MAGNA ONLINE SEMINARS

Transcript

Gamification: Applying Game Principles to Your Teaching

A Magna Online Seminar presented on March 12, 2013 by **Dr. Kevin Yee**, Director of the Academy for Teaching and Learning Excellence at the University of South Florida.

Gamification: Applying Game Principles to Your Teaching teaches participants:

- Identify the five principles of gamification
- Develop strategies to translate these concepts into action in a face-to-face class, a learning management system (LMS), or an online class
- Adjust curricular designs to take full advantage of gamification elements
- Wrap the gamification elements around a central location such as an LMS
- Locate resources to assist you

Editor's note:

This is a written transcript of an audio recording. Our policy is to edit only the occasional unintelligible phrase. Everything else appears exactly as it was spoken.

Rob Kelly: Hello, and welcome to Magna's Online Seminar Gamification: Applying Game Principles to Your Teaching cosponsored by Magna Publications and the *Teaching Professor*. I'm Rob Kelly, Editor of the *Teaching Professor*, and I'll be the moderator today. I'm pleased you could join us.

If you haven't already printed them, the handouts are located in a box below the photo of the speaker. You can click on the files and then click on save to my computer to download, open, and print it. Throughout the presentation, feel free to ask questions or send in your comments in the chat window at the bottom of your screen. The presenter will respond throughout the presentation and take questions at the end.

And now I'm pleased to introduce our presenter, Dr. Kevin Yee. Kevin Yee is the Director of the Academy for Teaching and Learning Excellence at the University of South Florida. His main interest focuses on emerging technology, Web 2.0 Tools for Teaching, and the pedagogy of massive open online courses, particularly when combined with gamification. Welcome, Kevin Yee.

Dr. Kevin Yee: Thank you very much, Rob, and welcome too, everyone. Thank you for joining us. One other thing I'd probably add about my biography that is perhaps relevant here, a brief stint of just about two years in the video game industry working for a company called Interplay, and doing a lot of the internationalizing of the games had me in contact with a number of games and really started me on the path that you see me on now.

We're going to go ahead and get started here with a definition of what gamification is. That's, of course, you can see it on the screen as well, it's a process one does to make something seem, that normally seems mundane into something more engaging. And maybe we ought to back up just a half a step and even ask ourselves why do gamification? Right?

There is out there, Richard Lunt's meta study is one such, Marc Prensky, John Paul Gee have done a, more than ten years, really, of looking into do games work to improve learning? And the answer is yes, when done right, and yes in general. Though, of course, as players of games ourselves, we recognize not all games are fun, and so we're going to need to investigate what makes a game fun, and how do we do this the right way, I guess, is the way to put that.

And there's been a lot of work done lately on gamification. It's one of the buzzwords. There's a lot done on the theory of gamification and the digital applications of gamification. And when people talk about gamifying, they think about making something digital, usually.

So a common example might be the app Foursquare, which you see on cell phones. This is really the act of people checking in and telling the rest of the world where they're located, an interesting concept in and of itself, but it becomes fun through certain principles that we will investigate today. So the act of checking in is, itself, boring or mundane, but it carries rewards because of these gamification principles we're going to talk about.

Now in an educational context, it's hard to imagine, at first, well, what do you do with this? How do you gamify a class? Does that mean build an app? Does that mean everyone becomes a programmer? And that's certainly one route, but it's not a route that most people can do.

So what we want to look for is look at the principles underneath gamification, successful games, so we can apply them to those of us who are not programmers and take it from there to sort of see if all of us, all of our instructors can do something with games or the game concept.

So one of the, I have to apologize, we had a little bit of a snafu with the supplemental materials packet. It's supposed to have included two things that are not presently there. One of them is the worksheet on technology readiness. The other is the bibliography on gamification. Both of those will be send to you later on after the workshop.

But I think what I will do is just read you a couple things about technology readiness to see if you guys nod your heads visibly or otherwise around the tables here. See if this is true of you. Do you let others try out new technology before you do it? Do you consult a printed walkthrough when using a new tech tool for the first time, or do you use your existing method for accomplishing work instead of trying newer, less established methods?

So if these are true of you, then you fall somewhere on the technology readiness scale, a little bit different from, you know, the very extreme end of trailblazer. All right? And if you're not at the extreme end of trailblazer, then there are open questions about whether doing something with gamification is right for you.

It might not be, because a lot of what happens in gamification requires paying careful attention to, you know, what's happening in technology these days. How can I influence my students in digital ways? Even though we're not building an app, we're not learning to program, there is some need for paying attention to what's happening in technology, just because if it's completely text-based, it won't work either. We'll get into that.

So, unfortunately, the answers are on your handout, so don't cheat. Don't look ahead. I'm kind of curious, and you can do this in your heads, or

perhaps you can type a couple of yeses. Principles of gamification as you understand them already or just toss out a couple of ideas. I'm going to give you a few seconds to think about this. You know, what constitutes games and what makes games fun?

