessment for the course. Students would be required to present their best work that demonstrates the understanding of each of the six Big Ideas from the curriculum, with a metacognitive reflection. The guiding questions and portfolio rubric were adapted from my
experiences in the Online Learning and Teaching graduate Diploma at Vancouver Island University. Copies of the rubric, guiding questions, and overall expectations were provided on the Portfolio page, for which I also made a video explanation.

**Microsoft Office 365 components.** Instead of using an online application that required a FIPPA compliant consent form, and risked a student being excluded from the bulk of the online community should consent be refused, I built the next layer of the Gamified Construct in Microsoft Office 365, for which my school district has a secure subscription, and for which each of my in-district students would already have an account.

The majority of student work would be created and housed in the OneNote class notebook, which as the instructor I could use to manage student work as well as share content. As the content for my course is stored in Moodle and the Google Gamified site, the Content Library in OneNote was largely secondary, though the Collaboration Space and document sharing functionality was open for students to work online synchronously or asynchronously in groups. In each student notebook, I created several sections: quests, notes, scrap, and portfolio. I also created a Trophy Room section that listed badges and what achievements could earn them. For this iteration of my gamified course, I consider badges to be an underutilized tool, as I only fully developed a dozen or so; however, I planned to revisit their development in future versions of the course, as they add “ludus” or the element of fun competition and gameplay to the course.

**Pedagogy: Level Up! website refinement.** Having completed version one of my Gamified Sample Course, I understood more clearly what other educators would need to know in order to gamify their own courses. I still felt confident that my rationale and research sections were appropriate for an educator audience, but I had gathered understanding that informed my choices in the ‘How To’ and ‘Resources’ content areas.
Although the site provides instruction for how to gamify an existing course, the ‘How To’ section is not overly prescriptive nor didactic, instead providing an overview of possible steps and areas that can be changed. Course development is a highly individualized process; one needs to make choices that are aligned with both personal authenticity and preference as well as needs and desires of one’s students. Therefore, I left the instructional section intentionally broad, with more detailed specifics listed as choices that suit my particular context. The clearly stated objective is for educators to be able to use my examples and tips to make their own changes within the scope of their personal contexts.

The ‘Resources’ section was also influenced by my experience building a sample course; however, it is split between broad, general examples and tools (definitions of game elements, list of sites and resources that could be of use) as well as the specifics that I used, including a link to a full copy of the gamified site that I built as a layer to accompany my existing Moodle course. I included discussions of FIPPA in the context of the different web applications that teachers might use for storing and sharing student data, links to other gamification sites and literature, as well as lessons learned from my own course development.

**Major Project Implementation and Feedback Process**

Construction of the Sample Course and Pedagogy: Level Up! websites consumed most of the effort and time required for my Major Project deliverables, as they are both online resources. Creation of my own sample course provided much of the valuable experience I needed to assess my own toolkit for gamification, because actually creating a course took my learning out of the hypothetical and situated it in the real world. This experiential learning was vital and authentic learning, as “a man who carries a cat by the tail learns something he can learn in no other way” (Mark Twain, as cited in Zhao, 2012, p. 189). As described in the previous section, I was able to use this experience to inform corrections and additions to the Level Up! site. However, the
research shows us that creating works for an authentic, real-world audience deepens one’s learning (Kingsley & Grabner-Hagen, 2015). Therefore, my subsequent step would be to present my deliverables for beta testing and feedback.

**Project Timeline**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 15, 2018</td>
<td>Literature Review submitted for completion of OLTD 510</td>
</tr>
</tbody>
</table>
| September 7, 2018  | MEdL 680 begins  
                     | Chapter 1 under development  
                     | Chapter 2 under revision  
                     | Major Project build begins (v.1) |
| October 30, 2018   | Ch. 1 and Ch. 2 complete  
                     | Ch. 3 started  
                     | Major Project v. 1 ongoing |
| January 4, 2019    | MEdL 690 begins  
                     | Chapter 3 complete  
                     | Major Project v. 1 ongoing |
| January 30, 2019   | Google Form for Feedback completed  
                     | Call for Reviewer Field Testing – invitations sent |
| February 25, 2019  | Reviewer Feedback Received – collating begins (Ch. 4)  
                     | Major Project v. 2 revisions begin |
| March 15, 2019     | Chapter 4 complete  
                     | Chapter 5 under development  
                     | Major Project v. 2 build complete |
| March 24, 2019     | Chapter 5 complete  
                     | Completed paper sent to Supervisor for final review and sign-off |
| April 30, 2019     | MEdL 690 ends  
                     | VIU Space Request for Submission sent |
| June 2019          | Convocation |
Chapter 4 – Field/Beta Testing and Findings

Field Testing – Methods and Process

The next step in my design process was to evaluate the project in terms of how it addresses and attempts to answer my critical challenge question: ‘How can teachers disrupt traditional educational paradigms and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?’ As this is a project that uses qualitative methodology, and does no experimentation upon human subjects, the answers to the question lie in how informative and persuasive my Pedagogy: Level Up! website is as a resource for teachers, and how engaging and functional my sample course appears to my fellow educators, and eventually to my students.

