

# Lecture «Gamification»

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Education affects everyone. All the way from a toddler to elderly who want to learn something independently. Actually education affects us from the time we are born but for kids younger than toddlers there is no formal education. So they are, for now, out of scope for this discussion. Education, at all levels, can be delivered using one of two main ways:

1. Teacher
2. Computer based delivery

Teacher does not always have to be in a formal classroom setting. It can also be something as informal as a parent talking to a child about not lying, or a kid showing off his newly learnt yo-yo skills to his peers, or a colleague speaking to his partner over coffee about the newly formed regulation and how it may affect their business. Basically, any formal or informal setting where information is being imparted to one or more people by another human being can be clubbed under teacher.

The benefits of an teacher is that it is very interactive. People ask questions in real time and usually get an answer in real time too. Depending on the setting and the topic, it also has the potential of getting people involved in other activities like group discussion, demos, etc. All in all, it has the potential of creating an environment of high information retention rate for everyone involved.

The downside of teacher is that the effectiveness of this medium depends totally on the speaker. If the speaker cannot get the crowd involved, then even the best content will fall flat. The other problem with instructor led education is that it can get very expensive, especially when it is related to a career. Career related instructor led courses cost a lot because of the following reasons.

- Payments to be made to a person to come to a meeting place and speak on a topic
- Employees need to take time off to attend the course
- Transport and accommodation may need to be arranged for employees

## Computer based

Just like teacher, computer based education also does not always have to be in a formal style. Examples of computer based teaching are the following

- A toddler learning about alphabets, numbers, colors, rhymes, etc. using an app on iPad
- A kid learning about algebra online
- Potential pilots going through basic flight training by watching videos on YouTube

The benefits of computer based training are that it is cheap and people can do it at their own time. They do not have to take time off from their regular work to attend this. The downside is that this method of teaching lacks interactivity. There is only one way for information to percolate. Receivers of this information do not have an easy way to ask questions and interact with others taking the same course. So this results in lower information retention rate.

How can games help?

Games can work with both methods of education delivery. It can accentuate the user experience one has with instructor led courses by introducing a level of interactivity and practice. This reduces the burden on the instructor a little bit to keep the attendees motivated and involved. In instructor led courses, games can also be the appropriate transition from one module to another or from one instructor to the next.

In computer based courses, games provide the much needed interactivity between the participants and also the 'instructor'. Here, the instructor need not be an actual person but game based logic that can help a participant when they do not understand something or need help.

There are two ways games can be included in training regardless of whether they are instructor led or computer based.

1. Gamify your course(s) or parts thereof
2. Create a game for your course(s) or parts thereof

How do I know whether to create a game or to gamify my courses? To answer this question, let's first understand what is gamification and how does it differ from a game.

What is gamification?

Gamification, in its strictest form, is applying game like mechanics to existing content. What this means is that you add things like points, levels, leaderboards, badges, etc. to your existing content to make it more interactive and improve user experience.

Some of the reasons to gamify education are

- Increase interactivity & rewards – Instead of just reading text, you are actually doing something and still going through the same content
- Increase awareness – You can be put in scenarios that will make you do & understand things which in a normal computer based training may be 'tuned out'
- Reward challenging tasks – Meeting deadlines, goals, targets, etc.

### How to gamify?

Depending on how much game like features are required, one or more of the following can be done

- Add points to tasks that need to be completed
- Define badges/rewards to be given out after a criteria is met
- Create a Leaderboard to show top performers
- Define levels to repeat tasks or to perform harder tasks
- Earning of badges can be tied to unlocking higher levels

### Difference between games and gamification

The following table lists the differences between an actual game and gamification

Game	Gamification
Games have defined rules & objectives	May just be a collection of tasks with points or some form of reward
There is a possibility of losing	Losing may or may not be possible because the point is to motivate people to take some action and do something.
Sometimes just playing the game is intrinsically rewarding	Being intrinsically rewarding is optional.
Games are usually hard and expensive to build	Gamification is usually easier and cheaper

Content is usually morphed to fit the story and scenes of the game	Usually game like features are added without making too many changes to your content
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## Types of Players

Games in general have four types of players.

- Achievers – Need to be at the top
- Explorers – Need to find something new
- Socializers – Need to interact with others
- Killers – Need to eliminate other characters

For education based games, only Achievers and Explorers are the primary types of players. To understand why, let's think this through. First of all educational games have a purpose beyond entertainment. So let's see how each of our player types measure up to this new purpose.

An Achiever will do whatever it takes to complete the course. An Explorer will explore all that the game has to offer thereby covering the whole course. The Socializer will work with all the other players of the game but may not complete the course. The course will have nothing that will motivate the Killer to complete it. Based on this & the research by Heeter, Magerko, Medler & Fitzgerald in 2008, Achievers and Explorers are the only types of players valid for educational games.

## Player Lifecycle

In a social game, there is a defined player lifecycle.

- Newbie – Players new to the game. They need some hand holding. Initial levels need to be easy and help players get familiar with the game.
- Regular – After players get to know the game, it needs to become a habit for them. The next few levels need to provide satisfaction as per the player type.
- Enthusiast – These players have pretty much mastered the game and need new twists and challenges to continue playing

In an educational game, the player lifecycle is a little different.

- Newbie – Players new to the game. They need some hand holding. Initial levels need to be easy and help players get familiar with the game.
- Regular – Here, regular players are those who are familiar with the game and are working to complete the course.

## Educational Games Example

### Sony Wonderbook

Sony has launched a new device called Wonderbook. It is a device that hooks up with their PlayStation 3. It is meant to create a virtual world allowing people to view and participate in the stories of the book instead of just reading it. This participation allows the outcome of the book to be different like a game. Currently, Sony is partnering with JK Rowling to create a wonderbook for her Book of Spells.

### World Peace Game

John Hunter has created a board game called World Peace Game to teach 4th graders about by being future leaders by simulating real world scenarios. Some of the documented results from the game are

- Students solving global warming
- One student pre-empted a globally catastrophic war by blocking supplies to the offending country
- Students shared resources with countries in need to bring overall prosperity to all countries

Due to this, John Hunter has been recognized by Time Magazine as one of the 12 education activists to watch in 2012.

### Ananth Pai

Ananth Pai has incorporated games to teach his students about reading and mathematics. The result is that within 4.5 months Mr. Pai's class went from being a below average 3rd grade class to a mid level 4th grade class.

## CONCLUSION

So what should we do? Should we gamify our courses or create a game? The answer to this depends on a lot of parameters. The first three questions that one must answer are

- What is the content that needs to be taught?
- Why does this content need to be taught?

- Who is the audience for this course?

The answer to these questions will limit your choices down to a manageable chunk. If you are still unable to decide, pepper your choices with the following questions.

- What is your budget?
- How much time do you have?

The last two questions, in addition to the first three, will definitely help you make an informed decision.

Practice:

1. Overview / Gamification examples (codeschool & etc...)
2. Design game rules for IT-course
3. Discussion