I see multiple people are typing. High psychological engagement, high reward. Excellent. Reward is definitely a part of this. Competition, absolutely, and reward again, wonderful. Increasing difficulty, good, and challenge. Yeah. The fun, Golden Gate University, the fun is the question isn't it? What makes games fun?

And, because there's lots of games out there that are not fun, and in the marketing materials for this very workshop, you saw mention of edutainment. So the idea's been around a long time to make education entertaining. But that fun quotient is elusive, and so part of what we're trying to get a handle on here is what makes it fun? Storylines, also, William W. Woods is, indeed, part of my system.

So what I'm showing you on the screen here is one taxonomy of looking at the principles of video games and games in general, and there are several taxonomies out there. You'll find many of them on blogs and theory articles. Yu-Kai Chu's taxonomy is one of my favorites, it's called Octalysis. And this is also part of the bibliography you'll find later.

And people use different words for some of these same concepts you see here. I've narrowed it down to just five, and this particular slide is something of the keystone. This is the main thing we're going to have to make sure that we come back to from time to time throughout the presentation. These are the five principles that we will, so I'm not going to go through them explicitly now, because we're going to spend the rest of our time going through them and saying what they mean.

We are, however, going to start with a scenario, so let me read this to you first. Professor Adams is uncertain how to treat games in the larger context of his curriculum and grade breakdown. So we have the ability to turn on a poll, which I think we will do now.

The question is how should Professor Adams integrate the games? Should the games count for points, should they become optional and point-free, or should they be both? So we're going to give you some time to vote, and then we will let you see what everyone else has voted.

So at least, yeah, it looks like you're now seeing the results. A majority of people saying a combination of letting them count for points and being point-free. This is one of those questions without a right answer. I don't know that I have my own right answer for either. There are pros and cons

to both, and they have to do with this complex interplay of privacy and wanting to display progress is why you get both the pro and the con in having things count for points.

But the idea of having things, and we'll go ahead and return to the slide in a moment here, takes just a second, the idea of having things count at all here is our first principle, comes from our first principle, which is that it is necessary to display progress.

So a game that does not display progress is a game that never changes. It would be like having the same Pac-Man screen level after level after level. There would be no point to that. People would see it as pointlessness. So you have to have some progress through it, and there are different ways to explain or display progress.

And you may have heard of badging or badges, another one of these hot button words right now, as a way of displaying progress. Think of it as an alternate way of showing that something has been done that doesn't necessarily involve a grade. In theory, a grade is a badge too, but we need to keep grades private. So a badge is another way of displaying that something has been accomplished.

Progress bar, a lot more likely to have a progress bar if there's, if the game being built is one that involves programming and its own interface, let's say. And those are things that the majority of college classes are not going to be able to fold in, at least not in an automated fashion. You know, there is hope out there and discussion out there that, in the future, these things can become more automated.

I am encouraged to see that Blackboard is one of the participants listed here, and so I'm hopeful, at least, that at some point in the future, what we're going to see is some manner of gamification interface folded into LMS' in the future. So I know that many of them are working on it. But that's the progress bar side.

Let's, we're going to talk about badges in a little bit. Let's move onto these other bullet points of momentary and persistent and so on and explain what that means. When you display progress, there are two categories of them. The momentary progress is the quick flash you see on screen, such as when you, let's imagine playing a video game, let's say, and you earn an extra 500 points.

Well, what happens is the number 500 pops over your head, your character's head, and then you have that momentary a-ha. But that doesn't stay on screen. Okay? So you get a quick reward, but then it goes away quickly.

A persistent award is one, like a badge is an example of a persistent award, one that you can come back to later on and gloat over and see that you have and compare with other people and so forth. So persistent awards are easier to imagine in an educational concept than a momentary reward, because the momentary reward is one that's, it's usually automated or programmed in, and, again, we're looking at things that are not programmed in.

There's a question at the moment on the screen here about badges, combining public and grades and so forth, and we're going to come back to that, I think. There's a moment a little bit later on where we'll investigate privacy and grades a little deeper.

So fixed intervals and random. What this means is that progress should come, on the one hand, via levels. You know this from video games and from other games that you've played of fixed intervals. You can imagine doing that in a course in the concepts of modules, right, that at the fixed intervals, every module, has some rewards or badges that go with it.

But there is also call for random awarding of rewards, of progress, because among other things, it keeps players, that is to say, the students, on their toes. Their engagement stays high, because things are a little bit less than fully predictable.

So on some of the scales, the taxonomy is out there for what constitutes gamification, talk about predictability and unpredictability. So this is not necessarily an element of mine, but it's certainly in there with the diversions, the fourth category that we'll come back to again. And so having progress displayed both in fixed intervals and random moves us closer towards unpredictability and predictability at the same time.

And then rewarding success and effort, so rewarding success is a little bit more obvious. Why would you reward effort? The answer to rewarding effort is that it can become frustrating if effort is never rewarded. If only success is rewarded, then the game might take on the appearance of being too difficult. It really depends, I guess, on what you've done in terms of calibrating difficulty, and what we call balance in a game.

