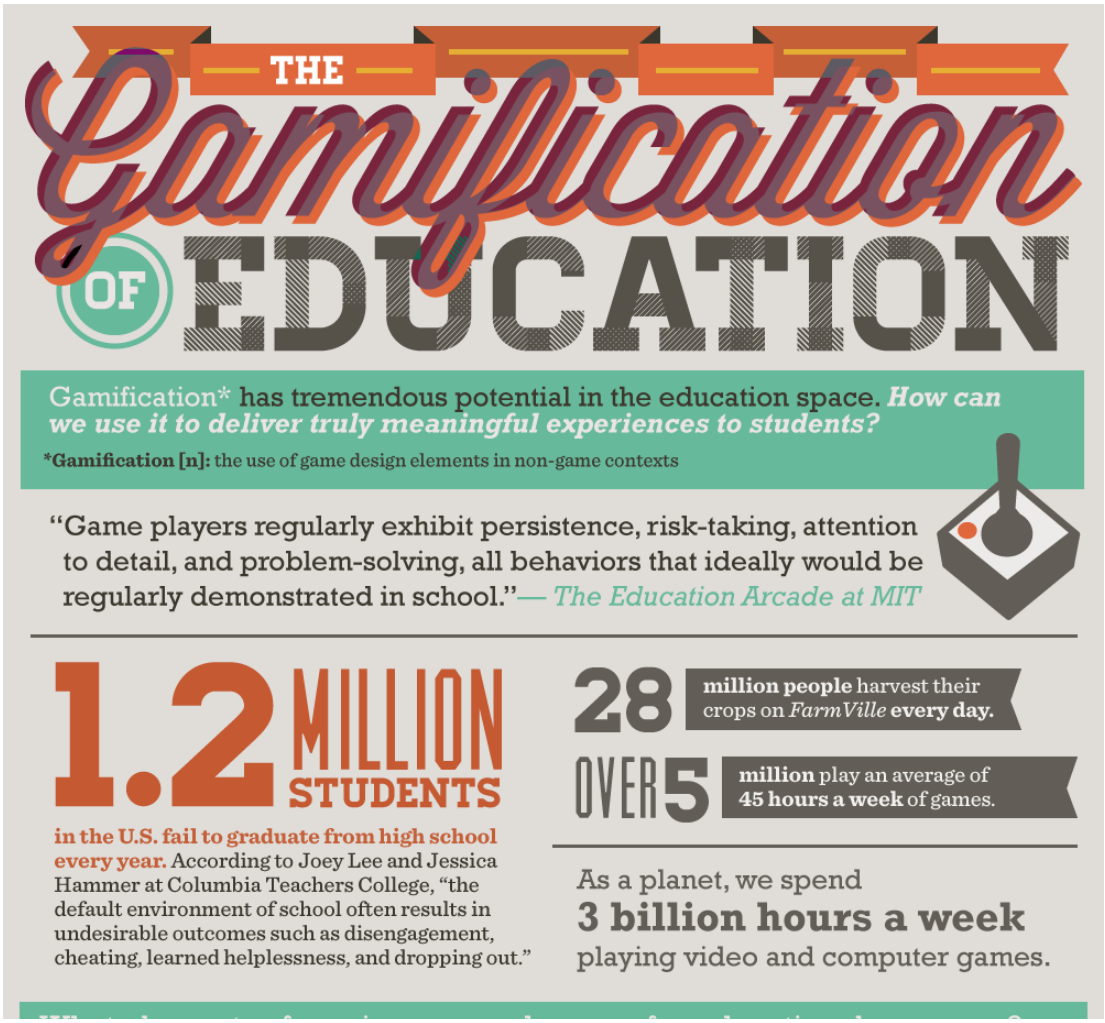
Gamification

Over the past 30 years, video game development has started moving from an art to a science. The field developed a set of techniques for making experiences engaging, addicting, and interesting. Applying this set of techniques to fields outside of games is called gamification (http://en.wikipedia.org/wiki/Gamification), and it is now commonly used in marketing, management, and a range of other fields. In most cases, gamification has little to do with gaming, and a lot to do with cognitive science. Misapplied, it can do a lot of harm. Several startups, with a naive understanding of gamification as just stirring in points, badges, levels, and leaderboards, have died in a range of interesting ways.

However, when properly applied, it can be incredibly effective. Examples of key concepts from gamification:

- Allow people to continuously and incrementally progress, and see their progress and growth.
- Provide randomized, intermittent rewards for behaviors you want. Consistently punish behaviors you do not want.
- Give people the freedom to experiment and fail.

A nice visualization of many more of the techniques, as specific to education:



What elements of gaming can we harness for educational purposes?

PROGRESSION – See success visualized incrementally

Levels: Ramp up and unlock content.

Points: Increase the running numerical value of your work.

INVESTMENT – Feel pride in your work in the game

Achievements: Earn public recognition for completing work.

Appointments: Check in to receive new challenges.

