



CLASS GAME CO-DESIGN FIELD GUIDE

Design learning students want to enter—and can demonstrate when they leave.

Build a curriculum-connected game with your class through five collaborative moves, ten mechanic examples, two human-only moves, three student-choice AI decisions, and standards-aligned classroom models.



PRINT + PLAN + PLAYTEST

A shared design language for the whole class

G.A.M.E.S. helps educators facilitate a disciplined design process without arriving with a finished classroom game. The teacher holds the learning purpose and guardrails; students make consequential creative decisions; the class tests what actually works.

RESPONSIBILITY

Teacher holds

Standards, essential questions, content accuracy, time, safety, access, and what evidence will count.

RESPONSIBILITY

Students own

Theme, rules, mechanics, roles, player experience, prototypes, and revisions supported by evidence.

RESPONSIBILITY

The class shares

Audience needs, success criteria, accessibility commitments, playtest observations, and revision decisions.

THREE PRODUCTS THAT MAKE LEARNING VISIBLE

01

A playable game

Built from curriculum, not added on top of it.

02

A design record

Research, prototypes, feedback, and revision choices.

03

Individual evidence

A defense or transfer task showing what each learner can carry beyond the game.

PLANNING ROUTE

Goal - Show it - Audience - Mechanic - Engagement

Goal and Audience are human-only. At Mechanic, Engagement, and Show it, students choose AI or no AI and explain why. Real playtesting and final judgment always remain human.

Goal

G

Purpose before features

DEFINITION

In game design

The intended player experience and outcome: what players are trying to accomplish, why it matters, and what success should feel like. A design goal is broader than a win condition.

TRANSLATION

In teaching and learning

The learning objective and transfer target: what learners should understand or be able to do after play, and the evidence that would demonstrate it beyond the game.

TEACHER SETS

Teacher Sets

The standards, essential question, non-negotiable content, boundaries, and what evidence will count.

STUDENTS SHAPE

Students Shape

What players should accomplish, experience, and understand - and what the game will not attempt.

YOU PRODUCE

You Produce

A one-sentence design brief connecting player goal, learning goal, and transfer target.

TRY IT WITH YOUR CLASS

Write four separate sentences: Players are trying to... The game ends when... The design should make players... Learners will be able to...

BOARD GAME EXAMPLE

Ticket to Ride

Objective: build a high-scoring rail network. Sets and route commitments create strategic tension.

BOARD GAME EXAMPLE

Forbidden Island

A shared objective, collective win/loss, and escalating loss conditions make cooperation necessary.

DESIGN TRAP: Beginning with a format or prize system before the class understands the learning purpose.

Audience

A

Design with people, not for them

DEFINITION

In game design

The real players: their motivations, contexts, abilities, prior experience, access needs, and reasons to begin or stop playing.

TRANSLATION

In teaching and learning

The actual learners: prior knowledge, language, identities, variability, interests, and supports. Design with students instead of inventing an average learner.

TEACHER SETS

Teacher Sets

Access requirements, classroom realities, safeguarding, time, materials, and whose perspectives must be respected.

STUDENTS SHAPE

Students Shape

Who will play, what may invite or exclude them, and how the team will gather feedback from real players.

YOU PRODUCE

You Produce

A player profile, classroom constraints list, and a small set of accessibility commitments.

TRY IT WITH YOUR CLASS

Inventory the hidden entry requirements: reading, language, vision, hearing, movement, memory, prior game knowledge, competition, speaking, time, and materials.

BOARD GAME EXAMPLE

Codenames

Shared vocabulary, cultural associations, team size, and comfort speaking shape who can participate.

BOARD GAME EXAMPLE

Carcassonne

Low text does not remove icon, color, spatial, fine-motor, or competitive access demands.

DESIGN TRAP: Inventing an average player, or calling the process co-design when students cannot influence decisions.

Mechanics are verbs, not decorations

A mechanic is what players repeatedly do and how the system responds. Choose one core mechanic. Add a support mechanic only when it strengthens the target thinking.

SET COLLECTION + ROUTE CLAIMING

Ticket to Ride

Players: Collect matching cards, spend sets to claim links, and connect destinations.

Learning move: Classify evidence, sequence dependencies, and optimize under scarcity.

TILE-LAYING + SPATIAL BUILDING

Carcassonne

Players: Place one tile under adjacency rules, then optionally commit a limited follower.

Learning move: Build a shared model and reason about system-wide effects.

CLUE-GIVING + DEDUCTION

Codenames

Players: Compress relationships into one clue; teammates infer which words belong together.

Learning move: Categorize, form analogies, justify interpretations, and revise.

DECK-BUILDING

Dominion

Players: Acquire cards into a personal deck; future draws reflect earlier choices.

