Planning 10 - Gamification - OLTD 508 - Assignment 3
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[Live Link to Choices DL](#)

About Planning 10

Planning 10 is a mandatory course for every graduating student in British Columbia. Therefore, the target student would be between 15 to 18 years old, and would be in grade 10 to 12.
 	
  The aim of Planning 10 is to enable students to develop the skills they need to become self-directed individuals who set goals, make thoughtful decisions, and take responsibility for pursuing their goals throughout life.
 	
  Planning 10 provides opportunities for students to
    ● plan for successful learning in the Graduation Program
    ● explore a wide range of post-secondary education and career options
    ● think critically about health issues and decisions
    ● develop financial literacy skills related to pursuing their education and career goals begin planning for their transition beyond secondary school
 	
  Planning 10 provides relevant and experiential learning opportunities, helping students relate their learning in school to the demands of the working world and the expectations of society. It also provides opportunities for students to develop those skills, attitudes, and behaviours that will allow them to manage their lives more purposefully and effectively, enhance their personal well-being, and realize their full potential.
               (Ministry of Education, 2007, p. 11)
 	
Topics to be covered, in the course, include the following.
  ● Planning to Graduate
  ● Planning Your Work World
  ● Planning Your Lifestyle
  ● Relationship Planning
  ● Financial Planning
  ● Transition Planning

Rationale
We hope to make Planning 10 more relevant and motivating to students, by gamifying the existing online course. Students enroll in Planning 10, for a variety of reasons. They may be full-time DL students, they may have a challenge that does not allow them to fully participate in a traditional classroom environment, or they may prefer to have more control over their schedule. However, regardless of why they choose to complete the course online, as current teachers

of Planning 10 we have noticed a general lack of student and instructor enthusiasm. We have also noticed that almost half, of the enrolled students, push through the course as quickly as possible to get a minimal passing mark to get the credit out of the way.

By gamifying Planning 10, we hope to address this reality.

To start with, we recognize that ours is not a unique situation. As noted by Lee and Hammer (2011), lack of intrinsic motivation and low student engagement are challenging issues in education. Mercer (2011) describes how agency is an important part of learner success and how it is vital to consider agency if you hope to increase engagement and motivation in an educational setting. Wenmoth (2014) explains the idea of agency, in these words.

> Agency is when learning involves the activity and the initiative of the learner, more than the inputs that are transmitted to the learner from the teacher, from the curriculum, the resources and so forth. (para.1)

Because we have not included characters, a setting, or a narrative to engage students, in the Planning 10 Gamified course, student agency, initiative and engagement will be encouraged in several ways including the following.
- Completion tracking is enabled for the course. This means that there is an assignment completion box that is visible for each activity. These completion boxes allow students to see check marks accumulating, which indicates their progress through the course.
- There are restrictions put on assignments so that new topics open up only when required activities are completed. This new topic reveal is another way for students to see their progress.
- There are bronze, silver, gold and bonus badges that are uploaded to the student's personal page to award students for their progress and hard work.
- There are many self-marking quizzes that will allow students to have immediate feedback. Students can retake these quizzes as often as they like.
- Lessons include short, multiple-choice, questions to give students an opportunity to experience quick success
- Assignments have many different options for students to choose from including the opportunity for students to choose their own activity.
- Assignments also include the opportunity to work individually or with a partner or small group.

Accessing Planning 10 Gamified

This version of Planning 10 is accessed online through Choices DL, using a Moodle platform.

Choices is a distributed learning school that is based in Port Alberni and mainly serves students in School District 70, which includes Port Alberni, Ucluelet, Tofino, and Bamfield.

Students will need access to a device with Wi-Fi access. Students can choose to use a computer, laptop, iPhone, android, or iPad.

User Experience

The user is able to interact with the Moodle platform using a computer, laptop, iPhone, android, or iPad. There have been no reported difficulties with access on any of the devices listed above. The website will ultimately be formatted with a theme designed to present well on all devices.

Information is displayed on the device screen. No command language is required, and the student uses a graphical user interface. Specifically, the user gives commands by selecting and clicking on the chosen quiz answer, or by submitting activities as documents or pdfs within the course, or by sharing a PowToon or Google Slides link directly to the teacher.

Game Synopsis

Planning 10 Gamified was created to address the problem of low completion rates and lack of enthusiasm for the Planning 10 course, as it exists currently. Planning 10, Gamified, aims to allow students more autonomy by giving them more choice and more control.