So it's clearly the lesser of the rewards. If you reward only effort, then there's no challenge. And challenge needs to be part of a game system as well, and so, normally, the way to think of this is rewarding, success comes first, and effort is a byproduct and happens a little bit more infrequently.

So let's move to the next slide, where we're still on that first principle of displaying progress, and three ideas here, three different ways to display progress. Badges on the homepage, so this is imagining a learning management system, an LMS, where you have badges that show up there on that homepage. This process would be manual, since there's not a way in the LMS' today to have a badge simply pop into existence when some grade book requirement is met, let's say. Okay? We'll come back to that one.

The second bullet point, a badge backpack system. So the idea here is that there are external websites, and there are a few of them available, probably the largest and best known is Open Badges from Mozilla, which are websites that include a backpack system, meaning something like a place where people can store their badges. They have their own login, they can collect badges that way throughout the progress that you've charted for them, and then they have something they can go look at and check.

So a badge, needless to say, is a little bit like a token. It's a little bit like a patch, if you can think of Girl Scout or Boy Scout patches, when you accomplish something, you're given this thing to go look at and feel proud ownership of.

So the Mozilla Open Badges is an external place to hold those, and it's not my first choice, because it's external to the LMS and often requires people to make that extra effort. Even if you've got a link right there to the badging and the backpack system externally, since it's not displayed directly within the class, sometimes people just don't see it, just don't care as much. So a fully integrated solution seems to offer the best engagement from the students.

Now, naturally, the best would be the third bullet point, which is an automated system, a system by which as soon as a project is done, something gets accomplished, then the badge pops into existence for the student. That has multiple rewards in that it would be immediate. You have that quick rewarding of success, the momentary rewarding of success, and it would also take away workload that would otherwise be manual.

Now this is obviously the dream. There are not a lot of ways to imagine doing this, either in a face-to-face class, certainly, or in an online class, or an LMS or a face-to-face class to make that completely automated. So you could do some variation of adaptive release, and it looks like there's a comment to that effect in the chat box at the moment, that would release badges but that could involve complicated rules.

And, of course, the truly optimal system of having a system display the badges unique by person and having it pop into existence only when they complete certain things probably requires programming, which means that I'm back to that first bullet point of badging on the homepage as a kind of, a manual process is, perhaps, what I might have to do, or what I have done in the cases of smaller classes.

The question of leaderboard versus badges will come up in the next major principle. Leaderboard is part of the competition principle, so, but badging becomes integrated with the leaderboard, I would say, is the solution I'm going to suggest for you. We'll wait until we get there to see that.

So I'm showing you now an example of some badges that are, that were created by one of my universities. This was manually created at my request, so this was done by the department that supports online teaching. They have artists on staff, and I asked for the kind of artwork that could be reusable from course to course to mean different things and so forth.

So that's one idea, one suggestion, is to find a way to get badges that now don't belong to anyone else, because your university created them, your school created them. You can also go get badges from the Mozilla Open Badge initiative, creative comments badges are possible there as well. And, increasingly, I think we will see badges just available for people to use.

But the idea, my idea was to get a hold of some badges in file format. So what you're looking at, obviously, is a PowerPoint slide, but these are individual image files that have been dropped onto the PowerPoint. So each one of those is an individual JPEG, and I had these individual JPEGs created so that they could be manually dropped into various contexts around the course when I needed them such as on a leaderboard or individual, per student.

The advantage of having something without words, obviously, is that it can't something different in a future semester. You can change the color somewhat quickly, and then they would then represent a different badge.

I see a question in the chat box about what a few of them mean. And, actually, they don’t have meaning. These were created specifically to mean just about anything. I have used some of them to mean different things like having completed certain quests in the class, and we'll talk a little bit more about what that means, but they're purposely done without meaning. You have to invest the meaning by letting the student see a key to what they mean later on or by labeling them when they're deposited on the homepage as a badge.

You can think of badging and gamification as a bolt-on activity, and some people do. You'll see articles about people who have gamified a class by taking existing content, existing course objectives and then doing a different activity with them such as adding a game.

I know of one theme park class, for example, that used RollerCoaster Tycoon as a way to practice certain things that they were otherwise talking about in the class. That is a perfectly viable use and meaning of gamification. It's not the main focus that we're working on with today's presentation.

The main focus in today's presentation is to gamify sort of the rest of the course, to invest those otherwise mundane seen tasks and practice and so forth throughout the course rather than just once with some meaning and with some competition, with some game type elements to it.

And that's the reason I've been using the learning management system as a kind of repository for what we do with the gamification. You can imagine doing a gamification in a fully face-to-face class, but then you'd have to think about, well, how do you display progress without using the LMS to do it?

Now it looks in my mind a little bit more like elementary school to imagine doing it with a kind of a leaderboard on the wall, but you could do it that way. The gold star system was essentially a displaying of progress in front of everyone else.