Learning move: Assemble strategy, test combinations, and trace cumulative cause and effect.

ACTION POINTS + COOPERATION

Pandemic

Players: Allocate four actions, coordinate roles, and respond to an escalating shared system.

Learning move: Prioritize under constraints, divide expertise, and model consequences.

DESIGN TEST: Write the loop as player action - disciplinary thinking - feedback - revised decision. If the thinking can be removed without changing play, the mechanic is not yet carrying the learning.

Mechanics are verbs, not decorations

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CARD DRAFTING + SET COLLECTION

Sushi Go!

Players: Choose one card, pass the rest, and build combinations that score differently.

Learning move: Compare options, group examples by criteria, and adapt as information changes.

TRADING + RESOURCE MANAGEMENT

CATAN

Players: Acquire, negotiate, trade, and spend resources to expand a network.

Learning move: Negotiate with evidence, weigh opportunity cost, and allocate resources.

ENGINE-BUILDING

Wingspan

Players: Add cards whose abilities strengthen and combine with future actions.

Learning move: Construct causal chains and evaluate compounding effects.

PUSH-YOUR-LUCK + BAG-BUILDING

Quacks

Players: Draw ingredients, choose when to stop, then buy pieces that alter future draws.

Learning move: Reason about probability, risk and reward, then revise the system.

CONSTRAINED COMMUNICATION

Hanabi

Players: See everyone else's cards but not your own; give limited clues, play, or discard.

Learning move: Use shared memory, trust, inference, and risk under missing information.

STUDENT-CHOICE AI - PROTOTYPE PROVOCATEUR

Students choose AI or no AI and record why. After humans define the target thinking, audience, boundaries, and materials, AI may suggest three contrasting loops. Students audit, reject, remix, and decide. No-AI equivalent: exchange three rapid sketches.

Engagement

E

Create conditions for meaningful participation

DEFINITION

In game design

The conditions that sustain willing participation: meaningful choice, clear feedback, balanced challenge, curiosity, belonging, and a reason to continue.

TRANSLATION

In teaching and learning

Productive investment in learning, not simply fun or time on task. Relevance, agency, feedback, social connection, and achievable challenge can support deeper effort.

TEACHER SETS

Teacher Sets

Participation options, humane time limits, low-stakes feedback, and alternatives to public competition.

STUDENTS SHAPE

Students Shape

Where players have meaningful choice, useful challenge, visible progress, curiosity, and connection.

YOU PRODUCE

You Produce

A playtest plan naming what the class will watch, ask, and change - not just whether players had fun.

TRY IT WITH YOUR CLASS

Name the condition you are testing: meaningful choice, useful feedback, achievable challenge, curiosity, or connection. Watch behavior and ask what helped or blocked participation.

BOARD GAME EXAMPLE

The Crew

Cooperative missions plus constrained communication create inference, interdependence, and rising mastery.

BOARD GAME EXAMPLE

Forbidden Island

A visibly changing system, distinct roles, and one shared escape create urgency and mutual dependence.

DESIGN TRAP

Using points, badges, speed, or forced competition as substitutes for relevance, agency, and belonging.

STUDENT-CHOICE AI - AFTER REAL PLAY

Students may ask AI to organize de-identified notes and suggest patterns to test. AI cannot simulate players or judge belonging. No-AI: affinity-map the notes. Human evidence drives every revision.

Make learning visible beyond the game

In games, feedback helps players decide what to do next. In learning, assessment must match the objective and show what each student can explain or transfer beyond the game. Enjoyment is useful feedback, but it is not evidence of learning.

TEACHER SETS

Teacher Sets

Set the learning claim, success criteria, rubric, individual check, and evidence needed for a defensible judgment.

STUDENTS SHAPE

Students Shape

Document decisions, explain the model, respond to playtest evidence, and defend revisions.

YOU PRODUCE

You Produce

A playable game, design record, public defense, and individual transfer task.

SEPARATE THREE LAYERS

1. In-game feedback guides the next move. 2. Playtest evidence evaluates the design. 3. Learning evidence shows what each student can explain or transfer.

FEEDBACK LOOP

Mastermind

Structured indicator feedback lets a player eliminate possibilities and revise a hypothesis. The signal matters because it changes the next decision.

VISIBLE REASONING

Codenames

A revealed card shows whether a clue was interpreted as intended. Listening to discussion reveals more about the mental model than the result alone.

STUDENT-CHOICE AI - SKEPTICAL REVIEWER

Students choose a peer or approved AI reviewer and record why. AI may identify unclear rules, unsupported claims, and missing perspectives without rewriting or adding facts. Students classify and verify every response, document the final human decision, then complete a no-AI transfer task.

