

# Game Types for Academic Learning: Frameworks for Experiential Engagement

## Introduction

Game-based learning allows students to explore theory through experience. It promotes agency, experimentation, and reflection—all essential to long-term understanding. Each game type in this guide aligns with specific cognitive processes (Bloom, 1956) and learning theories such as Kolb's experiential cycle (Kolb, 1984), Vygotsky's social constructivism (Vygotsky, 1978), and Bandura's social learning theory (Bandura, 1977). The following sections outline seven types of educational games that can deepen engagement and reinforce complex learning outcomes.

## GAME TYPES FOR EXPERIENTIAL LEARNING

### 1. Scenario-Based Simulation

**Description:** A branching, narrative-driven experience where learners face realistic dilemmas and explore the outcomes of their decisions.

**Pedagogical Value:**

- Encourages experiential learning through safe failure and reflection (Kolb, 1984).
- Builds decision-making, ethical reasoning, and situational awareness.
- Ideal for case-based disciplines like nursing, business, and social work.

**Example Application: The Civil Discourse Simulation**

Helps MA TESOL students practice facilitating civil discourse in diverse English language classrooms through realistic simulations.

**Design Note:** Utilize branching logic or AI-driven narrative tools (such as BoodleBox) to visualize decision trees and dynamically adapt consequences.

**Try it:** [Civil Discourse Simulation](#)

**Tech Specs:** Built with Boodlebox using Bot Instructions only, no knowledge pieces. This game enables a single player to select their role in an integrated healthcare simulation, while the AI assumes all the other roles.

**Example Application: Classroom Connection Challenge**

This simulation can be used in teacher preparation courses or professional development settings to let participants practice making decisions about student engagement and equity in a safe, low-stakes environment. Users can navigate scenarios individually or collaboratively, then reflect on how their choices align with their educational values and professional identity.

**Design Note:** Designed as an interactive simulation to help teacher candidates practice responding to student disengagement in realistic high school scenarios, focusing on empathy, equity, and professional judgment. Built within the BoodleBox collaborative AI platform, this bot guides you through decision points where you can explore different educator roles and see how your choices impact student outcomes.

**Try it:** [Classroom Connection Challenge](#)

**Tech Specs:** Built on the BoodleBox collaborative AI platform. Presents branching story scenarios where players make choices at key decision points. Tracks informal "XP" points in categories like Empathy, Equity, and Professional Judgment. Prompts for written reflections and provides immediate feedback based on player choices. Equipped to search the web, analyze documents and links, work with data files, and remember conversation history. Designed to work either as a self-paced experience or in group workshop settings with a facilitator.

### **Example Application: The Shark Tank Simulator**

Business students pitch their ideas to the Sharks, tracing how each choice they make affects shark interest, business reputation, deal structures, and final outcomes.

**Design Note 2:** Incorporate branching dialogue systems with adaptive feedback and subtle moral ambiguity to foster deeper reflection.

**Try it:** [The Shark Tank Simulator](#)

**Tech Specs:** AI Bot-led game with knowledge built using Boodlebox.

## **2. Role-Playing Game (Text-Interactive)**

**Description:** Learners assume a fantasy, professional, or historical role, engaging in dialogue and decision-making within a simulated context.

### **Pedagogical Value:**

- Promotes empathy and perspective-taking by placing learners in others' experiences (Gee, 2007).
- Strengthens communication, negotiation, and applied theory.
- Effective for leadership, counseling, and history instruction.

### **Example Application: The Historical Decision Point Simulator**

Players step into Kennedy's shoes during the Cuban Missile Crisis to weigh diplomatic, military, and ethical options before deciding how to respond.

**Design Note:** Built with integrated instructional logic and historical knowledge, this simulator aligns with Historical Thinking Standard Five and Common Core literacy standards. It dynamically generates historically accurate, grade-appropriate decision scenarios, guiding students to **analyze perspectives**, evaluate evidence, explore ethical implications, and justify their chosen actions using authentic historical reasoning frameworks.