So let's turn our attention to a second scenario. Professor Jones pastes top-scoring discussion posts to the homepage to inspire other students. He leaves names attached so that others are more motivated, and this leads to higher scores.

So our scenario question is how should Professor Jones tweak the competition? And you see four choices there. Show the student photos next to the entries, automate it to save some time, remove the student names, post different material which would be non-graded are the four options. So we will again give you a few moments to register your vote.

You're not seeing it yet, but I'm seeing a couple of trends emerge. This is interesting. Not quite halfway yet in terms of the voting, give it a few more seconds. Okay. I can go ahead and broadcast the results to you. The most common answer, removing student names, is also potentially my own personal answer, or I might move to option D, posting different material, non-graded.

So I suspect that those of you who answered C or D had some of the same ideas in mind that I did, which were the privacy laws, in the United States specifically, FERPA, that suggest having the student names and their work viewed as optimal or exemplary for the others could potentially be a violation of FERPA. Although not necessarily, since, if you recall the exact nature of the scenario, the posts, I'm sorry, they are top-scoring discussion posts, yeah, they are FERPA violations. If they weren't identified as top scoring, then we might be able to work our way around FERPA in that matter.

Showing student photos next to entries is a viable option and would do much to increase the community, especially if it were an online class, especially if you could find a way around the FERPA issue. Let's go ahead and return to the slide show.

And that leads us into the next main principle, which is to maximize competition. That scenario was meant to be our segue from displaying progress, so the concept of badges, to letting people see how other people in the room are doing as well.

So we did have this as one of the votes originally when I asked you what does gamification look like? And some of you did say competition, and, indeed, it's a commonly-cited, though not always, not universally, element of games. And there are some games without competition in them, where you're competing just with yourself, let's say.

But in the college context, it is often useful. And those of you who do class-to-class, face-to-face classroom teaching know about competition as a driver for student motivation, even just dividing the room in half and then keeping score while they do things on the board, let's say, often drives a lot of student interest.

So this is where the discussion of the leaderboard will come in, and the privacy laws of FERPA comes right with it. So, and there's really no separating out of these three bullet points. If you're going to use required material, material that they have to complete and produce, and it gets graded, then it becomes an item that is a student record, and, thus, it becomes FERPA protected. And if it's FERPA protected, it shouldn't be part of the leaderboard.

So we have, we're in the land, in the realm here of workarounds, if you want to use the concept of a leaderboard. And I'll show you an example of a leaderboard in a moment. For those of you who have not seen one before, the leaderboard being, basically, the displaying of everybody's badges all on one screen.

One option is to make the leaderboard display extra credit, although, arguably, this is a FERPA-protected thing as well. Making it be something completely not credit-oriented at all, so it's really just there for bragging rights is another option.

Or this one's not on screen, but another option to think about to put on something to put onto the leaderboard would be rewards for something that are not grades. So I have done it once where, they were in groups, but the group that scored the most of those badges were able to exercise an option individually to skip the final exam and instead use their chapter test average to replace their final exams if that's what they wanted to do. So it's not something that tells the other students what their grades are, but does provide some kind of reward, something that the student would care about.

Two other options I would recommend as variations on allowing your badges to be shown on the leaderboard. First, allowing the students to waive their FERPA-protected rights when it comes to specific parts of the course. I wouldn't be comfortable doing that unless there was a signed document, and the students understood what they were doing by waiving their FERPA rights, but it is legally one of the things you could do.

And then the University of Alabama in the chat box has the last one, which is pseudonyms. You could ask students to provide a pseudonym that will then be displayed on the leaderboard. And then the students would be able to kind of have their bragging rights, I guess, and be able to see themselves amongst the others, but their FERPA protection is still intact. So as long as they chose something that was private to them, then you're safe there.

Let's have an example here, look at an example of what a leaderboard could look like. So we're still part of the maximizing competition, second bullet point, we're looking at an example of WebCT Vista, and this is a homepage in WebCT Vista which shows the navigation on the side and then the main box is displaying a leaderboard.

This is a table built in HTML, and the table identifies, I know it's a little hard to read, this is one of your handouts in the supplemental material PDF called sample leaderboard, and it's probably page four or five in the packet. They're not numbered. Sorry about that. And you're seeing the top screen here, which shows Team Fire, Team Jet, and Team Tree, which is really all, I use badges to display the team names as well.

And then in terms of the badges earned, you can see them listed as quests. Each of those columns is a quest, and a couple of teams earned the first badge. Only one team earned the second badge, and the badges are pasted into the HTML either through the WYSIWYG, the what you see what you

get HTML editor, or through manually just putting into HTML. And so I'll show you an example of that on the next screen.

It is also part of that same handout that you might have to edit with the HTML creator to have the badge change from, you know, Badge1.jpg to Badge2.jpg, that sort of thing. But these are options for manually updating a homepage within the LMS with a leaderboard. And if it's done in this fashion, which as you see is done in groups, and is done with quests identified or badge names, I guess, identified, then you're still FERPA safe.