In order to field test my key Major Project deliverables, I created a Google Form for anecdotal feedback. The intended purpose for this form was to determine both the strengths and unintended weaknesses of my deliverables. In order to be considered successful, Pedagogy: Level Up! would inspire teachers to become more interested in and knowledgeable about gamification, while simultaneously demonstrating that it is possible to gamify one’s course without a total content overhaul. It was intended to persuade educators that the traditional paradigm for education is outdated in terms of our students’ needs, and that a new mindset and paradigm for what a course looks like and how learning is quantified is necessary. Of most interest to me was whether the Pedagogy: Level Up! site could help educators approach one of the major gaps identified in the literature review: namely how to gamify existing online learning experiences, rather than just why gamification is effective at creating a culture of student engagement.

Secondarily, I was interested in constructive feedback regarding the format and delivery of my own sample course, particularly as it will be used with students, and success is dependent
upon clarity, design, appearance, how well I have designed for a teenaged audience, and of course, the pedagogy itself.

Creation of the Google Form for feedback was relatively simple, as I had employed Backwards Design (Wiggins, 2005) in my initial build. This meant that I had started by anticipating design flaws and creating solutions for them. Resultingly, the questions for the feedback form were the very questions that I had repeatedly asked myself during the design process. The collection of feedback for field testing was qualitative, as previously noted, requesting anecdotal answers to numerous design and functionality questions via a survey form. The form provided was completely anonymous, and all participants were notified of their anonymity before they chose to engage in the feedback process. Additionally, no Ethical Review was required.

In order to implement the field testing of my project deliverables, a letter was sent via email to members of my Online Learning and Teaching Diploma (OLTD) cohort, OLTD faculty and current students, as well as pre-service teachers attending Vancouver Island University. This email contained links to the completed Google Form and the two deliverables Furthermore, I sent the same letter requesting feedback to colleagues of mine within School District 54 (Bulkley Valley).

**Feedback Questions**

Feedback on the deliverables, including the Pedagogy: Level Up! website and sample English 12 course, was collected using the questions that following this section. Before collecting information on the sites, I wanted to clarify my goals, especially for Pedagogy: Level Up! so that those giving feedback would be able to assess my build in terms of desired intention.
### Table 3

*Pedagogy: Level Up! Intentions as stated in Google Form for Feedback.*

<table>
<thead>
<tr>
<th>What is Gamification?</th>
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</thead>
<tbody>
<tr>
<td>Rationale for Gamification</td>
</tr>
<tr>
<td>Research supporting Gamification as a means to increase student engagement</td>
</tr>
<tr>
<td>How-To Gamify</td>
</tr>
<tr>
<td>Resources for Gamification including helpful websites, privacy considerations, personal anecdotes, and sample course</td>
</tr>
</tbody>
</table>

**Section 1: Pedagogy: Level Up! content.** Questions for this section were designed for ease of answering, with a multiple choice grid, featuring a scale for responses ranging from strongly disagree, disagree, no opinion, agree, to strongly agree. Some of the questions asked for elaboration, in short written responses, if desired.

1. **Website Content: Background Information for Educators**
   a. Homepage clearly illustrates the purpose of site
   b. Call to Arms is persuasive
   c. Gamification definition is clear and concise
   d. Rationale is convincing and easy to understand
   e. Research section is potentially useful

2. **Website Content: How to Gamify**
   a. Checklist provides useful overview
   b. Checklist communicates clearly
   c. Step-by-Step page provides adequate elaboration on the steps from the checklist
   d. It is a good idea to have a short explanation (checklist) and a longer one (Step-by-Step)

3. **Website Content: Resources**
   a. The links and apps recommended look useful
b. The Privacy Section is helpful

c. It is important to be knowledgeable of privacy legislation when working with students online

d. The Lessons Learned section adds important support and info for educators

e. Including a sample course will help educators make use of gamification

4. Website Content: Overall

   a. The content is communicated clearly

   b. The language used is appropriate for educators

   c. The content makes sense

   d. I am left with lots of questions - gaps in the content are obvious

   e. This website could help educators gamify their own courses successfully

   f. This website makes me interested in learning more about gamification or trying it with my own students

5. Does the Website clearly explain how Gamification can help increase student engagement in online courses? (Yes/No/Somewhat)

6. If you answered “No” or “Somewhat”, please explain. Your comments can help me make improvements on my site.

7. Overall, do you consider the website informative and potentially useful? (Yes/No/Somewhat)

8. If you answered “No” or “Somewhat”, please explain. Are there certain elements that need improvement? Sections missing?
Section 2: Pedagogy: Level Up! design. The intention of these series of questions was to determine if the design and navigation of the site were effective. The multiple choice grid was used again for the majority of questions.

