

# Solution Brief

K-12 Education  
November 2022



## The Rising Tide of Esports in K-12 Education

### How Intel® Technologies are Powering an Education and Gaming Phenomenon

#### Esports: A Definition

Multi-player, online video games played competitively as part of a team.

#### What is Esports?

Video games, as with all gaming, have almost always included a competitive element, even in the earliest video games such as Pong.\* However, it wasn't until the early 2000s that technological innovations provided the environment for esports to thrive. Broadband Internet speeds have allowed gamers to join multiplayer competitions, first through local-area network connections (a LAN party) and later through wireless networks. Gaming consoles like Xbox,\* PlayStation,\* and Nintendo\* created their own online networks to keep pace. Streaming services like Twitch\* and YouTube\* popularized watching others play video games and viewing gaming tournaments. Additionally, a host of new games, such as StarCraft\* and FIFA\*, and a wide variety of other game types capitalized on the vastly improved power, performance, and graphics of modern computing. While still rapidly evolving, the esports industry is now mature enough to include niches for almost anyone with any affinity toward gaming, no matter their age, interest, ability, or level of enthusiasm.

#### The Benefits to K-12 Education

There's little argument about the benefits of extracurricular activities for students. The National Center for Educational Statistics's study "Extracurricular Participation and Student Engagement" suggests that students who are involved in extracurricular activities are more successful in a number of ways, including:

- Higher graduation rates and higher attendance;
- Improved scores in math and reading;
- More students aspiring to higher education;
- Higher focus in class; and
- Higher self-esteem, with fewer engagements of smoking and drinking.

Apart from tangible benefits such as these, students who engage in extracurricular activities (athletic, artistic, scholarly, or otherwise) experience an essential sense of belonging within the school community. Esports, while not a panacea for all students, helps to address poignant equity and inclusion issues along the lines of gender, race, and ability. Additionally, by emphasizing important social and emotional development, players gain lifelong skills that can help them interact with others, problem solve, and communicate effectively. Players learn to negotiate the dynamics of a team, they must attend meetings and practices regularly, and they are held accountable for contributing through their competitions.

#### Key Technology Requirements

Esports gaming rigs typically require:

- Microsoft\* Windows\* 11 Pro operating system
- Intel® Core™ i5 processor-based PCs or better
- 16 GB of memory or more
- Discreet graphics (dGFX)-enabled video
- Monitors with refresh rates above 144Hz
- Specialized keyboards, mice, headsets, and chairs

## Pathway to College and Career

The field of esports can offer students the academic and technical skills necessary to succeed in STEM and non-STEM related learning opportunities and careers. When students take part in esports in high school, coaches can nurture a passion for STEM and guide students to explore a STEM pathway in their future. Nationwide data suggests that 66% of high school graduates were enrolled in college by the fall of 2019.<sup>2</sup> By comparison, that same year, 92% of Garden States Esports athletes planned on attending college following graduation with the other 8% indicating plans to join the military.

Scholastic esports organizations have developed a range of curricula for middle and high schools centered on English Language Arts, Health and Wellness, and a CTE curriculum that involves a multiyear sequence of courses.<sup>3</sup>

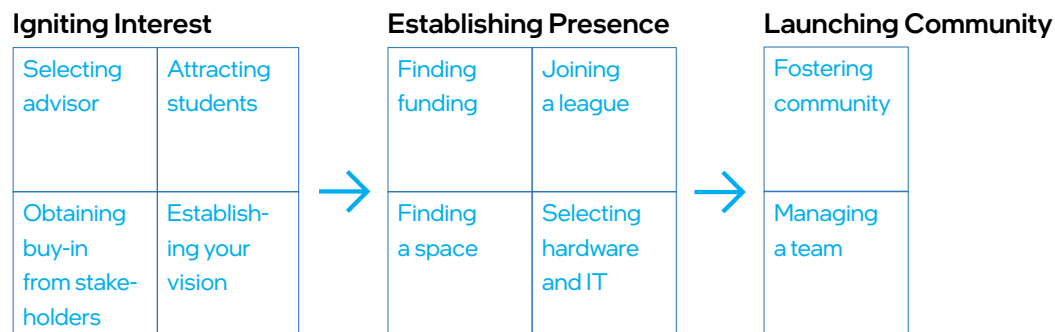
## Hardware Selection

When deciding about the space and hardware for their esports teams, decision makers should consider their larger vision. Spaces can and should be multi-purpose. In addition to being the home base for the esports program, the hardware and space provide the foundations for modern learning environments for all sorts of CTE and STEM applications and can even begin in an existing computer lab.

Purchasing for esports programs is different than for other education technology. With esports, system performance can correlate directly to an athlete's performance in a game. It can cause the refresh cycle to be faster, avoiding "lag" that drastically shifts a player's ability to compete in an online, real-time environment. Many schools begin their esports programs with existing technology infrastructure and, over time, they will upgrade their PCs based on their needs.

## The Path to Esports in K-12 Education

Many esports leagues provide resources to help high school clubs or teams get started. The High School Esports League's (HSEL) "Handbook" walks students and stakeholders through the entire process, covering topics such as identifying a coach or advisor, hosting the first meeting, and preparing for the first competition. HSEL also offers a paid curriculum, "Gaming Concepts," that covers everything from gaming history and appreciation to troubleshooting and field trips. HSEL claims that 82% of students who participated in "Gaming Concepts" as an after-school activity stated it was the first time they had participated in any extracurricular activity.<sup>4</sup> NASEF's guide to starting an esports program offers an "Activation Kit"<sup>5</sup> and curriculum for different formats of esports: ELA, CTE, Middle School, and Out-of-School Time.<sup>6</sup> See the diagram below for a high-level summary of the steps and considerations when forming an esports team. For more specific details, download the Intel-sponsored white paper on esports in education at [www.k12blueprint.com/esports](http://www.k12blueprint.com/esports).



<sup>1</sup> Extracurricular Participation and Student Engagement

<sup>2</sup> Fast Facts: Immediate transition to college

<sup>3</sup> Free High School Esports Clubs Curriculum

<sup>4</sup> Gaming Concepts

<sup>5</sup> Sign Up Your Esports Club

<sup>6</sup> Free High School Esports Clubs Curriculum

<sup>7</sup> Adding Esports to Your High School Activities Program



### Where to Get More Information

For more information about Intel® solutions for education:  
[www.intel.com/education](http://www.intel.com/education)

To learn more about esports and K-12 education:  
[www.k12blueprint.com/esports](http://www.k12blueprint.com/esports)

Additional resources about esports and gaming can be found at:  
[www.intel.com/gaming](http://www.intel.com/gaming)

Technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No product or component can be absolutely secure. Check with your system manufacturer or retailer or learn more at [intel.com](http://intel.com).

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