Blackboards question about the group nature of the activity, getting around the FERPA issue is a good question. If people know who's in each of the groups, then, in theory, some portion, some percentage of student records have become known to other students, perhaps.

This was done in a fully online class where they did not know where the constitution of the other groups were, and they did not know who was in which group, and so it's really kind of a more private and internal thing, a source of pride to look and see that my team has got this many badges, but they don't know who the other teams are.

All right. We are transitioning to the third of, the third scenario, which says Professor McGonagall doesn't know how difficult to make the games and activities in her course which do count for points. So let's have a look at the scenario, and the questions say how should her games look? Make them hard, so repeated effort is required, make them easy to encourage the buy-in, alternate between easy and hard, aim for the middle are your four choices.

It looks like one of the participants did catch the reference to the popular culture that was implied in the scenario itself, it's actually in the other scenarios as well. I didn't make them quite so explicit, so they wouldn't be distracting. We've got a little over half of the votes in, slowing down at this point, so we'll go ahead and broadcast the results to you now.

And, interestingly, there are no votes at all for encouraging buy-in, but I think that's because that's part of the answer to number C. So alternating between easy and hard would probably be my personal pick as well, because when you're making them only easy, obviously, you lose some interest because it's too easy. If you make them too hard, then the repeated efforts can be a little stifling. So fewer votes for aiming for the middle, which I thought, that's a valid choice as well.

Let's go ahead and return back to the slides here. In video games, this discussion about how hard the game should be is referred to as balance.

Okay? And the balance of a game is often something that can make or break the game. In fact, if you asked me personally, I would say that balance is what makes games not fun that are not fun.

The games which are not fun have balance problems. They progress too quickly from easy to hard, or they never progress at all beyond easy, or they start off too hard in the very beginning. It looks like a couple of you are saying something similar in the chat box, that the progression is, needs to be very carefully thought out when you create a game, and that includes a game that's wrapped around your course content.

And we still haven't really talked about what that means, but we will in this context here. If the purpose of gamification is to make the tasks normally seen as mundane into something interesting, then I think you continue to use those tasks. The purpose of wrapping the game elements around them is so they still do those tasks, but they have additional motivation for doing the tasks.

So if the students are supposed to go to a publisher's website let's say and work through chemistry and homework problems, and they find it boring, well, then you could build, you could imagine building a badging system around working through those chemistry problems. Maybe you award badges for doing them with the most correct, or doing them first or doing the most optional ones, or awarding badges for taking it to the next step, let's say.

Really, it's, the idea is providing additional time on task and improving the quality of time they're spending on the task. Getting the students to think through the material, whatever that looks like, is something that could earn a badge.

Sometimes badges are given for Easter eggs or best discussion posts or doing something extra credit, doing a report on a TED video related to the conversation you're having in the class. But if you're ratcheting up difficulty as you go, then you're going to want to think about what constitutes the early badges and what constitutes the later badges.

So as we've said in the chat box and hinted at already, the main issue here is boredom and anxiety. If it's too hard, the game isn't fun. We've all quit games and apps that just start off too difficult. And the similar problem can occur if it just stays the same all the time. It needs to change. The level of challenge needs to change, and you do need to start that with early and easy wins. Let them notch early wins.

And think about, as you move, not just levels of challenge but additions to skill, right, if you master a skill. So if you played video games before

where you learned how to do one thing with your character, and maybe it's shoot a bow, let's say, well, you need to let them have some time practicing that particular skill before you introduce the next skill, which is, let's say, shooting a bow through a moving target.

So this is what we mean by incremental additions to the skill. And then spaced or distributed practice is excellent theory, I guess, from video games, but it's also from educational theory.

There was an article earlier this year by John Donaleski and several other cognitive psychologists who did a study of what works in learning activities. And one of the two main things that works in learning activities is not highlighting, it's not summarizing, it's distributed practice, where you spend time throughout the entire semester practicing the same thing and building on it, yes, but coming back to the basic practice. This needs to be folded into your video, your game design as well.

Okay. And then the idea of boss levels, I don't know if that's an easy sell, an easy transition over to an educational environment. It certainly does come from games, however, that you reach those intervals where something has to happen, so there's a rhythm to the accomplishment throughout the semester. If the semester doesn't have this rhythm of peaks and valleys, then it's just easy, easy, easy the whole time or just this alternating of easy and hard the whole time.

Another theorist on the chat box near McGonagall, games are hard fun. Exactly. It has to be hard. It has to be the challenge, but that's what makes it fun. Without the challenge component, actually, then it isn't fun. There is no accomplishment. You must have challenge, or else you don't feel accomplishment for having done it.

And this may be our last voting opportunity. Let's read through this one. Professor Lockhart wishes he knew when online students are getting bored. With face-to-face classes, he can see their faces. What should he do about boredom in his online classes? And so the question concerns online classes, and you have two choices here. Should he pay special attention to boredom in his online classes, do something about it? No, he's not going to do anything about it. They can take their own breaks is one answer. B, the second answer, yes, they still need diversions, even in an online class.