1. Website Design
   a. The site is pleasant to look at
   b. The images and fonts are appropriate
   c. There is a good amount of "blank space" (not too crowded)
   d. The site feels balanced
   e. The amount of text in the different sections makes sense and feels appropriate

2. Overall, do you consider the website design successful? (Yes/No/Somewhat)

3. If you answered "No" or "Somewhat", what elements of the design need improvement?

4. Website Navigation
   a. The site is easy to navigate
   b. The headings are intuitive and make sense
   c. The drop down menus are effective

5. Comments about navigation. (Written response)

Section 3: sample gamified course feedback. As stated earlier, all qualitative, anecdotal feedback was collected anonymously from colleagues, pre-service teachers at Vancouver Island University, and educational professionals. No feedback was collected from students; therefore, ethics were not a concern for this survey. The course did not feature links to secure School District 54 Moodle servers, so those assessing my sample course website were looking at my design and layout, rather than the existing Western Canada Learning Network course on which I overlaid my gamified construct. Students, however, would have active links where using the
course, and would be able to move fluidly between my Google site and the Moodle course in which further content is housed. The multiple choice grid described in section 1 is also at use here.

1. Gamified Site Design
   a. The site is pleasant to look at
   b. The images and fonts are appropriate
   c. There is a good amount of "blank space" (not too crowded)
   d. The site feels balanced
   e. The amount of text in the different sections makes sense and feels appropriate

2. Gamified Site Content
   a. The content is communicated clearly
   b. The language used is appropriate for students
   c. The content makes sense
   d. Students will be able to understand how the course functions without needing face-to-face help

3. Gamified Site Navigation
   a. The site is easy to navigate
   b. The headings are informative and make sense
   c. The drop down menus are effective

4. Comments about the Gamified Sites Design, Content, or Navigation. (Written response)

   **Section 4: demographic information collection.** I decided that it would add depth to my data collection to have a sense of who was answering my survey, while allowing the contributors
to maintain their anonymity. Demographics were requested in order to help organize any responses, or to be able to recognize any patterns that might emerge.

1. What best describes your current occupation?
   a. Teacher
   b. Administrator
   c. Other (with ability for respondents to add their own text answer)

2. Which grade levels have you worked with in the past 4 years (select all that apply)
   a. Primary (K-3)
   b. Intermediate (4-7)
   c. Junior High (8-10)
   d. Senior High (11-12)
   e. Non-Graduated Adult Learners
   f. Other (with ability for respondents to add their own text answer)

3. How familiar with Gamification as an educational pedagogy were you before you reviewed by project?
   a. Never heard of it before
   b. Had a vague idea
   c. Some basic understanding
   d. Moderate familiarity (knew a lot but hadn’t tried it)
   e. Extremely familiar (had tried it)
   f. Other (with ability for respondents to add their own text answer)

Findings of Field Testing

Overall, twelve responses were collected via the survey, and the results pointed overwhelmingly in support of my project being a success. However, there were also some
suggestions that brought up issues that I had not considered, and gave me valuable direction to making changes in version 2 of my design.

**Findings for section 1: Pedagogy: Level Up! content.** Survey results for this section clearly demonstrate success in terms of the goals stated in Table 2 (above). 11 of the 12 respondents ‘agree’ or ‘strongly agree’ that the homepage clearly illustrates the purpose of the site, that the definition of gamification is clear and concise, and that the rationale is convincing and easy to understand. 10 of the 12 consider the call to arms to be persuasive, with two having no opinion, and all 12 respondents ‘agree’ or ‘strongly agree’ that the research section has potential to be useful. One ‘disagree’ response was collected for each of ‘the homepage clearly illustrates the point of the website’ and ‘the definition of gamification is clear and concise’, suggesting that there is room for improvement in these subpages, but the need for improvement is statistically insignificant.

The findings for the How-To Gamify multiple choice matrix were much more uniform, with 100% of respondents stating that they ‘agree’ or ‘strongly agree’ that the checklist page is clear and easily understood, that the step-by-step page provided adequate explanation, and that it is a good idea to have both a short form checklist and a long form step-by-step page. 11 of 12 respondents stated that the checklist provides a useful overview of the gamification process, while one selected ‘no opinion’ for this question.

The findings for the Pedagogy: Level Up! Resources section was similarly positive. All 12 ‘agree’ or ‘strongly agree’ that the links and apps look useful, that it is important to have knowledge of privacy legislation when teaching online, that the Lessons Learned section adds important support and information for educators, and that including a sample course will help
Educators make use of gamification. 11 of 12 survey responses support that the Privacy section is helpful, while one response had ‘no opinion’.

For overall site content, the consensus (5/12 agree, 7/12 strongly agree) that the content is communicated clearly, the language used is appropriate for educators, and the content makes sense. 10 of 12 respondents felt that the site made them more interested in trying gamification with their students, while 2 of the 12 had ‘no opinion’ to this statement. Only 1 respondent felt that they were left with lots of questions and that there were gaps in the information were obvious. These questions were addressed in a written response question follow-up, which stated,

“It is somewhat overly optimistic. Issues such as access at different levels, or time spent designing, novelty wearing off could be addressed. What about some students who do not like games / competition etc.? If all of their learning was gamified, that would be miserable for them. Social constructivism and learning together? Yes it is sort of addressed but the impression is that these are largely solo quests” (Anonymous survey response)

This is fantastic clarification from a design view, as they are all elements that I had considered and built into my sample course, but had not communicated clearly in the Pedagogy: Level Up! site for educators.

