Overview

Introductions
• Who Am I
• What AM I Playing Now?

Part 1: What’s All the Buzz?
• What is Gamification?
• Is Gamification a Con?
• Gamification is NOT New
• Gamification IS New

Part 2: Designing Gamefulness
• Playfulness
• If it were a game...

Part 3: Gamification of Learning
• Gameful Instruction
• Learning Lessons
• The Big Challenges

Part 4: Summary
• Do's & Don'ts

Further Resources
Who Am I?
What am I playing Now?
Part 1: What's All the Buzz?

Wading through the Hype

http://www.gamification.co/
What is Gamification?

The use of game elements in non-game contexts.

Part 1: What's All the Buzz?

Gamification

Playing vs Gaming

Part 1: What's All the Buzz?
Whole Systems vs Elements

Part 1: What's All the Buzz?
Is Gamification a Con?

Part 1: What's All the Buzz?
"Gamification is an inadvertent con. It tricks people into believing that there’s a simple way to imbue their thing (bank, gym, job, government, genital health outreach program, etc) with the psychological, emotional and social power of a great game."

Margaret Robertson

http://hideandseek.net/2010/10/06/cant-play-wont-play/
Trick #1 – Where the fun in games comes from.
Trick #1 – Where the fun in games comes from.

Earn 1,000,000,000,000,000 points

World's BEST Game !!!

Your Score: 396,000,000,000,000

Click HERE
Trick #1 – Where the fun in games comes from.

World's BEST Game !!!

Congratulations! NEW HIGH SCORE!!!!!

Click HERE

Earn 1,000,000,000,000,000 points

Your Score: 397,000,000,000,000
Trick #1 – Where the fun in games comes from.

World's BEST Game!!!

Click HERE

Earn 1,000,000,000,000,000 points

Your Score: 398,000,000,000,000

Congratulations! NEW HIGH SCORE!!!!!

Earn 1,000,000,000,000,000 points

Part 1: What's All the Buzz?
Trick #1 – Where the fun in games comes from.

World's BEST Game !!!

Click HERE

Earn 1,000,000,000,000,000 points

Your Score: 399,000,000,000,000

Congratulations! NEW HIGH SCORE!!!!!
Trick #1 – Where the fun in games comes from.

World's BEST Game !!!

Click HERE

Earn 1,000,000,000,000,000 points

Your Score: 400,000,000,000,000

Congratulations! NEW HIGH SCORE!!!!!
Trick #1 – Where the fun in games comes from.
Trick #1 – Where the fun in games *really* comes from.

Part 1: What's All the Buzz?
Fun from games arises out of mastery. It arises out of comprehension. It is the act of solving puzzles that makes games fun.

With games, learning is the drug.

Raph Koster
Trick #2 – You can gamify on top of existing designs.
Trick #3 – Everybody Loves Competition

Part 1: What’s All the Buzz?
Trick #4 – You can gamify ANYTHING.
Helping them do what THEY want to do vs making them do what YOU want them to do.
Gamification is NOT New

Part 1: What's All the Buzz?
Gartner Hype Cycle

Part 1: What's All the Buzz?

Gartner Says by 2014, 80 Percent of Current Gamified Applications Will Fail to Meet Business Objectives Primarily Due to Poor Design
Designing Gamefulness

What Works and What Doesn't
Getting it Right (?) - Foursquare

Part 2: Designing Gamification
HabitRPG turns your daily habits into a role playing game (RPG). When you perform positive (+) tasks you gain experience and money; when you perform negative (-) tasks you lose health.
DuoLingo is an application that helps you learn a foreign language. While you learn a new language, DuoLingo keeps track of the skill tests you've completed so far.

It's free, for real
No fees, no ads, no gimmicks. A college-quality education without the pricetag. This is how we do it.

Scientifically proven
An independent study found that Duolingo trumps university-level language learning.

