



Gamification:

Using the Psychology of
Game Design in Instruction



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- Grew up loving computers and music, dreamed of becoming a composer or maybe an airline pilot
- Degrees in music, music education, instructional technology, and leadership
- Experience in launching a 1:1 computing program with iPads and MacBooks focused on deeper ways of learning for students, K-12
- Author of a best-selling book and multiple journal articles
- Apple Distinguished Educator, 2019

What's a game?

Do you think we can develop a definition?

A stack of books is shown, with the top book's spine clearly visible. The spine is dark with the word "DICTIONARY" printed in white, serif, all-caps font. The books are resting on a light-colored surface, and the background is a soft-focus, light-colored wall.

DICTIONARY

A black and white photograph of two young children sitting at a table, focused on playing a game of tic-tac-toe. The child on the left is pointing at the board, while the child on the right looks on. The board has 'X' and 'O' marks. The image has a halftone texture.

What's gamification?

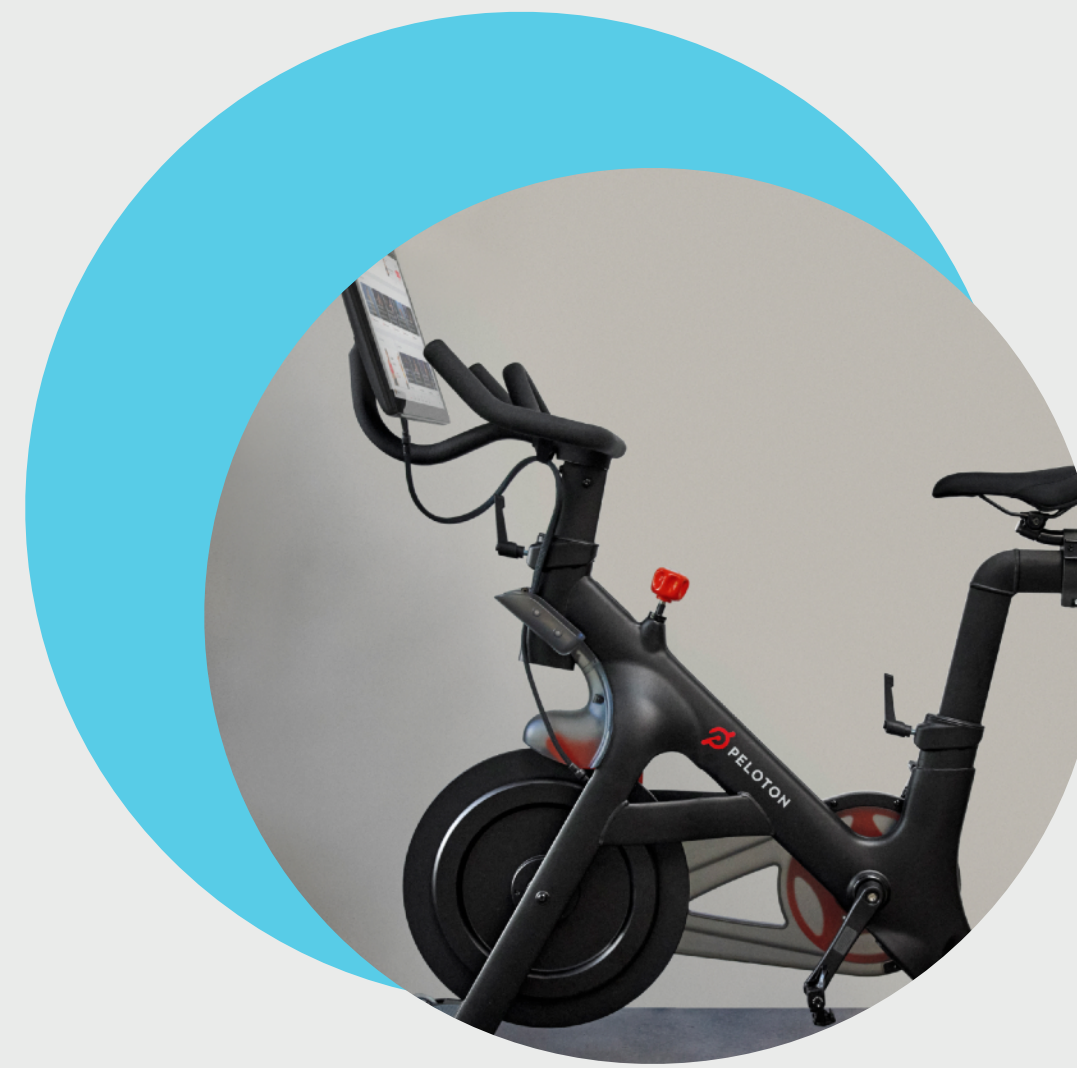
The process of adding game-inspired elements into non-game interactions.