So we are more than halfway, as you can see. We've broadcast the results. And there's never been a more one-sided poll in today's presentation. It looks like everyone agrees that we do need diversions, even in online class. So let's go ahead from there and debrief that while we switch back to the slide.

Indeed, this is my view as well, that if you have a class where the students are meant to provide their own diversions, they will certainly do so, and they'll multitask, or better put, they will task switch.

While supposedly working on stuff, they'll do things like watch Facebook or, you know, watch TV. I recently saw in Facebook one of these fun images circulated around defining the verb to study as the act of using Facebook or watching TV while a textbook is opened nearby.

So in our attempt to get away from them thinking of studying as watching Facebook while a textbook is open nearby, I think we need to provide the diversions that are relevant for them, because, otherwise, they will, in fact, go find their own diversions. So these are my ideas for what we can do about providing diversions within an LMS, within an online course.

For a face-to-face course, you don't really need to provide diversions through the LMS necessarily, and we do this anyway in our teaching. Those of you using interactive techniques, or the classroom assessment techniques, the CATs, right, these are variations of diversions within a class.

So we, as college teachers, we know about the attention clock. Students can pay attention closely for 10, 12, maybe 15, maybe 20 minutes, and then they start to wander in and out of attention. And so in a face-to-face class, we provide these interactive techniques for them in an online environment or a mixed mode, hybrid environment. Then I think we might need to provide that for them.

And that could take a number of different aspects. We'll look at a couple of examples of them. Many games, and there's a few of them listed for you in the handouts after the syllabus policies, I have more of them that I would do in a fully online class than just this. In fact, there's large collections of educational type activities, many of which are Web 2.0 things. In other words, things that students themselves, the participants themselves build rather than things that we build.

So having them do blogging, having them manipulate images, having them assemble photo slides, having them comment on images using some of the Web 2.0 tools, these are all things that can provide diversions within your face-to-face, I'm sorry, within your online class, because you don't get to do that kind of activity within face to face.

So it can become challenging to find a larger list of Web 2.0 tools that do that, but it's worth the effort, and I'll see if I can't include some in an additional handout to you as well.

Now Easter eggs fall into this category, rewarding exploration, because that makes your class fun. That makes it fun to be in the environment, fun to be in the, moving through your content. And we'll look at one way of folding in Easter eggs, but I've got a few others to mention, actually verbally, as well.

Embedded versus linked. What I mean here with this conversation is that it's been my experience in online environments, whether the class is mixed mode or not, that the students are way more likely to pay attention to it if it is on the screen, if it is embedded.

If it is something linked, they have to go away to, they are less likely to click it. It's just, it doesn't seem like a lot of work to click the link and then watch another screen pop open, but most of them are just, not most of them, but a portion of them are just not going to take that effort if it's not embedded. So I look for ways to embed these things as much as possible. I might even resort to using frames or IFrames, old HTML type tricks so that things stay on the same screen.

And then nonlinear progress, this, it's put in question mark, because it's a lot harder to do this, but imagining quests, explorations, and so forth that don't just have an exact ABCD narrative to them, but lets them invent their own.

So some examples of this might be branching YouTube videos, let's say, where they can create their own path. Think of it as a choose your own adventure where you do it through YouTube. And if you ever want to go look up this, there's one on playing rock, paper, scissors with Barack Obama. Barack Obama's face playing the rock, it's Barack Obama, sorry, it's Barack Paper Scissors is the name of the YouTube video.

That'll give you an example of what you can do in YouTube to have nonlinear progress as you look through the videos and choose your own adventure. It doesn't have to be video though. You could do choose your own adventure with text as well. Simple HTML hyperlinks will let you do that.

We're going to look at a couple of these. This is an example of a minor Easter egg, so this is a question posed to the readers on the screen. Are there fewer than 12 blue sprinkles on screen or more? And it comes when they mouse over that image. Now nothing in that image or around that image tells them to mouse over it. It's just a discovery that they make while their mouse is on the screen. This particular one is accomplished using the title attribute, HTML is title, when they do the mouse over.

I should note at this point that doing a title trick like this and some of your, the tricks you might do to embed an Easter egg such as making text invisible or making text the same color as the background, or making a link, something that hides within an image, let's say, exactly . . . these are universal design problems.

So you run potentially afoul of the ADA laws, which says that you must make the same experience for all participants, and so you want to think carefully when you're going to fold these in.

So a title attribute might work for someone who has vision, but the alt text would be needed for someone who uses a screen reader. So you end up using both the title tag as well as the alt tag in your HTML attached to your image. So these sorts of Easter eggs or the kinds of things you might do already in your classes.

Here's another one I mentioned earlier, YouTube, as an example. And I think YouTube videos can be a powerful way, or other videos, Vimeo, other embedded services, powerful ways to let your students think through material that's related but maybe not too related. Okay?

