

Submitted by Michele Kroll
ISLT 9483: Capstone Course - Spring 2016
“Game-based Methods and Strategies for Training and Education”
LMS: Blackboard Coursesites CCG 101

I. Background

I have taught using an experiential learning approach for twenty-five years. I’m a constructivist at heart and I’m always looking for new and innovative ways to do things. When I first came across gamification I was excited about how it might be used in teaching and online design. This is when I first had the idea to create a course centered on this idea. This is an eight-week semester based credit course with six learning units. The primary target audience is educators with a secondary audience of online designers.

Karl Kapp is considered a leader in this industry and has written a book “The Gamification of Learning and Instruction” which I am using as the course text. Kapp defines gamification as, “Using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning and solve problems.” This definition is what this course is constructed on for using gamification methods and strategies in education and training. The key is to understand when to use gamification and how to use it appropriately. Gamification should not be considered a “catch all” for every learning solution. These fundamental ideas are the basis for the course.

II. Design Process

Everyone has jumped on the gamification bandwagon and is offering webinars, articles, blogs, books and online design e-books on the topic. I spent six months searching through research articles, reading and attending webinars to get a feel about how the online industry is marketing and defining gamification. Gamification is divided into two factions; education and corporate design. After I combed through the material and came up with my own points of reference and beliefs I could start thinking about how I wanted the course to look and feel.

One thing is certain. If I was going to teach gamification the course structure had to follow

those methods and strategies. I really wanted this course to be creative, innovative and something different or out of the ordinary from what most people might have experienced in online courses. This topic really gave me the freedom to think outside the box and apply online course design skills that I have been taught the last three years through this degree program.

The word gamification causes me to think about childhood memories of playing games with my family and friends. I choose the course template to reflect that feeling of fun and nostalgia. I wanted the course to be intuitive and easy to use. The course structure reflects gamification in the navigation schematic using “levels” instead of “learning units.” All learning levels are in the same format so that students aren’t searching the LMS to see if they missed something important.

I follow a constructivist philosophy so when designing this course there were several things that I thought about in the design process. I referred to three key models while developing this course:

1. **The Backward Design Model-** Wiggins and McTighe

Provide learning experiences with the final assessment in mind. I wanted students at the end of the course to be able to design a comprehensive learning unit using gamification methods and strategies. A self-evaluation and peer assessment is included as well.

2. **Meaningful Learning-** Howland, Jonassen and Marra

- a. **Active-**Learners are active through discussion forums, small group assignments and team simulations. Some teams are picked by the instructor and the others are self-chosen. This is done intentionally to create a classroom community.
- b. **Constructive-** Learners are required to take an existing WebQuest and add game mechanics to apply the gamification model. There is a reflective part of the assignment to allow more thought on why they choose certain game-based strategies and methods.

- c. **Intentional**-The course is intentional in teaching what gamification is throughout the learning units and by matching articulate storyline game levels to provide deeper knowledge and insight into each unit. Each unit allows the learner “player” to level up with completing all levels at the end of the 6th unit. Using Classcraft is also very intentional in putting students in a simulated environment to understand how this type of gamification feels. Depending on the learner’s player types each will have a unique experience. Some will love it; others might not have such a great experience. This also allows learners to see player type dynamics in a group. There is also a self-reflection assessment using survey monkey to help learners think through their experience.
- d. **Authentic**-The final small group assignment is taking all the course concepts and creating a real-world project of gamifying a learning unit of their choice. Students will put into practice the game mechanics and design that they studied throughout the course. For this assignment the learners choose who is in their group depending on the topics of interest. I contacted Karl Kapp to get permission to use his worksheets for the course assignment.
- e. **Cooperative**-The course brings in cooperative communities through discussion forums, Classcraft simulation, and small group projects. An “Easter egg” in gamification is a hidden surprise. I hid an Easter egg within the course and the first person to find it wins extra points for their team in Classcraft. It was a fun element to build into the course.