Learning, gamified
Lose hearts with incorrect answers, practice against the clock, level up. Duolingo is addictive.
Volkswagen SmileDrive is an app that enables you to register information while you drive. When you arrive at your destination, SmileDrive calculates all the data and gives you feedback about your trip.
OfficeVibe is meant to increase office dynamics by giving you (and your colleagues) tasks to perform during the work week.
What do they mean?
What are they good for?
Why do I want them?

https://www.researchgate.net/
What do they mean?
What are they good for?
Why do I want them?

Source: July 2012
http://www.imediaconnection.com/content/32280.asp

Zappos
Getting it Wrong – Lame Games

Part 2: Designing Gamification

Source: July 2012
http://www.imediaconnection.com/content/32280.asp

Zappos

Hello, my name is Ravi, I am the General Manager of Your Marriott Hotel. Welcome to your kitchen! Let’s get started. Click on "stoves." Then drag a stove into an empty space in your kitchen.

LEVEL 1
STATUS 10

COINS 500

© 2014 K.Becker
Getting it Wrong – Magic 'ification'

http://www.gamifiedsurveys.com/game.html
Part 2: Designing Gamification

Playfulness
If it were a Game.....

- Shared focus & attitude of exploring
- mastery
- benign transgression
- and ... fun.

Self-Determination Theory:
- Autonomy
- Competence
- Relatedness

**Controlled**
- Supports shallow, outcome-driven, passive learning and problem-solving
- Increases short-term compliance
- Undermines intrinsic motivation
- Facilitates short-termism, unethical "gaming" behavior
- Depletes willpower, detains autonomous regulation, trains control orientation
- Reduces positive emotions, long-term well-being, self-worth

**Autonomous**
- Supports deep, conceptual, flexible creative, proactive learning & thinking
- Increases memory; persistence; quality, quantity and creativity of performance; challenge-seeking; grades
- Facilitates satisfaction of other intrinsic needs
- Supports internalization of mastery and autonomy values
- Energizes, supports autonomous regulation, trains autonomy orientation
- Improves positive emotions, long-term well-being, health, self-worth

Edward Dec. & Richard Ryan (2012), Motivation, Personality, and Development
John Reeves (2002), Self-Determination Theory Applied to Educational Settings
Part 3: Gamification of Learning

Gamification of Typical Courses
What about formal learning?
Formal Learning is *already* a game.

course requirements = game objectives
policies / regulations = game rules
assignments = quests
grades = XP
passing course = winning the game
• Labels can be powerful.
  • Make sure meanings are CLEAR
  • Tasks: Quests, Boss Battles
  • Groups: Guilds / Solo
  • Roles: Game Master; Player; NPC
  • Grades: XP; Achievements; Levels

• Focus on objective.
• Unlockable Content / Quests
• Earned Rewards
• Avatars
Flexible Path → Choice (autonomy)

1. Must earn 'N' XP.
2. Here are 'M' things
   - totalling >N XP (*important*)
3. Must do at LEAST these: _____
4. The rest is up to you.

Key Elements
Competency Driven (competence)

1. Quests → activities; things to DO

2. Focus on:
   1. Activities that match objectives
   2. How learners can demonstrate competence
Accumulative Grades

Welcome to COMP 1103....
.....you all have ZERO

- **Everything** the learner does for points ADDS to the total.
- **NOTHING** the learner does can lower their grade.
- What if they blow an assignment quest?
- How to control submissions?
  (relatedness / cooperation / competition)

Key Elements
Part 4: Case Studies

Gamification of 2 different courses – 1 grad level; 1 1st year
Course 1 Background:
- Master's level education course (U of C)
- Proposed, designed, implemented 2005
- Also taught 2006, 2007
- All F2F
- Previous report on original course (BJET)
  - Traditional design
    - Readings, discussion
    - Project (design a game or lesson that uses a game)
    - Research paper

Inception
The Original Course
20% Gamified:
- 25% Lesson Design
- 15% Peer Review of Lesson Design
- 25% High Concept Game Design
- 15% Peer Review of High Concept Game Design
- **20% The DGBL Game**