Students start at 0%, and then earn percentage points to increase their course mark.

Students will not get individual marks on assignments. Instead, every time they do an activity, they will earn a badge. Each course topic will give them the option of choosing between 3 badge levels including Gold, Silver, and Bronze. There is also a Bonus badge, which can be awarded to a student whose activity is exceptional.

Each badge level is worth pre-designated percentage points.

For example if there are 10 course topics, then each bronze level badge would be worth 6.7%, since a C+ is 67%. Then, each silver level badge would be worth 7.3%, since a B is 73%. Then each gold level badge would be worth 8.6%, since an A is 86%. This way, a student could choose a different level for each assignment if he wanted, and if he ended up with 6 bronze, 1 gold, and 3 silver badges, his final percent for the course would be 71%. For 10 topics, each bonus badge could be worth 1.4%, so a student could end up with 100% for the course if they did everything at the gold level, and received a bonus badge on each project.

Students are presented with course topics, which include an introductory lesson and quiz. Once the lesson and quiz are completed to a minimum 80% standard, topic assignments will open up.

If a student chooses to complete the topic at the bronze level, he moves on to the next topic as soon as he has completed the current topic lesson and quiz.

If a student chooses to go for the silver or gold level, he is required to choose one activity to document his learning, from the several options presented. The student will also be able to choose to work on his own, or with a partner, or in a small group.

Note: Other aspects of gamification will be incorporated into the course. For example, in the Career unit, students will also have access to 'ChatterHigh', which is a web application that gamifies exploring post secondary career programs. ChatterHigh aims to allow students a platform to learn about the hundreds of programs available to them, to augment the existing Planning 10 course, and to provide motivation to "engage students in postsecondary and career options research as well as health and financial literacy information" (ChatterHigh, 2015).

Game Play

Playing the 'game' itself is very simple. The site is user friendly and there are video tutorials and reference information to provide explanation.

Notes

- Students start at 0% and earn percentage points, based on badge levels, for each activity completed.
- To get a Gold Level Badge, the student's submission must include everything outlined in the assignment and it must be part of the student's online portfolio.
- The Silver Level Badge will be awarded if the assignment is not quite satisfactory. For example, the assignment might be missing a requirement and/or the assignment is no part of the student's online portfolio.
- If awarded a Silver Level Badge, the student will be given the option of re-submitting the assignment, with corrections, to try for a Gold Level Badge.
- If the project is missing a great deal of required information, the student will remain at the Bronze Level, but will again have the option of re-submitting the assignment, with corrections, to try for a higher level badge.

Topic Lessons and Quizzes

For each course topic, the student will complete the lesson and the accompanying quiz. The topic activities will open up after the quiz has been completed successfully, with a minimum 80% result. Students may take the quiz as many times as required and quiz questions will vary with each attempt.

The Badge Levels

Bronze Level Badge = The student follows the lesson and passes the quiz with an 80% minimum. Occasionally, there will be a required Bronze Level activity.

Silver and Gold Levels = The student follows the lesson and passes the quiz with an 80% minimum. One of the topic assignments is completed. The assignment is submitted and is presented in the online portfolio using PowToon or Google Slides. There will be a selection of topics available, and the student will have the option of working independently, or collaboratively. In addition, students have the option of submitting an idea for their own topic assignment.

Addressing Critical Question #1

Can well designed and intentioned games offer alternative learning experiences for students that teach and inspire?

How and why human beings 'learn' has been researched for a great many years and the study of how learning occurs has included many concepts and theories including "behaviourist theories, cognitive psychology, constructivism, social constructivism, experiential learning, multiple intelligence, and situated learning theory and community of practice" (Melbourne, 2001, para. 1). More recently, researchers have been investigating how educational games fit with these concepts and theories, and also how these games fit into the learning process that Merriam Webster's dictionary defines as, "the activity or process of gaining knowledge or skill by studying, practicing, being taught, or experiencing something" (Learning, n.d.).

