

Why Students Engage More Deeply in Games Than in School

A Game-Theoretic Lens on Motivation, Mastery, and
Accountability in Education

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1. Introduction: A Familiar Contradiction

Across the country, educators encounter a persistent contradiction. Many students struggle to sustain attention in classrooms, fall behind academically, or disengage altogether. Yet those same students often demonstrate remarkable focus, persistence, and problem-solving ability outside of school, particularly in games.

These are not trivial activities. Modern games require sustained attention, strategic planning, memory of complex systems, and repeated failure before success. Students voluntarily invest hours learning rules, refining strategies, and improving performance.

This raises a fundamental question for education leaders. If students are capable of this level of discipline and cognitive effort in one context, why does traditional schooling so often fail to produce the same engagement?

This paper argues that the difference is not entertainment, technology, or generational change. It is system design. Games succeed because they align accountability, feedback, incentives, and progression in ways that match how humans learn. Many educational systems, despite good intentions, do not.

This paper is not an argument for using video games as instructional tools, nor for making classrooms resemble games, but for applying the structural principles that make games effective learning environments.

What happens when learning environments are designed around these same principles?

2. Beginning With Accountability, Not Engagement

Discussions about educational improvement often begin with engagement. How do we make learning more interesting? How do we compete with distractions? How do we motivate students?

Games begin somewhere else. They begin with accountability.

In a game, outcomes belong to the player. Progress is earned. Failure is visible but recoverable. No one blames parents, instructors, or designers when a player fails a level. The rules are explicit, and responsibility is clear.

Traditional schooling often diffuses accountability. Grades combine mastery, behavior, attendance, and subjective judgment. Responsibility for outcomes is spread across students, teachers, families, administrators, and policy constraints. As a result, students frequently experience learning as something imposed rather than owned.

Outstanda, a nonprofit organization, was built with accountability as a foundational principle. Students are accountable for mastery. Educators are accountable for clarity, support, and meaningful learning outcomes. Parents, board members, superintendents, and state leaders can see growth and progress continuously, rather than relying on delayed annual assessments.

If accountability is made visible and shared, how does that change student behavior?

3. Active Participation Versus Passive Compliance

Games require constant action. Players make decisions, test hypotheses, and respond to feedback continuously. In contrast, much of traditional schooling relies on passive consumption of information for extended periods.

Consider the adult analogy. Few professionals could remain engaged for six to eight hours a day listening to explanations of topics they did not choose, delivered at a pace set for a group, with limited opportunity to act or respond. Disengagement in such a setting would be expected.

Outstanda limits sustained, high-intensity academic work to approximately two to three hours per day, often broken into 20 minute segments. This time is demanding, focused, and mastery-driven. The remainder of the day is devoted to enrichment and project-based learning, where students retain significant control over how they apply what they are learning.

Games do not demand endurance. They demand focus. What changes when schools design for focus rather than seat time?

4. Safe Failure and the Power of Retry

One of the clearest distinctions between games and traditional schooling is how failure is treated.

In games, failure is expected. Players fail early and often. Failure provides information, not judgment. The player adjusts and tries again, usually immediately. There is no permanent penalty for early mistakes.

In many school systems, early failure carries long-term consequences. Grades accumulate. Confidence erodes. Risk-taking becomes dangerous. Students learn to avoid mistakes rather than learn from them.

Outstanda uses a mastery-based structure in which assessments are pass or “not yet”. Students can retry after reflection, typically the next day. Mastery is required, but failure is contained. This structure preserves rigor while reducing anxiety.

When failure becomes a step rather than a verdict, how does that affect persistence?

5. Feedback That Arrives While Learning Still Matters

Games provide immediate feedback. A player knows almost instantly whether an action worked. This allows rapid adjustment and keeps learning tightly connected to effort.

In many classrooms, feedback arrives days or weeks later, long after the learning moment has passed. By the time results appear, the student has already moved on.

Outstanda provides immediate or near-immediate feedback on mastery attempts, along with constructive guidance following any honest effort. Feedback is framed as information rather than evaluation.

When feedback is timely and specific, does learning begin to feel less like judgment and more like progress?

6. Clear Progression and Asynchronous Advancement

Games make progress visible. Players see levels, maps, unlocked abilities, and clear markers of advancement. They also move at different speeds. No one waits for an entire group to be ready.

Traditional schooling is largely synchronous. Students advance by age or calendar rather than readiness. Faster learners wait. Struggling learners are pushed forward without mastery.

Outstanda allows students to advance when mastery is demonstrated. Some move quickly. Others take more time. Both paths are acceptable, and progress is transparent.

When advancement is earned rather than scheduled, how does that change student ownership of learning?

7. Productive Stress Versus Harmful Anxiety

Games are challenging and stressful, but the stress is productive. Failure matters in the moment, but recovery is built into the system. Players try again.