Finally, 11 of 12 respondents stated that the website clearly explains how Gamification can help increase student engagement in online courses (with one response stating ‘somewhat’), which is a direct goal of my critical challenge question, and all 12 consider the website informative and potentially useful. The written comments at the end of this section reinforced my conclusion that the site is successful, but with some room for improvement or elaboration. Most
of the comments were positive, confirming my hunch that gamification is an exciting concept, but that educators often feel at a loss when they want to implement it.

Table 4
Additional Comments on Website Comment from Google Form for Feedback [*sic*]

<table>
<thead>
<tr>
<th></th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bravo! Comprehensive, well designed, beyond what I expected to see. Job well done, Leslie!</td>
</tr>
<tr>
<td>2</td>
<td>Excellent work! I know about this as I've just completed OLTD 509 with Avi. Teachers might want step by step on how to create the tracker. I know I do! Homepage could describe the intention for the site and provide context for the positives in Gamifying- not just show the icons. I think an About the Author page might provided added context. Might the Research page contain a link to your completed Process Paper to share your own context for Gamifying? Love the videos which add a personal 'connection.'</td>
</tr>
<tr>
<td>3</td>
<td>Homepage could describe the intention for the site and provide context for the positives in Gamifying- not just show the icons. I think an About the Author page might provided added context. Might the Research page contain a link to your completed Process Paper to share your own context for Gamifying? Love the videos which add a personal 'connection.'</td>
</tr>
<tr>
<td>4</td>
<td>Really excited to see this excellent work. Very inspiring! Thanks.</td>
</tr>
<tr>
<td>5</td>
<td>I wished the research section was explained in more detail. My own research suggests gamified learning tends to be more rote, behaviouralist type of learning. Good for content acquisition, but not necessarily good for critical thinking and critical engagement. What type of research? Mixed method? Quantitative? Qualitative? Longitudinal? Practitioner?</td>
</tr>
<tr>
<td>6</td>
<td>I'm in the same boat here for wanting to gamify some of my courses, and your resources here is absolutely my first go-to for when I am done OLTD and plan to put this into action. Really loved the Rezzly piece with Avi, and I think -- from what I see here -- you've done a great job at improving it further.</td>
</tr>
</tbody>
</table>

The fifth comment in particular warranted a change in how I communicated my goals for and assessment in the sample course, as there was no rote learning built into the course design at all, and perhaps the differentiation between game-based learning, which might include rote learning in tablet or online applications, and gamification in my context, might not be clear.
Findings for section 2: Pedagogy: Level Up! design. Website design feedback suggests that version 1 was successful. All 12 respondents found the site pleasant to look at, with appropriate fonts and images. 10 of 12 found the amount of ‘blank space’ appropriate, while 1 of 12 had no opinion, and 1 of 12 disagreed, and found the site a bit too crowded. 11 of 12 found the site ‘balanced’ with an amount of text that made sense and felt appropriate, while 1 of 12 had no opinion on balance or amount of text. Overall, 11 of 12 found the website design successful, while 1 answered it was ‘somewhat’ successful, stating in the follow-up response that, “[t]here is much debate around aesthetics and functionality, [but that they] see a big effort here on balance.” This suggests that different people find different designs more pleasing than others, and that my attempts to be clear and balanced were noticeable.

Website navigation is one area that I was not completely pleased with going into the feedback process, as the limits of the Weebly platform interfered somewhat with my vision for an easily navigable site. Ideally I wanted to have the pages all drop down from a top menu, but at the time I released Version 1, I had a landing page for each main section, and drop down pages that were listed in the menu. In other words, it was not as clear as I would have liked, and this is reflected somewhat in the survey responses.

12 of 12 found the website easy to navigate, with intuitive headings that make sense, and drop down menus that are effective. This is all positive from my perspective, and suggests to me that my design is fine. The comments, however, illustrate areas that needed improvement moving forward into Version 2.

Table 5
Comments about Navigation from Google Form for Feedback [sic]

<table>
<thead>
<tr>
<th>Comment</th>
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<tbody>
<tr>
<td>1</td>
</tr>
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</table>
These comments were again incredibly constructive, and pointed out some design errors and redesign concepts that I could immediately make use of moving into Version 2. For example, my suspicion that it might be confusing to have gallery navigation and drop-down menus proved to be apt. A goal when designing for educators, whose lives are busy enough already, should certainly be for ease of use, and this suggested that I had minor, but important, work to do to redesign navigation for greater clarity.

**Findings for section 3: sample gamified course feedback.** Responses for the Sample Gamified Course were overwhelmingly positive, but with some written comments providing clear feedback that could immediately be used to make changes that would immediately benefit any learner participating in the course.

In terms of content, 12 of 12 felt the content was communicated clearly, that the language was appropriate for students (a very important design consideration, in my opinion), and that the content makes sense. The least ‘uniform’ of the findings was in response to ‘student will be able to understand how the course functions without needing face-to-face help). 10 ‘agreed’, one ‘strongly agreed’, with another one response having ‘no opinion’. This deviation from the more typically even split between ‘agree’ and ‘strongly agree’ suggested to me that respondents believed that that student would not need face-to-face support, but were not as confident in this assertion as they had been for the other statements on the matrix. This indicated that there were
perhaps some areas that the educators found potentially confusing, which were elucidated in the comments section (Table 5).

