



MAGNA ONLINE SEMINARS

Supplemental Materials

Gamification: Applying Game Principles to Your Teaching

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Principles of (Video) Games That Are Useful to Teaching

Track Progress

- reward effort, not just success
- reward after fixed intervals (eg, every five tokens) but also randomly
- momentary rewards (“great job” flashes on screen) or persistent rewards
- provide rewards in the form of badges – people are natural collectors
- use progress bar if not using a badge list
- show progress summary not only when initially accomplished, but in a global spot that is easy to access later (and visible publicly to other participants)

Maximize Competition

- motivation through innate competitiveness
- leaderboard
- beware FERPA issues

Finesse the Difficulty Just Right

- “balance” issues – neither boring nor anxiety-inducing
- early, easy wins, then ratchet up difficulty
- add skills incrementally
- return to early skills with spaced repetition
- boss levels

Use Diversions

- mini-games reset the attention clock
- reward exploration via Easter Eggs (example: humorous ALT text on images)
- your word choices: “quests” rather than “objectives”
- allow for nonlinear (or branching) progress toward the goal?
- where practical, EMBED games and other content rather than link away

Insist on a Story

- start with a hook (high concept, “elevator pitch”)
- determine a central conflict that drives the storyline
- think in terms of Set Up, Build Up, and Payoff
- do not tell a story so much as construct a mystery (start “in medias res”?)
- imagine characters, backstories, and use as many details as possible

Questions for Further Discussion

1. How can we integrate the experience more seamlessly into a SINGLE interface?
2. What needs to be created to “scale” these principles to larger classes? What tools do we need for automation?
3. Which elements are CRUCIAL to the experience, and which merely serve as ‘value added’?
4. How do we avoid the “creepy treehouse” effect, where students feel like we are “trying too hard” to make something they ultimately view as inauthentic?
5. Where do we find resources for mini-games and other diversions? How about images and logos or mascots?
6. What should be the role of teaching assistants in gamified courses?
7. What provisions exist to add gamification to a fully offline/analog course?
8. Do instructors need to adjust to a certain mindset in order to use gamification effectively?
9. What alternatives exist to gamification that can yield similar levels of engagement and motivation?
10. When is it NOT worthwhile to add gamification elements?

Next Steps

1. Identify the right course to attempt gamification.
 - a. Course should take place at least one term in the future (to provide enough time to prepare).
 - b. Choose a course where the motivation of students is usually low and could use a boost.
2. Isolate the learning objectives to be impacted by gamification.
 - a. Alter the written objectives, as needed, to reflect the presence of gamification.
 - b. Note that in some instances, gamification may alter the “practice” students have to perform without fundamentally changing the content, concepts, or objectives themselves – gamification might merely provide new means to master the material. If so, it should still be noted on the master course plan.
3. Craft a gamification plan.
 - a. Your plan should identify clearly, perhaps via flowchart, what the objectives are, how gamification assists/enables them, and the actual elements to be included:
 - i. Are there groups to minimize your ongoing work?
 - ii. How many groups?
 - iii. Which assignments or tasks will be rewarded with badges?
 - iv. How will you update the leaderboard, and how often?
 - v. How many points will you allot to rewarding the completion of the game elements?
 - b. Consider adding an overarching narrative.
4. Write the gamification elements before the semester begins.
 - a. If your workflow normally involves writing the next module of content just before it is released to students, be sure to write the gamification portions before the semester begins—you want a complete picture of how much extra work it is for you, how much time the gamified elements will take students, and how much benefit they will bring to students.
 - b. Ask a colleague (or students working in your office?) to weigh in on the planned gamification elements. Appropriately interesting? Too silly? Worth enough points?
5. Notify students via syllabus and course lectures of the gamification.
 - a. Let students know early enough that those who object can switch to a different section.
 - b. Set aside some time in lecture to explain more fully why the game elements are being added, what it means for students, and to answer their questions.
6. Begin tracking, tallying, and displaying progress as needed by your gamification plan.
 - a. Keep notes on what to fix/alter for next semester’s game elements (for the items not fixable in the current term). Course-level decisions (how many groups to make, points awarded per assignment, etc) are especially important.
 - b. Poll the students early to find out what’s working and what is not.