3. Learning Activities to Meet Objectives- William Horton

When using gamification as a topic it is imperative that instructional materials are varied, relevant and set the example for the topic being taught. Horton explains that learning activities should support the original goals and objectives.

COURSE LEARNING GOALS:

- The Definition of Gamification
- Concepts and Characteristics of Gamification
- Research and Theories Behind Gamification for Learning and Instruction
- Matching Instructional Content with Game Mechanics
- Applying Gamification to Design and Development of Instructional Content
- Applying and Assessing a Framework for Developing Games that Teach Higher Order Thinking Skills

The following learning activities are included in this course to support the learner objectives:

| Instructional Materials | Absorb Learning | Do Learning | Connect Learning |
|---|------------------------|--------------------|-------------------------|
| Research Articles | x | | |
| Course Text | x | | |
| Infographics | x | | |
| Websites | x | | |
| Video's | x | | |
| Discussion Forum Questions | | x | |
| Avatar-Intro Activity | | x | |
| Classcraft Simulation | | x | |
| Articulate Storyline Levels- Interactive Games | | x | |
| WebQuest Assignment | | | x |
| Webinar Review | | | x |
| Final Project | | | x |

III. Alignment with Quality Matters Rubric

I used the Quality Matters standards from start to finish while designing the course and using it as a design planning tool. I then used it as a final check list before turning it over to the reviewers.

The Learning Objectives for the course were supported by Horton's three types of learning activities which go hand in hand with the QM rubric. The learning activities in the course listed previously allows for meaningful learning, higher order thinking and engagement through collaborative learning experiences. I feel that the course design and structure supports the goals in the QM rubric.

Learner Interaction, Engagement and Course Technology

Learner Interaction and engagement opportunities:

- Discussion Forum Weekly Questions
- Student Intro Avatar Wiki Activity
- Classcraft Simulation- Small teams of four chosen by the instructor
- Final Group Project- Self-Chosen teams by students according to project interests
- Final Group Project Peer and Self-Assessment

Course Technology included:

- Six Articulate Storyline Interactive Lessons
- Voki Avatar
- Classcraft Simulation
- Classcraft Assessment- Survey Monkey
- Links in syllabus and web tutorial provided for technical support and learner accessibility services. Course materials were offered in docx and pdf format for easy access.

IV. Evaluation Data (from novice and expert users)

I was able to enlist the help of two reviewers. The first was my coworker and occasional

classmate, Tammy Gillespie. She just graduated from the M.Ed. program. The second reviewer was my friend, Phil Anderson. While he worked in software anti-virus development, he has never taken an online course or used Blackboard. Therefore, I categorized him as a novice.

I created a survey using Survey Monkey that contained the Quality Matters items and sent the link to both reviewers. This was created using the sample survey included in the course. The survey results are in the appendix.

V. Impact on Design/Modifications (details on redesign)

Both reviewers had many positive things to say about the course. There were three main things I ended up changing after I received their feedback. I was appreciative of the fact that Tammy edited my documents. She was able to see things that I couldn't that led me to rewrite, revise and also correct grammatical errors.

The second change I made was relabeling all the learning units to "levels" in my documents. It was confusing for the reviewers what I meant. In the documents I referred to them as "learning units" but in the course structure and syllabus they are correctly referred to as "levels." I needed to make that distinction so that learners didn't think they were two separate things. Lastly, I moved the Voki Avatar tab down the menu because my novice user said it was confusing when it was listed under the contact. It made more sense to him that it be after the syllabus and schedule as a new user because he didn't know what to do with it.

Tammy commented she couldn't find the course technical support and learner accessibility service information. This is a separate document in the same section as the syllabus. I decided to leave it that way. I also had to delete some grade columns because I didn't realize that columns were automatically added.