Examples



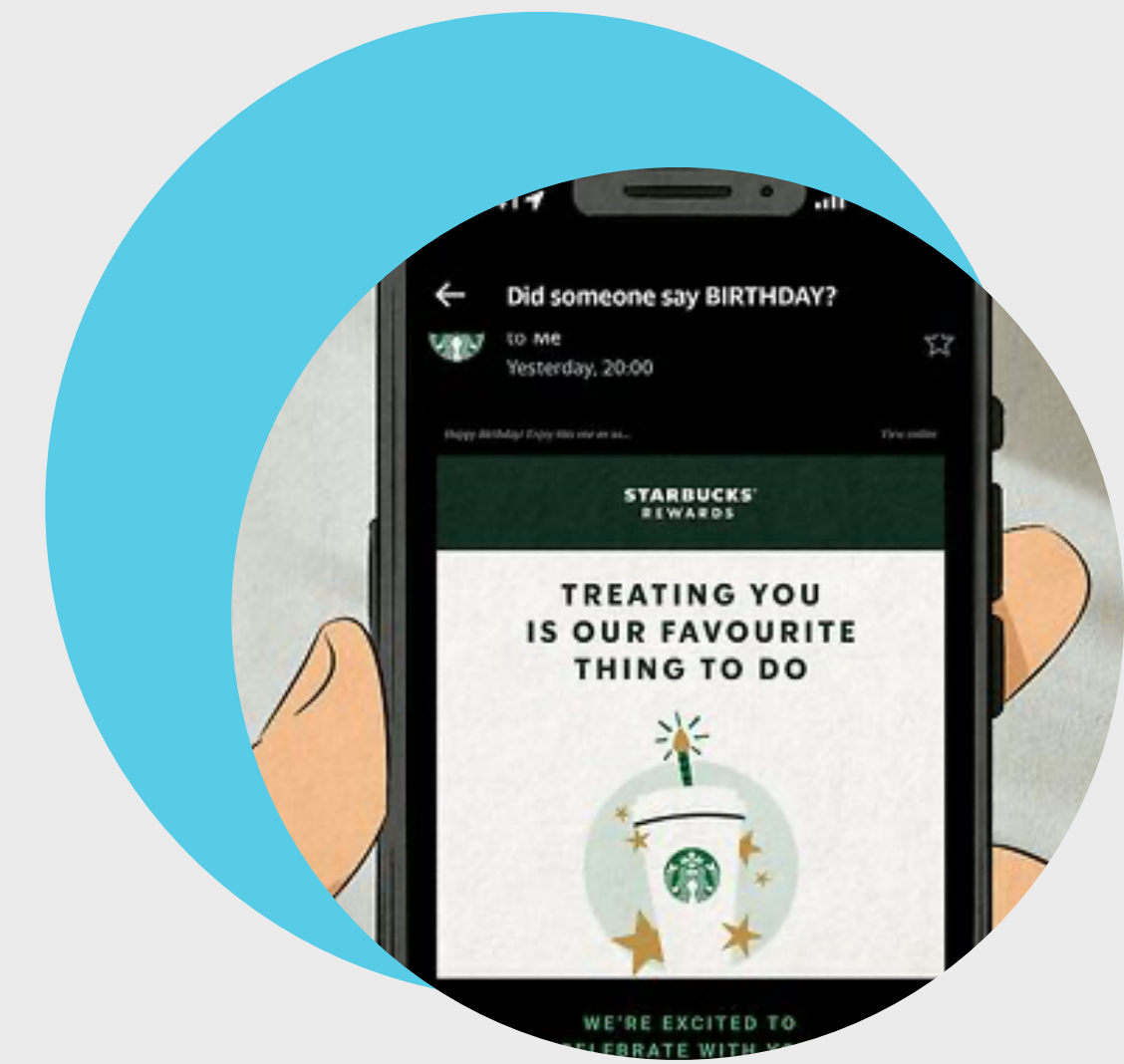
McDonald's Monopoly "Game"

a chance to win money
or free food



Peloton Leaderboards

competition for place
among live cyclers



Starbucks App

rewards and birthday
bonuses

Playing games is fun.

What *is* fun?