Run a class game-design sprint

Start with paper, markers, index cards, dice, and a curriculum question. A short sprint lets students experience the full design cycle before anyone invests in polished production.

1

Frame the challenge

Share the learning goal and evidence criteria. Define the player, purpose, boundaries, and one-sentence design brief.

G + S

2

Research and imagine

Build shared background knowledge. Identify audience needs and sketch several ways the content could become player decisions.

A

3

Prototype the loop

Choose AI or no AI, make rough versions, compare options, and record why the pathway fits this move.

M / CHOICE

4

Playtest and revise

Real players think aloud. Then optionally use AI to sort de-identified notes; verify every pattern against the evidence.

E / CHOICE

5

Share and defend

Choose a peer or AI reviewer, verify the critique, explain revisions, and independently transfer the learning.

S / CHOICE

STUDENT DESIGN ROLES

Content researcher - Systems designer - Access advocate - Prototype maker - Playtest observer - Evidence keeper

Character analysis becomes a branching game

The teacher brings the texts, learning target, evidence criteria, and access guardrails. Students co-design a short branching narrative; every branch must remain true to a studied character and every design choice needs textual evidence.



Outcome

Character development, textual evidence, and narrative craft - not simply 'make a game.'



Audience

Ask who plays, who does not, and who needs dictation, translation, or a lower reading load.



Core loop

Choose - justify with evidence - peer playtest - revise. Prototype one branch on paper first.



Engagement

Meaningful character choice, tiered branch counts, visible progress, and social playtesting.



Proof

Grade the evidence log, one full narrative path, and a transfer-focused reflective memo - not polish.

STANDARDS TARGET

Washington ELA 2026 initial-adoption grade-band standards: ELA.9-10.R.5, ELA.9-10.W.1, ELA.9-10.W.3, ELA.9-10.W.5, and ELA.9-10.SLDF.1.

Culture, Contact and Power

Essential question: How do encounters between cultures reshape worldview, power, and the stories later told?

GROUNDING IN SPOKANE

Lewis and Clark High School's 2026-27 Grade 10 registration materials list English 10 and World History. This original cross-curricular unit combines documented course goals; it is not represented as an existing district lesson plan.

3 weeks
12-15 periods

English 10 + World History
core or honors

1450-1750
global encounter

Playable inquiry game
+ transfer memo



Develop and defend a claim about how one encounter changed worldview and power. Explain change, continuity, causes, and perspective.



Design for varied reading, language, sensory, and executive-function needs. Treat historical people as humans, not game resources.



Source - perspective - claim - challenge - revise. Add a sourced event, then test the claim with corroborating or conflicting evidence.



Offer meaningful case choice, visible progress, collaborative roles, and low-stakes revision. Reward reasoning, not domination or speed.



Assess the evidence dossier, claim and counterclaim, source attribution, playable model, oral defense, and individual transfer memo.

From inquiry question to public defense

CHOOSE ONE ENCOUNTER

Teacher-curated case packs

Indian Ocean trade: coastal states, merchants, navigators, and Portuguese entry.

Mexica-Spanish encounter: diplomacy, alliance, conquest, disease, and competing accounts.

Atlantic systems: West African polities, European trade, forced migration, and resistance.

Manila and global silver: mines, Asian markets, labor, environment, and empire.

SAFETY RAIL

Historical dignity is a design requirement

- No trauma simulation or identity role-play.
- No 'winning' through conquest, enslavement, erasure, or extraction.
- Give every source a creator, date, context, and reason it survives.
- Only in student-choice moves, AI may support mechanics, de-identified playtest notes, or rule critique. Students verify every historical claim and citation.

1

Frame - Days 1-2

Define culture, worldview, contact, and power. Compare accounts and generate an inquiry question.

2

Investigate - Days 3-5

Build a source ledger; evaluate provenance and bias; map chronology, movement, systems, and cause.

3

Argue - Days 6-8

Draft a claim, counterclaim, and evidence chain. Storyboard before producing polished assets.

4

Playtest - Days 9-11

Test accuracy, fairness, accessibility, and whether the mechanic actually requires reasoning.

5

Defend and transfer - Days 12-15

Present, revise from critique, and independently apply the reasoning process to unfamiliar sources.

Standards aligned to observable student work

ELA uses OSPI's March 2026 initial-adoption grade 9-10 codes. Social studies uses Washington's 2019 standards. Confirm district pacing and any final ELA crosswalk before classroom adoption.