There are many examples of individuals describing the benefits of serious games and course gamification. According to Teed, game-based learning immerses students in the course material so that they can learn more effectively, have more fun, and be more motivated. (n.d.) In a similar way, Gee's Learning Principles, as discussed in the video *Jim Gee's Principles on Gaming,* (Thorn, 2013) focus more on 'learning' than on just using video games in classrooms. According to Gee (n.d.) good video games "incorporate good learning principles; principles supported by current research in Cognitive Science" (p. 3). Finally, Gunter et al. (2007) proposed that "the key to creating a successful serious game is to embed content-based interaction and choices that require players to implicitly and naturally learn the desired content in order to advance" (as cited in Wilcox & Zenliansky, 2010, p. 8)

Therefore, to address the question of whether *"*well designed and intentioned games offer alternative learning experiences for students that teach and inspire", it makes sense to consider both the positive and the negative game characteristics, that have an impact on the learner, in relation to learning principles.

"Gamified learning is a teaching methodology that creates a game-like scenario around the course curriculum and the objectives of the course" (Ford, 2015). If we can assume that the purpose of educational games is to encourage students to be engaged in their learning and motivated to meet the course learning outcomes, the following three questions can be asked.

> Does the game increase student engagement?
> - Teachers have always had the goal of engaging students intrinsically and rewarding achievement in an educational setting is one way to gamify the learning experience (Farber, 2013). Researchers, including Badurowiczare and Laskowski (2014), have concluded that a reward system translates into an increase in the amount of time that students play a serious game. This reward system, for example, can take the form of points or badges. The key is to make sure that students see these rewards as having 'tangible' benefits. Increasing engagement should result in "a rise in learning retention as students will be able to relate to the content easier through practice than just reading or watching a lecture" (Ford, 2015). Therefore, a well-designed game, by

increasing student engagement, will create a feeling of learner satisfaction, while a game that is not designed well will quickly lose a student's attention and will result in a poor learning experience.

Does the game create enthusiasm?
- Teachers have always had moments when they struggled with students' lack of enthusiasm towards a course subject. This may be particularly true for courses and topics that are seen as 'required' or mandatory, such as Planning 10. Therefore, a well-designed game can create a sense of excitement or maybe even competition, which will provide not only an alternative learning experience but also an inspiring one. According to Mashable, creating enthusiasm by "encouraging users to engage in desired behaviours, by showing a path to mastery and autonomy, by helping to solve problems and not being a distraction, and by taking advantage of humans' psychological predisposition to engage in gaming, can encourage people to perform chores that they ordinarily consider boring" (n.d.). In this way, successful educational games will mirror examples of successful 'games' in other areas, including business. Foursquare is a good example of a company that has gamified their product to increase the engagement of their customers. Foursquare is "a local search and discovery service mobile app, which provides search results for its users". (n.d.) uses stickers, badges, and challenges to create user enthusiasm for their product.

Does the game provide immediate feedback?
- Opitz, Ferdinand, and Mecklinger (2011) conducted a study that compared delayed and immediate feedback. They concluded that the increase in performance of individuals, who received feedback quickly, was significantly better than individuals who had to wait to get evaluation. Logically, therefore, a well-designed serious game should include instantaneous feedback, such as a self-marking quiz, a leaderboard or a dashboard. In this way, students' learning experiences will be enhanced when they can learn from their errors can see where they stand, and can be encouraged to try again.

Given the above observations it seems that the answer to the question of whether well-designed and intentioned games can offer alternative learning experiences for students that teach and inspire, is a definitive 'yes'. Although there is are obvious possibilities that an educational game could go off course and be ineffectual, if the keywords of 'well-designed' and 'intentioned' are kept in mind, there should be far more pros than cons.

Addressing Critical Question #2

Can a gaming experience provide engagement, motivation and a better learning experience, leading to an increased course completion rate for Planning 10 students?

To address this critical question, principles of learning in video games, as identified by James

Paul Gee, will be used to examine the Planning 10 Gamified course (Thorn, 2013).   While this Planning 10 course does not resemble a classic video game, in terms of characters, setting, and narrative, the majority of Gee's principles still apply as there is still increased engagement, which comes in the form of access to 'choice', the ability to earn different level badges, and the option of working individually or collaboratively.

Jim Gee's Learning Principles on Gaming

Co-design: Gee describes that, in video games, players do not just follow the game designer's creation, they also 'make things happen'. He also suggests that this 'co-design' allows for player ownership. In Planning 10 Gamified, students are given 'ownership' each time they make a decision as to which level they are aiming for, and/or which assignment they will choose.

Customize: Gee says that educational policies often try to fit students into pre-determined pigeon holes. Allowing students to try new learning styles, without fear, enables students to discover what works best for them. In this Planning 10 course, students will be given a large number of options for how they can meet the learning outcome. These options include the choice of working individually or collaboratively, and students will be able to choose from a large variety of assignment options, including the opportunity to submit an alternative assignment of their own making.