**Try it:** [@@HistoricalDecisionPointSimulator](#)

**Tech Specs:** Instructions and knowledge pieces with web access.

### **Example Application: Master of Stories, Weaver of Tales**

Players embody a fantasy character and dive into the intrigue and mystery of a beloved tabletop RPG using their imagination, skills, and wit! They must solve puzzles, navigate politics, and defeat the bad guys (or join them)! Will they be a hero or a villain? The choice is theirs.

**Design Note:** Built using instructions and knowledge in the form of open-source role-playing manuals in .pdf form and templates.

**Try it:** [Master of Stories, Weaver of Tales \(Chat GPT\)](#)

**Tech Specs:** Not everything has to be educational; sometimes you just want to play! I developed this “AI Game Master” using ChatGPT to guide me through some of my favorite D&D modules when they became open-source. ChatGPT enables players to use either their keyboard or voice to explore the puzzles and stories of NPCs as they play. Want to “see” something in the game? Just ask, and the Game Master will display an image for you as well.

### 3. Choice Path / Decision Game

**Description:** Structured decision-making experiences where learners make binary or multiple-choice selections that produce visible consequences.

**Pedagogical Value:**

- Develops critical thinking and cause-and-effect reasoning (Plass, Homer, & Kinzer, 2015).
- Encourages learners to explore alternative approaches.
- Easily scalable for asynchronous online learning.

#### **Example Application: Academic Integrity: The Student Dilemma**

Cause-and-effect reasoning and exploration of ethical or procedural choices through branching narratives and visible outcomes.

**Design Note:** Cause-and-effect reasoning and exploration of ethical or procedural choices through branching narratives and visible outcomes.

**Try it:** [Academic Integrity: The Student Dilemma](#)

**Tech Specs:** Utilizes Boodlebox Instructions and Knowledge.

#### **Example Application: Bunny Makes a Choice**

Students make choices within a narrative storyline and experience immediate consequences or benefits based on their decisions.

**Design Note:** Utilize branching logic or AI-driven narrative tools (such as BoodleBox, Inklewriter, or Twine), use flowchart logic, or visual mapping to make the structure transparent. Ideal for formative assessments.

**Try it:** [Bunny Makes a Choice](#)

**Tech Specs:** I created this game for my 3- to 5-year-old grandchildren as they were learning to make better choices. I used AI to develop my story idea, based on my oldest granddaughter’s favorite stuffed toy, “Bunny,” and AI assisted with the development of branches. I then used the free Inklewriter.com to build the game and deploy it.

### 4. Resource Management Simulation

**Description:** Players manage limited variables such as time, money, or ethics to achieve multiple competing goals.

**Pedagogical Value:**

- Develops strategic and systems-level thinking (Plass et al., 2015).
- Illustrates interdependency between decisions and outcomes.
- Excellent for economics, sustainability, and leadership training.

#### **Example Application: The Poverty Game**

Social work students allocate limited funding among community programs, observing how long-term well-being changes in response to their priorities.

**Design Note:** Strike a balance between realism and playability. Incorporate visual dashboards for tracking outcomes and encourage reflection on trade-offs.

**Try it:** [The Poverty Game](#)

**Tech Specs:** AI used to write code in Harlow on the Twine platform and improve game-play mechanics. Twine exported the game as HTML, and I hosted it on the free Netlify.app

## GAME TYPES FOR REFLECTION AND COLLABORATION

### 5. Puzzle or Logic Challenge

**Description:** Rule-based experiences where learners solve problems or decode systems to progress through levels or unlock content.

**Pedagogical Value:**

- Reinforces pattern recognition and systems thinking (Squire, 2011).
- Strengthens analytical and deductive reasoning.
- Encourages persistence and intrinsic motivation through challenge.

#### **Example Application: The Grammar Lab: The Case of the Corrupted Corpus**

Step into the Grammar Lab as a seasoned professor-explorer on a mission to restore a corrupted archive of learner English. Each round presents an “anomaly” in the corpus. Diagnose the error, explain it clearly for a learner, and choose a pedagogically sound classroom response. Earn integrity points for accuracy and insight until the system is fully restored.