Total possible XP:
- 470

Class Ave XP:
- 231

Range:
- 134 – 333

% over 100%:
- 32% (7/22, + 3 near 100%)
50% Gamified:
• 25% Lesson Design
• 25% High Concept Game Design
• **50% The DGBL Game**

Total XP possible:
• 1000
50% Gamified:
- 25% Lesson Design
- 25% High Concept Game Design
- **50% The DGBL Game**

Total XP possible:
- 1000

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Progression of Earned XP on Gamified Portion ONLY

- **Class Ave:**
  - 537
- **Range:**
  - 380 - 650
- **% over 100%:**
  - 70% (9/13)

**XP Req'd for Perfect Score:**
- 500

---

**Playing Along**

Part 4: Case Studies

2014-06-03
Gamification Workshop
© K.Becker
### Player Stats

#### Part 4: Case Studies

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<th>Player:</th>
<th>Last Update:</th>
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<td>&lt;your avatar&gt;</td>
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### General Info

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<th>Learning Design</th>
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<td>Quest</td>
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<td>Game High Concept</td>
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## Keeping Score

**Part 4: Case Studies**

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### EDER 679.17 (online) Player Stats - sample

<table>
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<tr>
<th>Avatar</th>
<th>Guild</th>
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<th><strong>Max Score</strong></th>
<th><strong>Your Score</strong></th>
<th><strong>%</strong></th>
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<td>&lt;your avatar&gt;</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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### Totals

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<td>1 LDP</td>
<td>&lt;your guild name&gt;</td>
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### High Concept Game Design

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<th>DGBL Game</th>
<th>Guild</th>
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<th><strong>Max Score</strong></th>
<th><strong>Your Score</strong></th>
<th><strong>%</strong></th>
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<td>3.00 Introduce Yourself</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>1</td>
<td>10</td>
<td>100.0%</td>
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<td>3.01 Peer Review of Lesson Design (Quest 1)</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>0</td>
<td>15</td>
<td>0.0%</td>
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<tr>
<td>3.02 Self-Assessment of Lesson Design (Quest 1)</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>0</td>
<td>20</td>
<td>0.0%</td>
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<tr>
<td>3.03 Peer Review of High Concept Game Design (Quest 2)</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>3.04 Self-Assessment of High Concept Game Design (Quest 2)</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>20</td>
<td>0.0%</td>
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<tr>
<td>3.05 Rating course resources (either instructor or participant contribution)</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>0</td>
<td>5</td>
<td>0.0%</td>
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<td>3.06 Annotating resources provided by the instructor.</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>10</td>
<td>0.0%</td>
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<td>3.07 Contributing new annotated resources.</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>3.08 Posting an original Blog Post</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>0</td>
<td>15</td>
<td>0.0%</td>
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<tr>
<td>3.09 Adding meaningful comments to the posts, reviews, resources, etc.</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>10</td>
<td>0.0%</td>
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<tr>
<td>3.10 Posting an editorial response to a news item, blog post, or other article</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
<td>1</td>
<td>20</td>
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<td>3.10 Writing a critical review of a research or development project concept</td>
<td>&lt;your guild name&gt;</td>
<td>&lt;your project name&gt;</td>
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<td>25</td>
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<td>3.10 Game Review</td>
<td>&lt;your guild name&gt;</td>
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### Sub-Total

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Assessment of Individual Quests