You want to give them a bit of a break when it comes to these diversions, so that the video shouldn't be just explaining what you otherwise would've lectured on, it should be on something that feels different. It resets the attention clock.

So you couldn't even imagine YouTube videos that are completely unrelated. Maybe you've had, at one time, a face-to-face instructor back when you were a student simply show you a comedy image in the middle of a lecture because it's different just to reset the attention clock. So something similar like that could be imagined within the gamified LMS.

Games can also be discussion starters. Just as YouTube videos can be discussion starters. So don't be scared to take your game and try to steer it towards, you know, your content.

We are switching to the fifth principle, this time without a vote on a particular subject, a poll. And the last principle, as you see, is to employ narrative elements. And so I've listed in red some of the more popular video games over time, some of the more top selling video games that have a story.

Now not all video games, not all games, for that matter, have a story to them. I can imagine some games that don't, older video games. Tetris, for instance, don't have a story. And I would say that those older games without a story tend to use balance issues alone as the driver of fun, the

interplay of challenge and accomplishment, something that you've finally beaten.

And, of course, that's why, exactly why they don't have an ending screen. All right. Think of those games that you played long ago. I guess Pac-Man technically does have an ending screen, but a lot of times the video games just continue onwards forever, because it's only about the challenge.

A question in the chat box. So in face-to-face classes, how do you see these elements occurring within the LMS? So two things about face-to-face classes. First, I would say that the easy and low hanging fruit is to treat the LMS as the repository for both the badges and a leaderboard.

And as you saw in my example earlier, my badges and my leaderboard are smushed together into one concept. And so anytime you're awarding badges, this is where I would do it. Whether the badges are accomplished via work happening online or via work happening in the face-to-face class is really an open question. I could be either one of those.

Although if it were done for the face-to-face environment, then you'd be in the position of having to make a note to yourself and not to forget to adjust the badge if it's going to be a manual process. So having it be work outside of the class would probably be my first choice, to answer your question from University of Tennessee, yes.

Okay. So top selling games usually have a story, and we're going to slide from there to talk about the bullet points involved in narrative elements, what it looks like to build a story around a gamified LMS, a gamified chemistry class, let's say.

And I've given you a few ideas here, and they are all starting points, and they don't all, this, this is the sort of thing that they don't all have to be in place for it to work effectively. So, for instance, you could start with a high concept elevator pitch. High concept meaning something that could be stated in just one sentence.

So I have an example, once before, where the gamified class was the quest for the Holy Grail. The students were organized into teams, each of the teams corresponded to one of the Knights of the Round Table, and they earned badges on their way to being the one who found the Holy Grail by the end of the semester.

It actually didn't have anything to do with the course content. The course content in this case was a capstone class for interdisciplinary studies. But it works. The students find interest in earning the badges and take pride in

their team. So an elevator page, meaning something that can be said in 30 seconds.

Starting with a hook. So I've seen an example, this was not my own class, of someone who gamified their course. It was a film studies course with a time traveling story. So the teacher had been kidnapped through time and left behind a series of videos that they were watching that really explained what happened.

Then going forward, there was this mystery . . . unravel and so forth. So that was a, that's a combination of bullet points you see on the screen, both the mystery, the fourth bullet point, and then starting with the hook, so that something that catches their attention early on into the story.

And so what I'm imagining here in both of those examples is a story that can unravel over the course of several weeks, maybe over the course of the entire semester, the entire term, rather than something you do just for five minutes. If you're going to do a game just for five minutes, just for ten minutes, there's a lot less value in setting up a narrative element to it.

And then the bullet point about central conflict is really Aristotelian in its origin, that there's a setup, a context, initially, a build up toward a climax and then a payoff of some sort, an organizing structure for you to think about what a narrative could look like.

But think about starting with the story, starting with a mystery. Right? Earlier we, in the last slide, we had had Myst on screen, a game from more than 20 years ago I think now, but the game Myst really was a mystery, hence, the abbreviation, and that drove a lot of the engagement to it. It wasn't just coloring by numbers, it was unraveling something that wasn't immediately obvious what comes next and how things fit together.

In medias res, of course, means starting in the middle of the action. One narrative trick you could consider performing is starting in the middle of the action, so that your participants are immediately kind of hooked into the story.

So this is what I gave students in that example about the Holy Grail. The knights have taken up the challenge of looking for the Holy Grail. Those are my three teams, and this was that initial setup. It wasn't a particularly long setup.

I'm currently working on another gamified class, where the setup is a little less narrative-oriented, but it is kind of more character-oriented. This class is a class on fairy tales, and so I'll be organizing the teams around the seven dwarves. So the teams would have kind of an inherent interest in

having their character advance, because the character kind of means something to them already.

So I want to take a few moments to talk about scaling this upwards. If you don't have a class of 10 or 15, how do you take it and make it something interesting for a class of 200, of 400, or even for a massive open online class? That fairy tales class I mentioned is actually going to be a MOOC, a massive open online class, and you're going to want to think about how do I make this interesting for the students but in a way that doesn't destroy my ability to get other work done throughout the semester.