Navigation responses were similarly suggestive of successful design. All respondents found the site easy to navigate, with headings that are informative and make sense. 11 of 12 found the drop down menus to be effective, while one had ‘no opinion’. The comments, however, told a tale of potential design flaws and areas for improvement, especially around some of my design choices in terms of colour, how much I was explaining these choices to students, and the need to have text and video explanations, rather than relying entirely on videos.

Table 6
Comments about the Gamified Course Site’s Design, Content or Navigation from Google Form for Feedback [sic]

| 1 | I am curious about the different colored buttons on the quest chain assignments. I looked to see if I could find some information but couldn't. Some are yellow and some are blue. Maybe there is info on Moodle? I wonder if there should be a page with an overall layout of the expectations for the course? You explain on the videos. Maybe there is one on the Moodle page? The video that explains the tracker is not on the student site. I saw it on the teacher site. When I made the screen bigger for the tracker video, to see the tracker, the words were blurry. Overall, amazing builds here. Motivating me even more to try this! |
| 2 | Wow! This is simply awesome and great to see curriculum that has actually been gamified. That's hard to come by. I wondered if the students need to access each aspect sequentially (Step 1, Start Here etc.) as that doesn't seem to be clear. Quizzes are a great addition! Are you using XP points? I wasn't sure how students are assessed (other than ePort) but perhaps I just missed that aspect? Also, on the home page perhaps you could mention that this is a gamified course and briefly present how it differs from a "traditional" English 12 course. |
| 3 | Google Sites! Great job with this one, too. Again, very inspiring. Video notes are wonderful way to keep up the teacher presence even when you're away. Brilliant, as always. Might have to check in from time to time to keep up. Way to go! I was hoping to view your rubrics, thought they might just go to Ministry, but they go into your district Moodle site...will need to spend more time here to really benefit in learning from all of your hard work here, Leslie. |
4 Quest Chain drop-down menu cuts off majority of focus content area. Can it be widened? I am uncertain -- this is the only mild hiccup I caught. Love the design in all other areas.

**Findings from section 4: demographic information collection.** These questions were designed to give me some context for answers to the responses collected in the preceding sections. 10 of the 12 respondents describe their current occupation as ‘Teacher’, which is my target audience for the Pedagogy: Level Up! site, suggesting that their feedback is incredibly valuable in terms of how well I have designed with them in mind. One respondent described their occupation as ‘a little bit of both teacher and administrator’ and one selected ‘University Professor.’ The following figures present the data collected regarding grade level for instruction and familiarity with Gamification.

![Grade Levels Taught by Survey Respondents](image)

**Figure 1. Grade Levels Taught by Survey Respondents**
Interestingly, only four respondents selected the target age group for my sample course (Grades 11-12), suggesting that if I were to take this design project further, it would be worthwhile to look at ‘non-rote’ gamification applications for younger learners.

**Significance of findings**

The findings of the Google Form for Feedback point clearly to design success, but with room for enhancement. In order to adequately determine which elements of the key deliverables need refinement or to be redesigned, we must assess the findings in light of my critical challenge question: ‘How can teachers disrupt traditional educational paradigms and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?’

In brief, the area of focus for my re-design needed to look at how effectively I was matching the explanations and various tools to the needs to my intended audiences, which was different for each of the pages that comprise my major project. For Pedagogy: Level Up! the findings indicate that I was communicating the need to disrupt the traditional educational
paradigm clearly, but was not explicit enough in how gamification can function to moderate learning behaviours and intrinsic motivators, as some of the respondents saw the eXperience Points system as a purely extrinsic motivator rather than its intended purpose of providing clear, visible progress. For the Gamified English 12 course site, my re-design would need to focus on designing for increased accessibility and clarity, as findings indicated that there were elements that might lead to confusion or leave students wondering where to go next, both of which would detract from the clarity of expectation that I was intending to create. Both of these re-designs, and more, will be discussed in detail in Chapter 5.
Chapter 5 – Conclusions and Recommendations

Conclusions as Applied to the Project Re-Design

To be effective, these major project builds hinged on how well they communicate. The findings from my feedback survey indicate that they were largely successful and comprehensive, but with room for enhancement to improve overall effectiveness. The few ‘negative’ responses caused me to rethink how well I was expressing the need to find new ways of engaging students in our current educational climate, as well as the ways gamification will serve to motivate and engage students through its affordance of choice, voice, and ability to make mistakes without fear of one’s mark being negatively affected. This realization, as well as other insights from the feedback form directly influenced the following re-designed website features.

Re-Design of Pedagogy: Level Up! The findings from this survey told me that Version 2 of Pedagogy: Level Up! would benefit from both a clearer statement of intent on the homepage, as well as a clearer definition of gamification, as different than game-based learning. One way to emphasize this is to use highlighted or enlarged sections of text and more images. I also updated my research section to house my most recent literature review (Chapter 2) content, with a link to my entire Process Paper, rather than just to the Literature Review completed at the end of my Online Learning and Teaching Diploma.