Hard Fun



beating your friend
at Mario Karts

Goals
Obstacles
Strategies

Add points and Require
New Strategies

Easy Fun



figuring out
how to scale
a climbing wall

Curiosity
Wonder
Surprise
Awe

More off-track play
Fewer Rewards

Serious Fun



using logic
in planning a
chess move

Focus
Excitement
Relaxation

Tangible Rewards
Remove Experimentation

People Fun



socializing
with friends
& camping

Amusement
Admiration
Amici (friendly)
Amiero (emotional bonding)

Care Taking &
Compassion

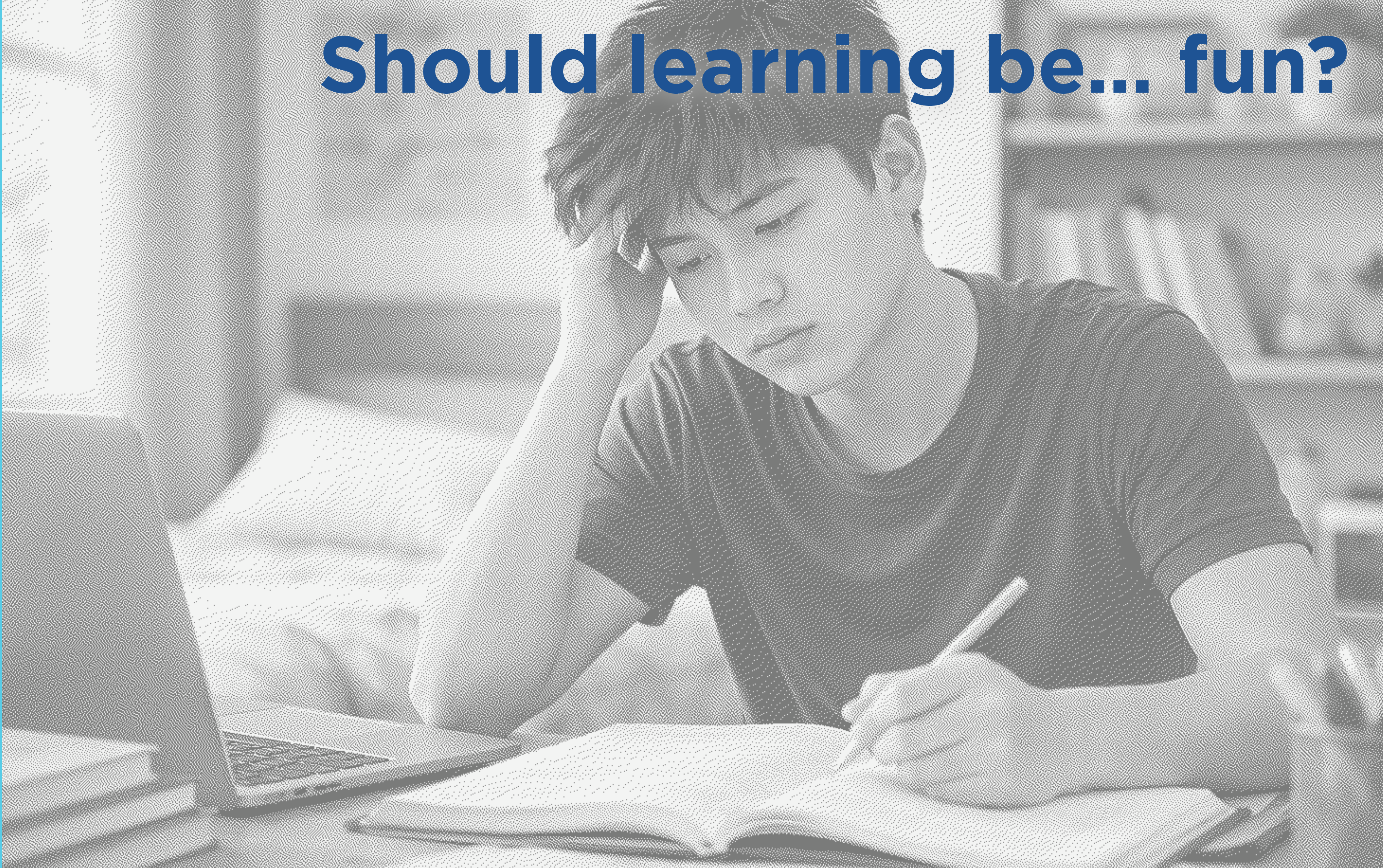
What's the purpose of gamification?

Motivate people through the kinds of fun experiences common to games.