VI. Summary

I asked permission to start on this course before the class actually began. I needed to research the topic and think about how I wanted the course to be designed. With permission and given the time to do that I have to say that I am very proud of this course. I don't think this

course would have turned out as well if I had a short amount of time to design it. It took over 150 hours to produce the articulate storyline levels and I think they added a lot to the class environment. I took some risks including the ClassCraft simulation but felt that it was something that the course really needed so that students designing gamification experiences have first-hand knowledge of how the “players” view these types of interactions.

Anytime I can be creative in teaching gives me a boost of energy in my professional life. I tried to stick with the theme of the course and provide “levels” instead of learning units with students having the ability to “level up” in the articulate storyline unit reviews. With the simulation experience learners were able to experience the gamification model in real-time.

I would really enjoy getting a chance to actually teach this course someday and pilot it to see if what I designed works well with the learners needs. The course activities provide authentic learning experiences and I would love to get student feedback for the course. Providing a variety of learning activities for all learning types was a personal goal of mine.

I cannot say enough positive things about ISLT and what I have learned these past few years. I will carry so many experiences and foundational theories with me as I continue my journey. I only hope that I can model what the online instructors have modeled for me in the future.

Appendix- Survey Monkey Results

Q1

What is your name?

- Answered: 2
- Skipped: 0

phillip anderson
3/5/2016 8:25 PM
Tammy Gillespie
2/14/2016 8:27 PM

Q2

Rate the course overview and introduction

- Answered: 2
- Skipped: 0

It is clear
how to begin...
Students are
introduced t...
Course
etiquette an...
Instructor
self-introdu...
Students are
asked to...
00.10.20.30.40.50.60.70.80.91

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|------------|------------|------------|-------------------|-------|------------------|
| It is clear how to begin the course and locate the course information. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Students are introduced to the purpose of this course. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Course etiquette and policies are explained. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Instructor self-introduction is appropriate and available online. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|---|----------------|------------|------------|------------|-------------------|-------|------------------|
| Students are asked to introduce themselves. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

[Comments\(1\)](#)

The course syllabus provides learners with the overall goal, course resource locations and expected netiquette. The syllabus and initial welcome announcement provide students with the instructor introduction and directions for introducing themselves to their peers.

2/14/2016 8:31 PM

Q3

Rate the course learning objectives.

- Answered: 2
- Skipped: 0

The course learning...
The unit learning...
Instructions to students ...

00.20.40.60.811.21.41.61.82

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|---|----------------|-------------|------------|------------|-------------------|-------|------------------|
| The course learning objectives describe outcomes that are measurable. | 50.00% 1 | 50.00% 1 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.50 |
| The unit learning objectives describe outcomes that are measurable and consistent with the course objectives. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Instructions to students on how to meet the learning objectives are adequate and stated. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

[Comments\(1\)](#)

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|-------|---------|----------|-------------------|-------|------------------|
| I believe the overall course learning objective (found at top of page 2 in syllabus) is a good one; however, I am not sure the current description describes something that can be measured. On the other hand, each of the learning objectives is stated in such a way that is can be measured. Example, LU 1 states that after this learning unit, you should be able to....Correctly identify and use two forms of gamification when....after watching Karl Kapp video." The instructions on how to meet the learning objectives is described in detail in the syllabus and also in the learning units. | | | | | | | |

2/14/2016 8:40 PM

Q4

Rate the course assessments and measurements.

- Answered: 2
- Skipped: 0

The types of assessments...
The assessment instruments...
Students have multiple...

00.10.20.30.40.50.60.70.80.91

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|---|----------------|------------|------------|------------|-------------------|-------|------------------|
| The types of assessments selected measure the stated learning objectives and are consistent activities and resources. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| The assessment instruments selected are sequenced, varied, and appropriate to the students assessment. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Students have multiple opportunities to measure their own learning progress. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

[Comments\(1\)](#)

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|-------|---------|----------|-------------------|-------|------------------|
|--|----------------|-------|---------|----------|-------------------|-------|------------------|

Each of the learning units includes "Exploration Activities", rubrics and Discussion Forum assignments that help students assess their own learning throughout the course. The Exploration Activities are web-based learning units that include a variety of activities that engage the learner in responding to case scenarios, multiple choice and drag and drop responses, to name a few. Immediate feedback is provided for both incorrect and correct choice selections. In addition, the learning units include rubrics designed to help guide students as they strive to meet learning objectives. Finally, the Discussion Forum topics and questions provide students with opportunities to reflect and gain deeper understanding on what they have learned in comparison to their peers.