Collaboration: Work with others to accomplish goals.

Epic Meaning: Work to achieve something sublime or transcendent.

Virality: Be incentivized to involve others.

CASCADING INFORMATION THEORY – Unlock information continuously

Bonuses: Receive unexpected rewards.

Countdown: Tackle challenges in a limited amount of time.

Discovery: Navigate through your learning environment and uncover pockets of knowledge.

Loss Aversion: Play to avoid losing what you have gained.

Infinite Play: Learn continuously until you become an expert.

Synthesis: Work on challenges that require multiple skills to solve.

According to the MIT paper, "Moving Learning Games Forward," games in schools today can be used as…

Authoring Platforms: Game is used to produce an artifact, be it another game, a model, visual text, or written text.

Ex: Students produce a model in *StarCraft.*

Content Systems: Games deliver content about a particular subject area.

Ex: Students gain knowledge of Caribbean history by playing *Pirates.*

Simulations: Students use games to test theories about systems and tinker with variables.

Ex: Students gain a systemic understanding of engineering problems by working with a limited budget and available materials in *Bridge Builder.*

Trigger Systems: Games are used as a jumping point for discussion .

Ex: *Dungeons & Dragons* is used to explore probability.

Technology Gateways: Students use games to familiarize themselves with technology.

Ex: Instead of taking a class on how to use PCs or mobile devices, students simply engage in their favorite game.

Exemplars of Point of View: Games allow students to take on different identities.

Ex: Students learn to think like a city mayor in *SimCity*.

Documentary: Students use games to document their learning process and reflect on it.

Ex: Students reflect on their playing to recognize patterns in their own performance and decision-making.

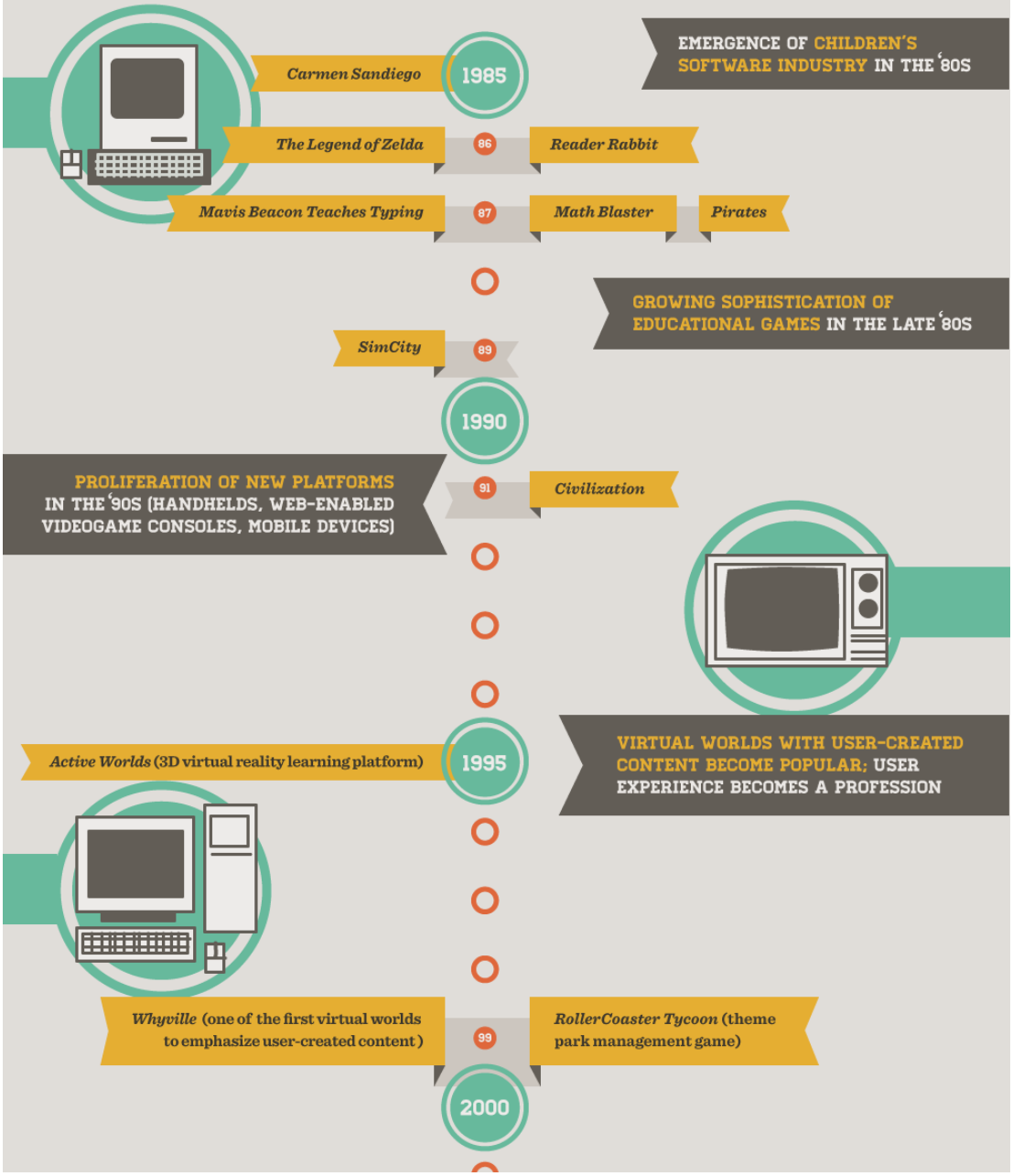
Texts to be Critiqued: Students critique the ideology behind the game.