What's the purpose of education?

Develop a set of skills & competencies that will prepare you for life & career

Should learning be... fun?



Rewards



Monopoly (the board game) is using a strategy and chance to make more money. In the McDonald's version, the familiarity with a popular board game is exploited to give you excitement about **winning rewards** (food & money).

Rewards motivate people. For some, salary is a reward for the time you work. You might consider time off another reward.



**What rewards could you offer students in the classroom?
Something they'd be willing to take chances at winning?**

Leaderboards



Some of you are **competitive**. The reason you joined a sports team was for the thrill to win against your opponents.

Some students aspire to achieve. They may take delight in knowing how they performed in class compared to their peers. They want to know how they *rank*.



How might you use a leaderboard in the classroom to display ranking of students engaged in an activity? What's the purpose of these in a video game?

Surprises



The Starbucks app is a huge money maker for their coffee and food patrons. They get you to invest in paying ahead for coffee and using the app to then purchase those goods. Starbucks invests this pay-ahead money and makes interest.

Why would you bother, when you could pay with cash or a card? Beyond frequent-purchaser discounts and freebies, they can also surprise you with special offers, like a free coffee on your birthday.

Describe a classroom activity you've participated in and how adding a surprise to how it worked might spark joy or interest among your peers.



Game Techniques

Game Techniques

These are individual elements used in games that afford us one or more types of fun or motivation.



Human Drives

These are categories of things humans are attracted toward, driving action and behavior.

- **Epic Meaning and Calling**
- **Development & Accomplishment**
- **Empowerment & Feedback**
- **Ownership & Possession**
- **Social Influence & Relatedness**
- **Scarcity & Impatience**
- **Unpredictability & Curiosity**
- **Loss & Avoidance**

Which one of these speaks to why many students might choose to join Educators Rising?

Example Techniques

Epic Meaning & Calling		Narrative	Helps players understand why they would play a game by telling story that they can relate to
Epic Meaning & Calling		Free Lunch	Makes you feel special by receiving freebies
Development & Accomplishment		Status Points	Points that show how far you are away from the goal
Development & Accomplishment		Leaderboards	Rank list of players by their success in the game
Development & Accomplishment		Crowning	Allowing users to compete to own something and visually display that for everyone
Empowerment & Feedback		Dynamic Feedback	Providing feedback to the player that relates to their latest behavior in the game, promotes overcoming a challenge
Ownership & Possession		Build from Scratch	You take ownership for something because you got to build it and guide how it is developed
Ownership & Possession		Exchangeable Points	The points you earn can be exchanged for something else
Social Influence & Relatedness		Group Quests	Group participation is required to get to the win-state; you have to collaborate to achieve the win
Scarcity & Impatience		Torture Breaks	Unexpected hard breaks in the game action; have to wait until a future period to resume play
Unpredictability & Curiosity		Sudden Rewards/Easter Eggs	Unexpected rewards; users are delighted to receive these even if they don't know how they were triggered
Loss & Avoidance		Weep Tune	A negative reward: playing of a sad or uninspiring tune when you fail at the win-state

Example Techniques

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How might you use one or more of these to set up classroom procedures in your classroom?

Example Techniques

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How might you use one or more of these to set up a review game for students to practice before a test?

Example Techniques

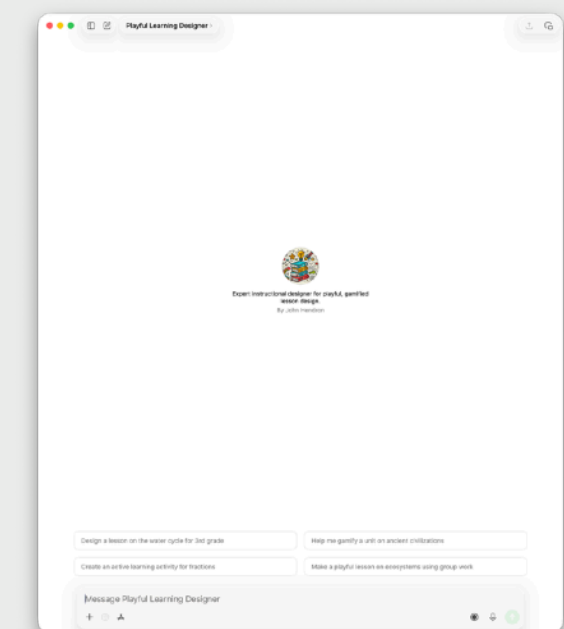
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Which one of these would you choose for a unit project that promotes teamwork?