Source ledger: origin, expertise, perspective, corroboration, attribution	ELA.9-10.RML.1, .4, .5; W.3c/i	SSS1.9-12.4; SSS2.9-12.2/3; SSS4.9-12.4
Map and timeline: expansion, encounter, movement, and change	ELA.9-10.R.1; R.5	G1.9-10.3/4; G3.9-10.1/2; H1.9-10.1/2
Claim, counterclaim, causal chain, and revision	ELA.9-10.W.1c/d; W.3e-g; W.5	H2.9-10.2/4; H3.9-10.1/2/3; SSS4.9-12.2
Playable model and oral defense using visuals and attribution	ELA.9-10.SLDF.1; .2; .3c/d	SSS3.9-12.1; SSS4.9-12.3
Independent transfer memo using an unfamiliar source pair	ELA.9-10.R.5; R.7; W.3f/g	H4.9-10.1; SSS1.9-12.1/2

16-POINT PROOF - SCORE EACH DIMENSION 1-4

01 Historical reasoning Accurate chronology; complex causes; change and continuity; context.	02 Evidence and sourcing Relevant, credible, corroborated sources; visible provenance; no invented citation.	03 Perspective and argument Precise claim, counterclaim, bias analysis, and multiple grounded perspectives.	04 Design and access The mechanic requires reasoning; instructions work in text and speech; color is not the only cue.
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One-page class design brief

G - Goal

Players are trying to... / Learners will be able to... / The game ends when...

A - Audience

Our real players... / Entry requirements... / Access commitments...

M - Mechanic

Player action - target thinking - feedback - revised decision

E - Engagement

We will test meaningful choice, feedback, challenge, curiosity, or connection by watching...

S - Show it

In-game feedback... / Playtest evidence... / Individual learning evidence...

What is this, exactly?

Short answers for educators deciding whether, where, and how to use G.A.M.E.S. with a class.

01 What is G.A.M.E.S.?

A five-move co-design framework for turning a curriculum question into a playable game, a design record, and evidence of learning.

07 Does it require AI?

No. Goal and Audience prohibit AI. In Mechanic, Engagement, and Show it, students choose AI or an equally valued no-AI pathway.

02 What does it give an educator?

A planning structure, shared vocabulary, mechanic examples, a short sprint, classroom models, a student kit, and assessment guidance.

08 Which moves prohibit AI?

Goal and Audience are human-only: people set worthy purposes, and real classmates provide lived experience, consent, access, and belonging.

03 Is it a finished game or lesson plan?

No. It is a process for designing with a class. Teachers and students choose the content, audience, mechanic, and final form.

09 How long does it take?

Use the five-session sprint, expand it into a multi-week unit, or use one move to improve an existing project.

04 Who designs the game?

The teacher holds purpose and guardrails. Students shape the creative system. The class playtests and judges together.

10 How is learning assessed?

Combine the playable model, a design record, and an individual defense or transfer task. Do not mistake polish for understanding.

05 Do I need game-design experience?

No. Begin with one learning goal, one repeatable player action, and a paper prototype. The field guide supplies examples.

11 Is it standards aligned?

It can align to any standards through Goal and Show it. The included Grade 9 and Grade 10 models map to Washington standards.

06 Is this just gamification?

No. It does not begin with points, badges, prizes, or competition. It makes the target thinking part of the repeatable play.

12 What do we need to begin?

A curriculum question, evidence criteria, paper, markers, cards, and simple components. Digital production is optional.

START TOMORROW - Name one thing students should understand or do, decide what evidence would prove it, then ask: What could players repeatedly decide that would require that thinking?

Use evidence as a guide, not a guarantee

The framework combines evidence from game-based learning, participatory design, accessibility, assessment, iterative game design, human-centered AI guidance, official curriculum materials, and published game rules.

Research foundations

Maxim and Arnedo-Moreno (2025) - Digital serious-game design frameworks

Saiger et al. (2023) - Youth involvement in applied-game design

Hassan (2024) - Game accessibility systematic review

Barz et al. (2024) - School game-based learning meta-analysis

Aster et al. (2024) - Game elements and the GATE framework

Standards, curriculum and AI

Washington OSPI - Initial-adoption ELA standards - March 2026

Washington OSPI - Social Studies Learning Standards - 2019

Spokane Public Schools - High School Course Catalog

Washington OSPI - Human-centered AI for K-12 schools

UNESCO - AI Competency Framework for Students - 2024

Game mechanics and examples

Wikipedia - Game mechanics overview and taxonomy

Official publisher materials - Ticket to Ride, Forbidden Island, Codenames, Carcassonne, The Crew, Mastermind and Hanabi

Official publisher materials - Dominion, Pandemic, Sushi Go!, CATAN, Wingspan and Quacks

FULL SOURCE REGISTRY - Open the online Research and standards panel for all 21 peer-reviewed sources, curriculum documents, AI guidance, game pages, and rulebooks.