The findings also suggested that as much as I loved the esthetics of the image gallery for navigation, it was confusing for those visiting the site, as it only linked to some of the pages, rather than all. The design solution here was to eliminate the navigation gallery on most pages, and to add a section of links to each of the ‘landing’ pages under drop-down menus.

The final changes that I needed to make in response to these findings centered around the Sample Course – both how it was communicated on Pedagogy: Level Up! and how the content and navigation were presented to students on the Gamified English 12 site. Version 2 of
Pedagogy: Level Up! needed more information on the Student Tracker and assessment in the Sample Course, to dispel any notion that the gamification of learning in this context was emphasizing ‘rote’ learning rather than rich, formative assessment for learning and making improvement. As the Student Tracker was of particular interest to one of the respondents, I added step by step information on how I made adaptations from Professor Avi Luxenburg’s Tracker (Google Sheets), while also giving some introductory tips and links to online tutorials on how to write formulae and lock cells in Excel.

**Redesign of sample course site.** In the Gamified English 12 site, I acted on the feedback findings to rearrange the Quest Chain to include a written explanation of where and how to get started, rather than relying solely on video instruction. This made the content more accessible to all learners, rather than just those comfortable listening to spoken instructions. I also expanded the page to link to an explanation of the Big Idea requirements for the Portfolio, so that students would have a clearer sense of where to get started once finishing the introductory quests.

Finally, I updated the colours for the title images on many of the quests. The comment explaining that the respondent could not find an explanation of the particular colours of the quests was incredibly apt, as it illuminated a major design flaw. When I started designing, I had a vague notion that there were certain colours that I would use, but I admittedly changed my mind and lost sight of the goal. I remade labels to fit a colour-code (well thought out this time), and posted the key to this ‘code’ prominently in the explanation of how to navigate the quest chain. None of these improvements would have been possible without the specific, detailed feedback provided by my anonymous respondents.

**Outcome Evaluation**

In the introduction, I suggested that three of the major barriers to student engagement in education today are our traditional notion of what schooling should look like (traditional
paradigm), lack of student motivation, and lack of content relevance for individual students. Therefore, to remove some of these barriers and engage students in more meaningful learning, we need to rethink what school looks like, its function, and the roles of teachers within that system. The intention of the major project was to present a compelling argument for gamification as a means to increase student engagement and personalization, while providing an example that not only shows what successful gamification might look like in the BC Secondary School context, but also demonstrates that gamifying one’s existing online courses can be manageable within a reasonable timeframe and achievable for teachers wishing to employ this emerging pedagogy. By all accounts, the feedback results indicate that this project has fulfilled expectations for this outcome.

I directly addressed the Critical Challenge Question by not only researching and presenting information for other educators, but also by creating a sample course that puts the research into action. Through the process of Backwards Design (Wiggins, 2005), I was able to start with the intended outcome of communicating the benefits for students that can be gained from gamification to educators in a method that makes the process clear and convincing.

Furthermore, I was able to model a method for gamification that shows how students can have increased choice while still accounting for mastery learning and provision of formative assessment and a final grade. I created a sample course and explained the method for devising one’s own gamified course, which allows educators to increase student choice and voice, which is in line with the recently re-designed BC Curriculum. The strength of the final project deliverables lies in the strong positive results obtained through anonymous survey results, in addition to the way it integrates my own research and findings from the comprehensive literature review.
Results of Findings in Relation to the Literature Review

The main conclusions to be drawn from the Literature Review (Chapter 2) are that gamification works as a method to engage students and improve motivation, but that there is a gap in the knowledge of what this gamification actually looks like in the Secondary School context and how teachers can actually implement it. Referring back to my Critical Challenge Question will indicate how my project deliverables in their re-designed format clearly reflect the major learning gained from the Literature Review. ‘How can teachers disrupt traditional educational paradigms and increase student engagement by incorporating a gamification construct to enhance existing online learning experiences?’ The findings from my feedback form confirmed my hunch that teachers were interested in using gamification to engage their learners, but had difficulty conceiving what it might look like and how it might function. These same findings indicate that the key deliverables work to fill these knowledge gaps while synthesizing the best of the current research findings where appropriate.

Designing for a new educational paradigm. Ultimately, the research shows that the world has changed since public education was first invented, and educators need to put more responsibility and freedom on students to choose areas of interest and study that are authentic and relevant (J. Anderson & Rainie, 2014; Christensen et al., 2008; Cohen, 2011; Gee, 2013; Jones, 2008; Maican et al., 2016; Pink, 2009; Saveri & Chwierut, 2010; Sharkey et al., 2009; Wiliam, 2018; Zhao, 2012). This is achieved in the sample course through the students’ ability to choose quests from within the curricular framework, and demonstrate their learning in a variety of different ways. The gamified framework, though the use of the eXperience Points system tracker, puts emphasis on mastery learning, as no points are awarded until students have integrated all feedback needed in order to fully meet expectations. This has the dual purpose of prompting students to actually make use of formative assessment in an online class, which has
been a struggle in my own experience, which found that when a traditional grade or mark on a rubric has been provided, students are unlikely to make changes or improve their work, as the grade gives a sense of finality to the task. Furthermore, the XP system may allow students to feel more comfortable taking risks in their learning, as they are rewarded for persistence in challenging tasks instead of feeling punished if their work is not perfect upon first submission.