2/14/2016 8:46 PM

Q5

Rate the course instructional materials.

- Answered: 2
- Skipped: 0

The purpose of instructional materials...

All resources and materials...

00.10.20.30.40.50.60.70.80.91

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|------------|------------|------------|-------------------|-------|------------------|
| The purpose of instructional materials and how the materials are to be used for learning activities are explained. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| All resources and materials used in the course are appropriately cited. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

[Comments\(1\)](#)

The purpose of the instructional materials (e.g., Exploration activities, videos, readings) is described and cited throughout the course. This includes others' work as well as the course designer's original work.

2/14/2016 8:48 PM

Q6

Rate the course learner interaction or engagement.

- Answered: 2
- Skipped: 0

The learning activities...

Learning activities...

Course tools and media...

Navigation throughout t...

00.10.20.30.40.50.60.70.80.91

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|------------|------------|------------|-------------------|-------|------------------|
| The learning activities promote the achievement of the stated learning objectives. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Learning activities provide opportunities for interaction that support active learning.. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Course tools and media support engagement and guide the student to become an active participant. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| Navigation throughout the online components of the course is logical, consistent and efficient. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |

Comments(1)

The individual and small group learning activities promote learning toward the stated goals. The Exploratory Activities are especially interactive, with both audio, visual and kinetic emphasis. The course navigation was simple to follow. I will say that I was initially a bit confused by the Learning Unit vs Level terminology; however, this was resolved once I started doing the Exploratory Activities.

2/14/2016 8:51 PM

Q7

Rate the course learner support or accessibility.

- Answered: 2
- Skipped: 0

The course instructions...

The course employs...

The course contains...

00.20.40.60.811.21.41.61.82

| | Strongly agree | Agree | Neutral | Disagree | strongly disagree | Total | Weighted Average |
|--|----------------|-------------|------------|------------|-------------------|-------|------------------|
| The course instructions articulate or link to a clear description of the technical support offered and how to access it. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| The course employs accessible technologies and provides guidance on how to obtain accessibility. | 100.00% 2 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.00 |
| The course contains equivalent alternatives to auditory and visual content. | 50.00% 1 | 50.00% 1 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 2 | 1.50 |

Comments(1)

The course includes a Help link to the BlackBoard Course Site on page 4 and page 5 of the syllabus. The course uses both visual and auditory instructional resources; however, I was not able to find guidance on alternatives to auditory and visual content. Actually, I'm not sure what that could even be, but think that the course syllabus should mention that accessibility assistance is available to learners who contact the MU Office of Accessibility and ADA Education.

2/14/2016 9:06 PM

Q8

Any other comments on how to improve the course?

- Answered: 2
- Skipped: 0

Resource Folder-Classcraft for the Classroom This folder contains all the original Classcraft documents needed to reproduce this experience in a classroom setting. These are for reference only. They scoring guides do not apply to our classroom experience. There is a misspelling in the last sentence, they is recommended to be changed to the.

3/5/2016 8:27 PM

I will send a scan w/ possible wording edits.

2/14/2016 9:11 PM

Q9

What did you like about the course?

- Answered: 2
- Skipped: 0

it was fun

3/5/2016 8:27 PM

I loved the fact that Michele took on such a timely topic and broke it down into understandable topics, activities and discussions. I also love her use of graphics in the Learning Unit documents as well as the Exploratory Activities. They helped reinforce concepts and learning objectives. Excellent work!