Gamified Instruction

What's next?

- The **Playful Learning Coach** is an AI tool I used that is an expert at how to gamify instruction.
- You input details about your learners (age level, specific details that would be important for developing an instructional plan) and what standards you'd like to cover (i.e. middle school social studies).
- It recommends ways to incorporate a gamified approach.
- You can ask clarifying questions to better understand how to implement these techniques to drive student engagement and motivation.



The Constitutional Convention



A 7/8th grade lesson, aligned with National Council for the Social Studies themes:

- Power, authority, and governance
- Civic ideals and practices



Students, representing different states, will negotiate to create a new constitution as delegates. They will need to represent the needs of their state, varied by population size, economic drivers in their state, and key priorities important to their citizens.



Students will need to know their assigned states well, finding what commonalities they share and what differences may influence compromises.



The Constitutional Convention



“You are founding a new nation! If you fail, the country collapses.”

This feels like a multi-day project for a middle school classroom where students are taking on personas, just like in a game. Providing a **narrative** inspires epic meaning, framing why the activities relate to this theme and the associated learning standards.

The Constitutional Convention



States may need to negotiate alliances because no one succeeds alone.

When students are truly representing the needs of the citizens in their states, they will need to find others who share those needs and find common ground. If we can create a situation where these alliances can work together (to earn points, as an example) then we can tap into **Group Quests**.

The Constitutional Convention



Each group can earn influence points and stability points; the teacher can use an interactive white board to show each team's points over the course of negotiations as part of this lesson.

Points aligned to the goal here feel artificial, but students may need the use of these points to also serve as feedback on how they are playing within the rules/structure of the delegation. **Status points** help make adherence to the rules very clear.

The Constitutional Convention



This is optional but it may be helpful to show which states have the most influence or which compromises are gaining traction.

Another way to use a **leaderboard** may be to highlight when students use state facts and figures as part of their oral arguments. This is something a teacher would need to assess and showcase through the display of a leaderboard.

The Constitutional Convention



Surprise might be introduced through a regular look at the “news” of the day—a set of cards that highlight things like “Shay’s Rebellion spreading unrest...” or “foreign threat develops.”

By providing historical events from U.S. History, we can tap into **easter eggs** in the activity which provide unexpected twists and turns. In some cases, some of these surprises may give some states extra power and influence over others, a type of **free lunch**.

The Constitutional Convention



The teacher may act as a facilitator, highlighting what coalitions are deciding in isolation from the whole body. “This proposal is losing support,” and “small states are pushing back” are examples of this type of feedback the teacher can deliver to other teams.

Feedback as part of learning is always important as an outcome for formative assessment. In this example, providing dynamic feedback keeps the energy going as students decide what to bring back during a delegation debate.

The Constitutional Convention



There may be some natural breaks in the evolution of this process between class periods. However, students may also be reminded that “Rome wasn’t built in a day.” You may want to insert as part of your news cards other elements that make voting or discussing issues be paused to deal with other issues at the state level.

Using **Torture Breaks** may not be essential in this example, but depending on how much you want to build this out, it could become critical to extending this idea across a week-long period.

The Constitutional Convention



In the end, students will draft using a cloud-based document a representation model, executive structure, and key compromises as part of their new constitution.

The teacher will want to also develop a rubric that is shared with students for what should be included, based upon the U.S. Constitution as the model. Students who are engaged with this activity may take pride in **building from scratch** this document that is based upon several days of discussions and debate.

The Constitutional Convention

- Does this feel like a game?
- While the entire activity hasn't been scripted or written-out, can you start to see how the use of game techniques might make the activity more interesting?
- Based on the use of these techniques—which game techniques appealed to you?
- As the teacher, what would you be looking for? How will you ultimately know that students had an experience that demonstrated the process our founders used to develop our Constitution?

Let's Review

Games & Gamification

- Why do people **play games**?
- **Gamification** is when...
- Each of us may be different in the ways we seek fun experiences. It's important for your students to not rely on only one or two of these—but to try and pull from different needs when it comes to fun seeking.
- **Game techniques** speak to at least eight different drivers of human needs, the author Yu-kai Chou has identified over 100 of these.
- We can use game techniques to add gamification to the experiences students have—including learning experiences.
- Gamified experiences should help motivate students—ultimately to promote learning and student achievement.

Games & Gamification

- What did you find interesting about what you learned today?
- Where have you experienced gamification in your lives?
- How excited are you to go the next step and see how you might include gamification into creating your next instructional experience?

Thank you!



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