**Student engagement.** Pink (2009) tells us that for people to be truly motivated, we need to feel a combination of autonomy, mastery, and purpose in our endeavors. As educational endeavors constitute such a huge portion of students’ lives, it seems only right that teachers should design education experiences that provide students with the skills and opportunities to engage themselves in these three motivating factors.

The Gamified Sample Course integrates these three factors through student choice in which quests to undertake, voice in how their work is presented, and mastery through the freedom to be rewarded for time spent creating quality work. Moreover, teachers may find the gamified framework similarly engaging as it provides us with the chance to create content that may be effective or engaging for a smaller portion of our intended student audience, rather than feeling the need to design for all learners at all times.

**Accounting for individual differences.** Success of gamification, like all pedagogical strategies, is dependent upon the context and learners with whom it is being used (Buckley & Doyle, 2016; Huang et al., 2017; Maican et al., 2016). A strength of the Pedagogy: Level Up! site is that it does not prescribe one way to add gamification to one’s classroom. Instead, it provides instructions and discussion of different game elements, and how teachers might choose to include them with their own learners. The Sample Course, for example, is designed for my school context, and might not work for other classes. Additionally, I chose to exclude some
effective game elements, such as leaderboards, because they are highly competitive, and many of my student would find this demotivating or stressful.

The choice of different quests and the use of the Tracker also helps account for learner differences in terms of differentiation. Students can self-select more or less challenging quests based on their ability and instructional level, and the educator can also make adaptations or suggestions for learners once relationships have been established. Additionally, the number of expected quests is not prescribed, as long as students have created evidence for each of the major learning outcomes by the time they create their final portfolio. Students can spend as little or as much time on the work as is required by their proficiency, without the fear of falling behind. This means that the same course can meet the needs of the full range of student learners without attaching stigma to those making different choices.

**Project Limitations**

No project is perfect, especially when one is designing for such broad and varied audiences. Pedagogy: Level Up! was designed primarily for online or blended educators in the Secondary School context, so elementary school teachers might find it hard to adapt the suggestions and research to their practices.

The Gamified Course is designed for students who have access to an internet-connected device, as well as the requisite digital fluency to engage with content and tasks online. Although many of the instructions and quests were designed to meet the needs of diverse learners (video instructions with complementary written transcripts), there are certain to be elements that are confusing or off-putting for some.

Ultimately, as Buckley and Doyle (2016) suggest, gamification should be considered one of many educational tools, and it may not fit the preferences or personality traits of all students. A major limitation of this project, as pointed out in the feedback form, is that if students have a
serious misalignment with the designed course elements or dynamics (e.g. strongly dislike the format or loose structure), forcing them to take part in a gamified course could be detrimental. In this respect, I would expect to always offer the choice or gamified or ‘traditional’ course format to my asynchronous online students.

**Recommendations**

Moving forward, it is easy to see areas of success in this design, but also areas for future research and development. The Pedagogy: Level Up! site clearly provides information and examples for educators who might want to revitalize their practice and incorporate more student choice within a structured framework. The Sample Course provides one glimpse into how this pedagogy could be used with high school students by adapting an existing online course to be more engaging and allow for learner differences in interest area and ability. Arguably, there are several limitations as discussed above, but these limitations can be viewed as context and areas for future development, rather than unsurmountable obstacles to success.

**Future research and design.** Although there was no feedback elicited from students for this project or Process Paper, one area for future investigation could be to look at student responses to this course format. Do they find the freedom engaging or a road block that makes it difficult to stay motivated? How does the suggested pacing model serve to help students budget their time in an asynchronous class? What particular game design elements are most engaging for students? As the design is student-centered, a clear area for more research would be to determine student preferences and assess student success within the current sample course before developing further iterations.

Another area for future development is that of the elementary and middle school contexts, where students generally need more structure and scaffolding, and might find the freedom and responsibility in this Sample Course impossible to navigate. My hope is that future researchers,
graduate students, and educators will take up the torch and continue to explore the *what* and the *how* of gamification, so it can be used to engage more learners.

Finally, adding a blog to Pedagogy: Level Up! could enhance learning for educators interested in gamification. It would allow me to continue to add to the site and stay relevant as the pedagogy continues to develop and refine. This could also add potential traffic to the site, as blog posts are often shared on social media, increasing the number of educators who might make use of, and eventually contribute to, this body of knowledge. My belief is that people tend to stay away from websites that are ‘frozen’ and no longer being added to, as these seem rather dated and obsolete in our current climate of continuous learning and online evolution. Although I have not added a blog at this time, it is something that I would consider for future development of my own project, or something I would recommend to those continuing similar applied design projects in the future.