**Design Note:** This experience was engineered as an interactive diagnostic adventure that fuses game-based learning mechanics, pedagogical grammar principles, and narrative immersion to transform grammar error analysis from abstract theory into an engaging, hands-on expedition through learner language.

**Try it:** [The Grammar Lab: The Case of the Corrupted Corpus](#)

**Tech Specs:** This module combines authentic learner errors, adaptive feedback, and integrity-based scoring within a narrative of academic exploration. By blending randomized error pools, mastery-based retries, and reflective calibration, it turns pedagogical grammar into an active, story-driven practice of diagnostic precision. Grounded in error analysis, task-based learning, and pedagogical grammar principles, it invites players to think—and teach—like adventurous field linguists uncovering the patterns of learner language.

#### **Example Application: The Emotional Intelligence Game**

An educator creates a puzzle-based game where students solve emotional intelligence challenges through pattern recognition and strategic decision-making, receiving immediate feedback that helps them understand how their choices affect relationships and outcomes in realistic scenarios mirroring personal and professional situations.

**Design Note:** Align puzzles with course learning objectives. Complexity should increase with learner mastery, not just game progression.

**Try it:** [Emotional Intelligence Game](#)

**Tech Specs:** Used the Game Bots stack to build this game to help players better understand their emotional intelligence and explore the ramifications of it. The game is built as a puzzle-based simulation in BoodleBox, featuring 30-35 interconnected passages that create a 45-60 minute learning experience. The game tracks student progress through six core variables (perspective diversity, analytical depth, cultural sensitivity, empathy level, integration skill, and scenario progress) that dynamically adjust based on player choices and text input analysis.

## 6. Reflective or Journaling Game

**Description:** Text-based, introspective experiences where learners reflect on their reasoning and receive adaptive prompts or AI-guided feedback.

**Pedagogical Value:**

- Promotes metacognition—awareness of one’s own thought processes (Kolb, 1984).
- Encourages self-regulation and emotional intelligence.
- Works well in counseling, ethics, and leadership courses.

### Example Application: Your Haiku Journey

After completing a simulation, learners write journal entries or interact live with AI characters, which guide their reflective writing about their decision-making process and provide targeted reflection prompts.

**Design Note:** Combine narrative feedback with guided self-assessment rubrics. Reflection should link directly to course outcomes.

**Try it:** [Your Haiku Journey](#)

**Tech Specs:** I wanted to learn how to write Haiku poetry using my own experiences and thoughts. I also wanted to explore it within its original cultural context and lens. I built this using the Game Building Bot Stack in Boodlebox to develop the story, characters, interactions, and in-game assessments and knowledge.

## 7. Collaborative Asynchronous Challenge

**Description:** Turn-based group experiences where learners contribute over time to achieve a shared objective.

**Pedagogical Value:**

- Fosters social constructivism through shared meaning-making (Vygotsky, 1978).
- Encourages communication, accountability, and collective problem-solving.
- Especially effective in distributed or online classrooms.

### Example Application: The Integrative Healthcare Simulator

Students represent different nations in a climate negotiation game, taking turns to propose policies that balance economic and ecological outcomes.

**Design Note:** Structured play in rounds, with defined roles and visible progress markers. Incorporate reflection after each turn to reinforce learning.

**Try it:** [The Integrative Healthcare Simulator](#) (Play it via a shared chat with other disciplines)

**Tech Specs:** Built with Boodlebox using Bot Instructions only – no knowledge pieces. The idea was to enable multidisciplinary teams to walk through a simulation in real-time, which required teamwork, applied knowledge, effective communication, negotiation, and ultimately, positive patient care outcomes.

## Conclusion

Each game type offers distinct ways to connect cognition, emotion, and action. Combining game types can lead to multi-layered, multi-purpose learning. Scenario-based simulations and role-playing games immerse learners in complex systems (Gee, 2007). Decision and resource management games encourage strategic foresight (Plass et al., 2015). Puzzle and reflection games strengthen internal logic and metacognition (Kolb, 1984). Collaborative challenges link learning to social practice (Vygotsky, 1978). Used together or individually, these designs form a comprehensive model for academic engagement, equipping students to think critically and act wisely in the real world.

## References

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