

Unlock the Power of Game-Based Learning with Esports & Game Design!

Discover how game-based learning transforms education. At STEM Forged, we believe learning should be fun and engaging. By integrating video games and design, we create unique educational opportunities for students.

What We'll Cover Today

- Why video games work for engagement

Two approaches to game-based learning: **playing vs. building**

- Learning outcomes for each method
- Technology requirements for implementation

Best practices for launching **esports and game design programs**

Games and Engagement

Game-Based Learning

Combines play-based and project-based learning

Includes structured gameplay (esports) and game creation (design).

Fosters STEM proficiency, collaboration, and problem-solving skills.

Proven Engagement Tool

Enhances motivation, comprehension, and retention in STEM and social-emotional learning.

Study in the *Journal of Educational Psychology*: 25% higher retention rates in game-based learning environments.

Research from *University of California, Irvine*: Strategic video games improve cognitive flexibility and problem-solving skills.



Why Video Games Work

Active Learning

Games require students to **analyze, adapt, and strategize**. Unlike passive instruction, video games encourage critical thinking.

Student Motivation

Competition, rewards, and progression drives motivation. Games provide immediate feedback, promoting resilience.

Simply Fun

Games are enjoyable and entertaining! Playing **increases engagement** and makes learning a more positive experience.

Playing vs. Building:

Two Approaches to Games in Education



Esports: Teamwork & Strategy

Develop collaboration, leadership, and resilience.



Game Design: STEM Skills

Enhance technical and creative skills.

Explore two dynamic methods: Esports for teamwork and strategy, and Game Design for hands-on STEM skills.

Esports: The New Team Sport

1

Strategic Thinking

Esports builds teamwork and communication.

2

Skill Development

It develops collaboration and leadership.

3

Academic Applications

Great for teaching physics or even data analysis.





Tech for Esports Programs



Windows PCs with dedicated GPUs are required.



Gaming peripherals like headsets and mice.



High-speed internet for online play.

Micro vs. Macro Planning

Micro Planning: Daily Structure

Focus on structured practice with clear, achievable daily goals to build consistent habits.

Macro Planning: Long-Term Vision

Align daily activities with broader school objectives, ensuring sustainability and long-term growth.

Integrated Skill Development

Combine micro and macro strategies to create a structured skill-building approach that impacts growth and fosters confidence.

Esports Program Goals.

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Tips & Best Practices for Launching an Esports Program

1 Prioritize Core Experience

Build a strong esports foundation.

2 Avoid Rushing Outcomes

Don't sacrifice esports for quick benefits.

3 Esports First, Benefits Follow

Ensure a true esports program; advantages arise naturally.

Game Design Programs: Unlocking Creativity

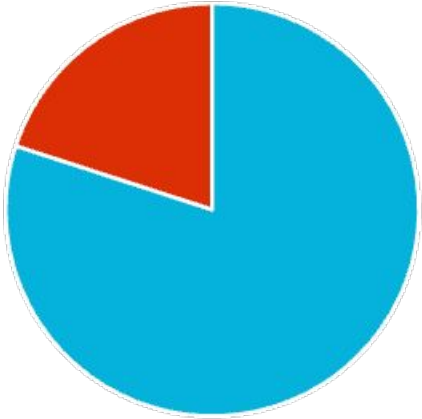
Engaging Students

Game design empowers students to bring their ideas to life through hands-on projects.

It serves as a central point of interest, sparking curiosity and enthusiasm for learning across various disciplines.

Game design also acts as a launchpad for diverse career options, providing students with valuable skills applicable in technology, arts, and beyond.

STEM Educator Experience



■ Game Design ■ Other Topics

Data from over 800 students completing opt-in projects.

Tech for Game Design

Flexible Systems

Can run on Chromebooks, Windows, or Mac.

Friendly Software

Use beginner-friendly software like Blocksmith.

Cloud-Based Solutions

Easy access across school devices.



Sustainable Game Design

Curriculum

Introduce game design as an elective

Projects

Using project-based learning

Tools

Select the right tools

Showcase

Showcase student work and connect to career pathways

The main thing: Let your students explore and create - put what's in their imagination into a virtual world! Don't lose sight of what makes games fun.

Key Takeaways

1 Engagement

Games enhance student engagement.

2 Teamwork

Esports builds teamwork.

3 Technology

Game design fosters STEM proficiency.

4 Better Outcomes

Engaged students perform better.

Implement structured programs for better learning outcomes. Start leveling up education now!