**Overall impressions.** As an online educator, I found this research and applied design process incredibly engaging. For years I had been struggling with how to engage learners in online courses that seemed be to “one-size-fits-all”, but really looked an awful lot like an old-fashioned correspondence course translated into digital format. I felt disconnected from some of my students, and I had difficulty envisioning how I could make meaningful changes to my pedagogy. The gamification process offered me the challenge and opportunity to make these changes in my own course, while communicating the method and rationale in Pedagogy: Level Up! allowed me to feel like I was giving a similar opportunity to other educators and their students.

**Next steps.** The product I have created is one I will continue to develop and tweak as I move forward, and I hope to develop gamified courses for English 10 and 11 in addition to
continuing to create more content for English 12. Refinements I would like to explore include adding ‘levelled’ content that has students progressing from beginner through to expert, in addition to more sophisticated graphics and use of badges to signify achievement of different key skills. Additionally, I am going to explore the blogging facet of Pedagogy: Level Up! as a way to stay personally informed and to keep the site alive and relevant.

**Final Conclusions**

As Daniel Pink (2009) argues, people need to feel a sense of autonomy, mastery, and purpose if they are to be motivated, engaged, and ‘happy’ in their work. For students, their work is to learn, and as educators, we have an obligation to design learning environments that allow our students to explore their personal strengths and interest within the structures of the curriculum, all while allowing them to become fluent with the digital literacies and independent thinking skills that are becoming increasingly important as the world changes (Zhao, 2012).

In light of the many problems that the traditional education system presents, we need to rethink the educational paradigm, and design learning environments that are very different than those we educators experienced when we were students. Although it is not a ‘one-size-fits-all’ solution, gamification and the motivation that its choice, voice, and mastery learning afford, is a powerful option for teachers looking to revitalize their practice.

Through my applied design project, I have learned that it is possible for educators to add elements of game design, which are actually good learning design principles (Gee, 2004), to their existing online experiences. In turn, this will allow students to take more control of their learning, and will increase motivation through a series of research-proven methods. I will continue to explore gamification with my own students because I have been convinced of its success, and I believe that within the online context, this represents one of several possible
examples of ‘best practice.’ Our students deserve the best chance possible to be successful, and for my learners, gamification opens that doorway to success.
References


Appendix A

Screen shots of Excel Documents used for eXperience Point and Grade Tracking

Grade Accounting for Sample English 12 Course (Excel document)

XP Pacing for Sample English 12 Course (Excel document)

XP Sheet in Student Tracker (Excel document)
The 400 Sheet (Excel document)
Appendix B

Images from the Sample Gamified Course Homepage

Welcome!
Ready to get started? Read the important curriculum information below, and then click HERE to start your English 12 Gamified Course.

The required English Studies 12 course builds upon and extends students' previous learning experiences in ELA and EFP 10 and 11 courses. It is designed for all students.

In this course, you will be provided with opportunities to do the following:
- Refine your ability to communicate effectively in a variety of contexts and to achieve your personal and career goals
- Think critically and creatively about the uses of language
- Explore texts from a variety of sources, in multiple modes, and reflective of diverse worldviews
- Deepen your understanding of yourself and others in a changing world
- Gain insight into the diverse factors that shape identity
- Appreciate the importance of self-representation through text
- Contribute to Reconciliation by building greater understanding of the knowledge and perspectives of First Peoples
- Expand your understandings of what it means to be an educated Canadian and global citizen

BIG IDEAS

- Exploration of TEXT and STORY deepens our understanding of diverse, complex ideas about identity, others, and the world.
- People understand TEXT differently depending on their worldviews and perspectives.
- TEXTS are socially, culturally, geographically, and historically constructed.
- Language shapes ideas and influences others.
- Questioning what we hear, read, and view contributes to our ability to be educated and engaged citizens.
- The examination of First Peoples' cultures and lived experiences through text builds understanding of Canadians' responsibilities in relation to Reconciliation.
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<th>Content</th>
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<td>Variety of text forms &amp; genres</td>
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<td>Connect</td>
<td>Reconciliation in Canada</td>
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<tr>
<td>Create</td>
<td>Text features &amp; Structures</td>
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<tr>
<td>Communicate</td>
<td>Historical &amp; Processes</td>
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<td>Language features, structures &amp; connections</td>
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Link to the entire curriculum document [HERE](#).

Made with the new Google Sites, an effortless way to create beautiful sites.
Appendix C

Image from Pedagogy: Level Up! Homepage

GAMIFY YOUR EXISTING COURSES
PEDAGOGY: LEVEL UP!

Are you Ready for Next Level Teaching and Learning?

This site is designed for the Educator interested in Gamification, but with questions about how to start...

- Check out the Why Gamify page for an explanation of why we need to make changes to how we are teaching the students of today so that they can be the successful adults of tomorrow.

- Explore the How To section for both a Gamification Checklist and a longer Step-by-Step description of how you might gamify your course.

- The Resources section houses useful apps, links, and other information crucial for Educators interested in Gamifying part or all of their existing course.

- The Sample Gamified English 12 course gives you a look into a successful application of Gamification in the BC Secondary Context.