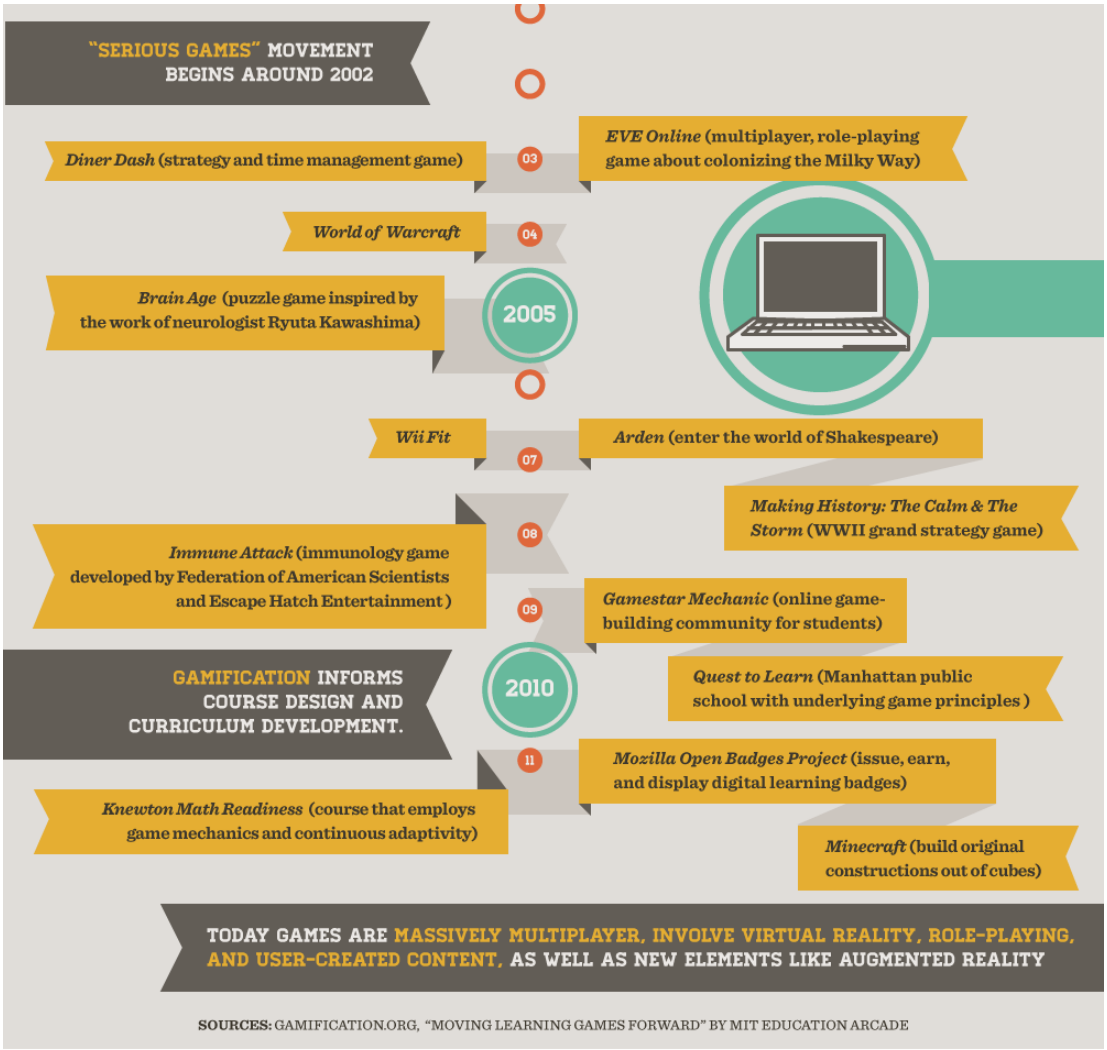
Ex: *Animal Crossing* is analyzed as an expression of late 20th century capitalism.

Research Assignments: Students design games themselves and in doing so, research the subject matter of the game.

Ex: Students decide to make a game about the Great Depression and learn history in the process.

A Short History of Gamified Learning





Penny Arcade also has a nice video (https://www.youtube.com/watch?v=MuDLw1zIc94) on the topic.

What are some ways gamification could be applied in university-level courses? Try to go in depth on one idea rather than trying to master the field.