Part 4: Case Studies
### Assessment of Individual Quests

**Part 4: Case Studies**

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<th>Your Score</th>
<th>Comments</th>
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<td>1</td>
<td>Purpose and theme are clearly evident and appropriate for target audience.</td>
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<tr>
<td>2</td>
<td>Makes excellent use of font, color, graphics, effects, etc. to enhance the document.</td>
</tr>
<tr>
<td>3</td>
<td>Reflects essential information; is logically arranged; concepts succinctly presented.</td>
</tr>
<tr>
<td>4</td>
<td>Game goals and learning objectives clearly identified and embodied in game.</td>
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<tr>
<td>5</td>
<td>Game has appropriate balance of challenge and skill development.</td>
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<tr>
<td>6</td>
<td>Navigation and progression well thought out and considered.</td>
</tr>
<tr>
<td>7</td>
<td>Game requires some learning of objectives in order to complete.</td>
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<tr>
<td>8</td>
<td>Appears to be engaging and interesting for students.</td>
</tr>
<tr>
<td>9</td>
<td>Design appropriate for intended use.</td>
</tr>
<tr>
<td>10</td>
<td>Game provides feedback on progress to students and to teacher. Scoring and reward system well thought out.</td>
</tr>
<tr>
<td>11</td>
<td>Storyboard is complete with sketches for each scene, detailed notes on titles, transitions, special effects, sound, etc.</td>
</tr>
<tr>
<td>12</td>
<td>Storyboard reflects outstanding planning and organization for the visuals in the video.</td>
</tr>
<tr>
<td>13</td>
<td>Fully articulated game rules and provides some detail on how these will be enforced.</td>
</tr>
<tr>
<td>14</td>
<td>Graphics used appropriately; greatly enhance the topic and aid in comprehension.</td>
</tr>
<tr>
<td>15</td>
<td>Teacher support clearly outlined.</td>
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Add more rows at bottom.
Course Orientation

Introduction to Game Based Learning

The Current State of Games and Gamers

Game Studies

Games and Pedagogy

What Can Games Do?

Games are Simulations

Examining Games

ID for Games

Making Games

Assessing Games for Learning

Reading Response 1

Reading Response 2

Reading Response 3

Reading Response 4

Discussion Paper

Prototype Lesson Design

Assessing Games for Learning

Typical Course Schedule
Can’t go completely flexible:
  • Courses still progress linearly, more-or-less.
  • There are practical reasons to try and have all students in more or less the same place at the same time W.R.T. some topics.

Think of the topic outline as the narrative:
  • If it were a story; how would it best be told?

Course schedule vs game-based:
  • Variety of topics & quests.
  • Some quests are tied to specific topics and others are not.

Just like in a game:
  • P learn new things and skills as time progresses.
  • Some things have pre-reqs.
  • Others can be attempted at any time.

Game-based course is mapped out like a storyboard or concept map rather than linearly as most typical courses are.
Designing a Game

Part 4: Case Studies
Gamified Course Concept Map

Part 4: Case Studies
Once More, with Undergrads
COMP 1103: Introduction to Computers [MRU]
- non-majors; 1st year course [35 year history]
- required for some programs
- science option
- broad range of backgrounds

"Traditional" student experience:
55% first year
25% second year
13% third year
7% fourth

student interest:
55% open studies
15% business
10% science
rest is various arts programs or diplomas

"Gamified" student experience:
55% first year
25% second year
15% third year
5% fourth

student interest:
30% open studies
30% business
20% science
rest is various arts programs or diplomas
"Traditional" Delivery

- Lecture from ppts,
- Ppts released at the beginning of the week,
- One chapter per week expected reading,
- Every two week's there is an activity for marks
  - (Usually in class: quiz, answer a question, group impromptu research or Consensus writing, OR a blog based on lecture/reading question)
- Midterm
  - (multiple choice, short answer, long answer)
- Final exam
- 4 assignments
  - (one a group project)

The Current Experiment
"Gamified" Delivery

- Lecture from PPTs, inquiry-driven, quest-driven
- PPTs released at the beginning of the week or sooner
- All instructor materials made available to students
- Read chapters as relevant
  • plus news items, articles shared on class forum
- Final exam (Boss Battle, 250 XP)
- Quests:
  • 1 Epic Quest (200 XP, Guild)
  • 4 Achievement Quests (50 XP, Small Guild or Solo)
  • 13 classes of Mini-Quests (10-25 XP, repeatable, Solo)
- Most Quests released on 1st day of class
- Most Quests have no deadline
  • guidelines provided for order and schedule of completion
- 1000 XP = 100% (follows MRU letter grade mapping)
- Total XP possible = 1450