Manipulation and Distributed Knowledge: Gee writes that people like to have control over 'smart tools' that they can manipulate to feel more 'empowered'. Gee goes on to explain that these tools are 'smart' because knowledge can be distributed between the individual and the tool. In Planning 10 Gamified, students are required to use one of two free online tools, PowToon or Google Slides, to create an online portfolio. These 'smart' tools enable students to create presentations that would not otherwise be possible, and students will feel empowered as they learn how to manipulate these tools to gain control over their presentation skills.

Well-Ordered Problems: With this idea, Gee suggests, "Problem spaces can be designed to enhance the trajectory through which the learner traverses [any domain]. This does not mean leading the learner by the hand in a linear way. It means designing the problem space well." (as cited in Thominet, 2012). Basically, the idea behind this principle is that problems should increase in difficulty and complexity, and the easiest and least complex problems should come first (Thorn, 2013). In Planning 10 Gamified, students move from a simple lesson and quiz, to a more complex assignment that will enable them to demonstrate higher level thinking. This ordered progression is repeated in each topic of the course.

Pleasantly Frustrating: With this principle, Gee suggests "Learning works best when new challenges are … felt by learners to be at the outer edge, but within, their 'regime of competence' (as cited in Thominet, 2012). The 'regime of competence' that Gee refers to is the area of learning where an individual is at the outer range of his skill level or knowledge base. Gee describes how learners being 'challenged' can still be having a 'pleasant' experience as long as the challenge is seen as 'doable' (Gee, n.d.). In Planning 10 Gamified, students will be given a wide choice of assignment options, for each topic of the course.

Therefore, students will have the opportunity to challenge themselves, by choosing an option outside their comfort zone, while still within their 'regime of competence'.

Cycles of Expertise: Gee writes that "Expertise is formed in any area by repeated cycles of learners practicing skills until they are nearly automatic, then having those skills fail in ways that cause the learners to have to think again and learn anew" (as cited in Thominet, 2012). In Planning 10 Gamified, assignment options will vary throughout the course, so that students will not always be able to default to assignments that rely on skills that are automatic for them. When this occurs, students will be obliged to re-think and they will need to learn how to share their knowledge in a new way.

Information "On Demand" and "Just in Time:" With this idea, Gee suggests, "Having all of the information at once isn't as useful as when the information is tailored to the situation" (as cited in Thominet, 2012). In video games, this often translates into game tutorials (Thorn, 2013). In Planning 10 Gamified, students are presented with all the tutorials they need to be able to maneuver through the course seamlessly, and to also be able to learn how to use their chosen online portfolio tool. Although these tutorials are presented at the beginning of the course, students are not assessed on this information. It is expected that students will refer to these tutorials when and if they need to.

Fish tanks: In this principle, Gee explains how fish tanks are simplified ecosystems, "stressing a few key variables and their interactions" (as cited in Thominet, 2012). Basically, he is saying that fish tanks provide good learning environments, because they do not have a complex ecosystem, which means that individuals will not be overwhelmed with information before they are ready. In Planning 10 Gamified, learners above the bronze level, are required to complete an online portfolio. This portfolio is introduced at the beginning of the course and students create their online presentation, using small steps, as they move through the course. Because this is a cumulative assignment, students are not overwhelmed by the complexity of the activity.

Sandboxes: With his principle, *Sandboxes*, Gee explains "Sandboxes in the real world are safe havens for children that still look and feel like the real world" (as cited in Thominet, 2012). The basic idea behind this principle is that students are given a safe place to learn, research, inquire and 'play'. In Planning 10 Gamified, students are provided the opportunity to choose from different levels. Their choice of level takes place in a safe environment because if they choose to tackle a higher level their risk is minimal. They always have the option of resubmitting the activity if they do not meet the requirements with their first attempt.

Given the above observations it seems that the answer to the question of whether *a gaming experience can provide engagement, motivation and a better learning experience, leading to an increased course completion rate for Planning 10 students,* is a definitive and hopeful 'yes'. What we do know is that the current Planning 10 course falls very short of providing students with a positive online learning opportunity. We also know that the course completion rate is not good. Therefore, it is our hope that by making these positive gamification changes we can improve the educational situation for our students.

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