And these are the main tricks. If you can't automate by selective release, let's say, then you're looking for a badge being representative of other things. One badge could stand in for many tasks, or one badge could stand in for many people. You're rewarding groups rather than rewarding people, individual people.

So in the case of the class I'm currently building of wrapping around fairy tales, then I'm also adding additional ways to have the badges do work, so that I don't have to do as much work. If that's a case where I've got potentially hundreds or thousands of participants, I might tell them that if there are more than 50 submissions, I'm only going to award the badge to someone within the first 50 let's say. So you get scalability by listing, by limiting scarcity. Right? Only a few people can do it.

You can also generate levels within badges. Right? You could have black and white badges be the lowest level and then certain colors of badges become higher levels from there. You could install a maximum number of badges earned so that, and this, I think, is a trick you might have to employ in all of our classes, not just massive open online ones, because you're going to have some people more into it than others. And so when you have particularly interested and invested people, then they are going to kind of always be the ones winning. And so I think there's a maximum or a cap for them is probably the best idea.

So there has been a question here about reward examples other than badges. And there are examples that people from, people quote sometimes especially on the momentary side of things, so momentary rewards are rewards that, again, that flash on screen. Those can be automated. Those happen sometimes with your external tools.

So one of the many games listed in the handout there is Wondershare, a quiz creator. Flash quizzes can often generate a response, and, for that matter, built in LMS quizzes usually allow for the quiz creator to give a response after a certain answer.

So simply taking your quizzes and breaking them up into individual questions might do the trick, where you are able to give them an immediate response, an immediate reward when they answer the one single quiz question, because the quiz is over at this point already. So there's a momentary reward.

Badges does seem to be the main thing that people circle around when they're talking about rewards, especially in the case of lodging them within an LMS. You could dole out rewards for things that either have value inherently, intrinsically, or have value within the course. So tokens for things that are things like permissions could be given this way as well.

I wouldn't advise it. It's not sound pedagogically, but I could imagine tokens that reward people with the option to skip some of the classes or to, they might be pedagogically valid to do some trick like we talked about earlier with taking quizzes over again. Right?

The second, earlier I had mentioned the 2013 study by John Donaleski and other cognitive psychologists, and they said that distributed practice is the main, one of the two main ways that work effectively for students to learn something.

The other main practice was practice testing. And you could think of that as second chance testing, where they get to take a test once and then, you know, perhaps after restudy or working with a group or whatever, you get to take the test again for points of some sort.

Maybe it's extra credit, maybe it's a combination of grades, but doing second chance testing as folded into the rewards structure strikes me as a particularly rewarding way to make them feel like it's a valued activity that they will go ahead and do these extra things, these extra practices, because then they're receiving a reward that is not just a, you know, a JPEG on the screen but has some value to them potentially toward their grade.

If there's no value toward their grade, there is definitely a subset of students which have told me in evaluations after the class, they're just less likely to do it. They're less interested in doing it, because they don't perceive an immediate payback.

And so your own balance issues need to come into play here. You can't give them so much to do that, in terms of the rewards, that there's no getting to all of them, and you can't underdo it so that, you know, they're all doing the same things.

So looking at the comments here, we have just about a minute left, tokens for participation, gifting these points to others, never thought about gifting them to others. Just checking to see if there are other questions here. We do have just about 30 seconds.

If there are not other questions, I'll need to move us to this, not only the slide that says that we've reached the end of the physical content, but to at least put this on the screen momentarily while I'm checking to see if there are any last questions, to remind you that there is an evaluation form as well. So we can always jump back into the, if there are other last questions. Rob, I believe you have some final announcements for us at the end.

Rob Kelly: Yes. Thank you, Kevin Yee, and thank you all for joining us today. And as Kevin mentioned, there is an evaluation form that we'd like you to fill out. There's a link there. We also will be sending that out by e-mail. Please fill it out and tell us what you think of today's program, and what programs you'd like to see in the future.

Complete information about our upcoming seminars is available at www.magnapubs.com. Thanks again for joining us and have a great day.

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Technology Readiness

Perceived Ease of Use Adapted from the Technology Acceptance Model (TAM) / Davis Scale downloaded at http://sprouts.aisnet.org/785/1/TAMReview.pdf on November 21, 2012

Place a checkmark if you agree with the sentence:

1. I often become confused using new technology	
2. I make errors often when trying a new tech tool	
3. I consult with others for help when using a new tool	
4. I usually let others try out new technology before I do	
5. I prefer to consult a printed walkthrough when using a new tech tool for the first time	
6. New technology tools frequently frustrate me	
7. I prefer to use my existing method for accomplishing work instead of trying new, less-established tools	
8. It requires a lot of concentration and effort to learn a new tool.	
9. It takes me five or more uses of a new tool before I feel comfortable with it.	
10. I don't see the point of many new tech tools	

Add up the number of checkmarks on the page: _____