The Current Experiment

Part 4: Case Studies
Step 1: Design Meaningful Evidence of Competence

The Current Experiment

Part 4: Case Studies
Step 1: Design Meaningful Evidence of Competence

The Current Experiment
Step 1: Design Meaningful Evidence of Competence

The Current Experiment
Step 2: Map Scores → XP Grades → Levels

### GRADE & GPA Table
(Used to calculate student grades on the Gradebook sheet)

<table>
<thead>
<tr>
<th>Score</th>
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<th>GPA</th>
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The Current Experiment
Step 3 & 4: Assign XP values to Quests

Decide on:
- options
- flexibility
- achievement path

The Current Experiment
Step 5: Set up Scoring Mechanism
Set up "Gradebook"

The Current Experiment

Part 4: Case Studies

Gamification Workshop 2014-06-03 © K.Becker

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Jumping the Gun - Early Conclusions

Traditional

- All values were lower *except* how well expectations matched requirements (7).

Gamified

- Confident of success in spite of average ability (self-assessed)
- Comfortable w/ requirements.
- ~25% commented on lack of deadlines (positive)
- 1 felt it was easier to understand
- 1 felt it was too unstructured

Scale: 1-7
Support
• [-] Requires considerable "on-boarding".

Structure
• [-] Too little structure for some.
• [+] Learners have greater control over their own learning.
• [+] Learners felt ownership of their own learning.

Competition
• [+] Motivating for some.
• [-] Discouraging for others.

Assessment
• Fast grading turn-around essential.
• Tendency to grade quantitatively.
  ◦ Simple grading schemes.
  ◦ Practical mechanisms for meaningful feedback.
## Final Scores

### Part 4: Case Studies

### Gamification Workshop

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### 1103 Leaderboard

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### Final Scores

#### Part 4: Case Studies

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Part 5: De-Briefing

Lessons Learned
Gives up on the lock-step lessons notion.
• Was never a reality anyways.
  ◦ People are at different stages.
• PROBLEM:
  ◦ Cannot go completely over to personalized learning.
  ◦ Simply impractical in many situations.

Each node is like a gamescreen or location.
• Relationships (paths) between nodes are determined by content rather than time.

There are quests, items, associated with each node.
The Big Challenges

Instructor:
- Up-Front Design
- Ensuring objectives are addressed.
- Competency-Based Assessment*
- Scoring
- Records keeping
- Marking Load

Learner:
- Taking Ownership of Learning
- Motivation
- Time Management
- Strategizing
- Taking Ownership of Learning
Do

- Objectives first
- Offer a variety of quests
  - Large & small
- Fast turn-around of assessments
- Meaningful rewards
- Appropriate rewards
- Fit the "game" to the subject

Don't

- Design the 'game' first
- Simply change the names of things
- Badges for nothing
- Points for nothing
- Gamify everything
- Use your favorite game as the template
Questions?
Your Turn

Gamifying the Syllabus (rules); Tasks (Quests); Grading (& Assessment)

Assuming we already have objectives and a syllabus.
Create Quests

Step 1: Design Meaningful Evidence of Competence
### Step 2: Map Scores ➔ XP & Grades ➔ Levels

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Step 3: Assign XP values to Quests

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<td>2.03 A:1 Mission (Chicken Paper)</td>
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<td>2.04 Level Game/Win</td>
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<td>3.03 Defend Quest [Respond to someone else's comment]</td>
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<td>3.04 Talk To Quest [Comment on a post made by another]</td>
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<td>3.05 Collection Quest [Create a class poll]</td>
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<td>3.13 Test-Ins Quest [OOC - Exam]</td>
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Step 4: Decide on:
Options; Flexibility; Achievement Path
### Step 5: Set Up Scoring Mechanism

#### Part 6: Guided Exercises

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- Brands that failed with gamification
  http://www.imediaconnection.com/content/32280.asp#singleview