7. Revise constantly, especially in the first year.
 - a. Be flexible and open to revision if something doesn't work, adjusting items not only for the next crop of students, but to ensure the current set of students feels like their efforts are rewarded.
 - b. Watch for unintentional imbalances in gameplay: items that are too easy or too difficult to complete, or that privilege just one group of students (such as those that do their work early in the week).

Sample Leaderboard

The screenshot shows the Webcourses@UCF interface. The top navigation bar includes "My Webcourses | Accessibility | Help | Log out" and the course ID "IDS4934 - 11Fall_OW62". The left sidebar contains "Course Tools" (Course Content, Assessments (H), Discussions (H), Learning Modules (H), Mail) and "Designer Tools" (Manage Course, File Manager, Grading Forms, Selective Release). The main content area displays "Your location: Home Page" and a table with the following structure:

	Quest 1	Quest 2	Quest 3	Quest 4
Team Fire	✓		+	
Team Jet			+	
Team Tree	✓	+		

This screenshot shows the same Webcourses@UCF interface as above, but with a "Create or Edit Footer" dialog box open. The dialog box contains the following HTML code:

```
<!-- Begin Footer -->
<table border="1" width="100%" cellpadding="1" cellspacing="2">
<tr>
<td></td>
<td></td>
<td>Quest 1</td>
<td>Quest 2</td>
</tr>
</table>
```

The "Enable HTML Creator" button is circled in pink. A "Page Options" menu is also visible, with "Edit Footer" highlighted by a pink arrow.

Sample Syllabus Policies

(you may freely copy/paste these for your own classes, or adapt them as you see fit)

Game-based learning. This class makes use of principles from game design to enhance instruction and provide additional student rewards for engaging the material. These principles may include competition, badges, and 'stages' or 'levels'. Since the points awarded for participating in these events are optional and part of the class extra credit, students are not required to take part in any of them.

Or, for classes where the items given a point-value reward are required rather than optional:

Game-based learning. This class makes use of principles from game design as a required part of the curriculum, which may include competition, badges, and 'stages' or 'levels'. Students are advised that they will be required to participate in these game elements as a part of this course section. If there are any concerns, please see the course instructor or transfer to a section that does not include game-based learning.

Mini Games and Other Diversions

1. Wondershare: <http://www.wondershare.com/pro/quizcreator.html>
or <http://www.quiz-creator.com/>
2. Hot Potatoes: <http://hotpot.uvic.ca/>
3. ProProfs Quiz Maker: <http://www.proprofs.com/quiz-school/>
4. Quizlet: www.quizlet.com
5. Stu's Quiz Boxes (like Jeopardy): www.quizboxes.com
6. PurposeGames (tournaments): www.purposegames.com

Do's and Don't's

When adding gamification elements to college classes

Do

1. Display progress
2. Maximize competition
3. Calibrate difficulty carefully
4. Provide diversions
5. Employ Narrative Elements
6. Focus on engagement and motivation as the main goals
7. Leverage campus help to add technologies
8. Attempt to raise the visual design and gloss
9. Embrace serendipity
10. Playtest, revise, and fix as you go

Don't

11. Insist on fully automated processes to record progress
12. Violate privacy laws by including graded items in leaderboard
13. Assume that a skill/concept is mastered after the first assessment
14. Require diversions or make them too central of a focus
15. Allow the story to become inauthentic (beware the “creepy treehouse” effect of trying too hard)
16. Focus on technology exclusively
17. Panic if you lack tech skills
18. Go completely text-based
19. Demand a completely prescriptive event with one pre-defined outcome
20. Become discouraged; think of the game as an evolving product rather than a finished one