Traditional schooling often produces a different kind of stress. Grades affect future opportunities. Failure can trigger disappointment from adults and long-term academic consequences. Anxiety accumulates.

Outstanda aims to preserve challenge while eliminating catastrophic consequences. Students are expected to meet standards, but failure does not permanently limit opportunity.

What kind of learners emerge when stress encourages growth rather than fear?

8. Autonomy, Purpose, and Respect for Time

Games give players meaningful choice. Which challenge to attempt, which strategy to use, when to pause and retry.

Outstanda does not claim that all academic content will be inherently interesting to every student. Standards still exist. However, the system minimizes the time required to meet those standards efficiently rather than artificially increasing difficulty to slow students down. Students who want to go deeper can. Those who do not can move on without being trapped or incentivized to cheat.

This respect for time matters. Students are not asked to pretend interest. They are asked to demonstrate mastery.

When students control pace and depth, how does that change motivation?

9. Language Support Without Lowering Expectations

Outstanda serves students seeking a high-quality, English-based education, including those pursuing early college pathways. The system is not designed for a single demographic group.

It includes support tools for English Learner students in more than 130 languages. Students can access explanations and guidance in their native language while progressing through the same mastery-based structure. Final assessments and work are completed in English.

This approach allows students to move more slowly if needed, develop academic English skills, and continue progressing without being separated into a different system or held to lower standards.

What happens when support is expanded but expectations remain intact?

10. Teacher Expertise in a Mastery-Based System

Game-theoretic learning systems do not remove educators from the learning process. They change where professional expertise is applied.

In mastery-based environments, teachers spend less time enforcing compliance or assigning partial credit and more time coaching, diagnosing gaps, designing meaningful projects, and guiding students toward deeper understanding. Professional judgment shifts from gatekeeping to mentorship.

Outstanding reflects this shift. Educators remain central, but their role aligns more closely with instruction, motivation, feedback, and support. Accountability shifts away from holding teachers responsible for individual student outcomes and toward ensuring that students are provided with clear expectations, timely support, and meaningful opportunities to demonstrate mastery.

When teacher expertise is redirected toward coaching and design, how does that affect instructional quality?

11. Why These Systems Work for All Students

This model is not designed specifically for disadvantaged students. It is designed for any student capable of engaging in an English-based, high-quality academic program.

However, systems built on clarity, agency, safe failure, and visible progress tend to reduce barriers that disproportionately affect students with less external support. When rules are explicit and progress is transparent, success depends less on navigating hidden expectations.

When educators say, “This will not work for our students,” they are often describing the limitations of existing systems rather than student capacity. These beliefs are usually well intentioned, but they can unintentionally limit opportunity.

If students already demonstrate persistence and mastery in other structured environments, what responsibility do educational systems have to respond?

12. Alignment With What We Already Know About Learning

The principles described here are not new or experimental. They align with decades of research on mastery-based learning, formative assessment, and student agency. Autonomy, competence, and timely feedback have long been associated with deeper learning and persistence.

What is different is the coherence of applying these principles within a single, accountable system rather than as isolated reforms.

If research has pointed in this direction for years, why has implementation lagged?

13. Long-Term Outcomes That Matter to Leaders

When students progress based on mastery rather than seat time, gaps are identified earlier, acceleration becomes possible, and readiness for postsecondary education becomes measurable rather than assumed. Early college pathways, reduced remediation, and clearer workforce preparation become attainable outcomes rather than aspirational goals.

Because progress data is continuously visible, leaders no longer wait for delayed test results to understand system performance. Accountability becomes ongoing rather than retrospective.

If outcomes can be measured continuously, how might leadership decisions change?

14. Institutional Comfort and the Cost of Delay

Educational systems are complex and constrained. Stability protects schedules, staffing models, and compliance structures. Change introduces uncertainty.

Yet students bear the cost of delay. When systems are slow to adapt, opportunity is deferred. When accountability is diffuse, improvement is incremental.

Outstanda emphasizes transparency across students, classes, and schools so that improvement is visible and shared.

If systems can adapt more quickly, what might be possible for students now rather than years from now?

15. Conclusion: Designing for How Humans Learn

This paper does not argue that schools should resemble video games. Outstanda itself is intentionally light on visual gamification. The argument is structural.

Games succeed because they align accountability, incentives, feedback, and progression in ways that respect human learning. When educational systems adopt these principles, students respond with focus, persistence, and ownership.

The question for education leaders is not whether students are capable of thriving in such systems. Their behavior elsewhere suggests they already are.

The question is whether institutions are willing to redesign themselves to allow it.

About the Author and Organization

Ron McDaniel is the founder of Outstanda, a nonprofit organization focused on mastery-based, accountable learning systems designed to support diverse student populations pursuing high-quality, English-based education, including early college pathways.

This paper is intended to contribute to ongoing discussions among educators, policymakers, and education leaders exploring how system design influences student motivation, persistence, and outcomes.