

The Esports Edge

How schools are converting video gaming online into learning

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A Game Plan for Esports in High School

The list is short when it comes to launching an esports club: a space to play, access to games, some (top dog) computers and, of course, student interest.

A year ago, when the [Orange County Department of Education](#) reached out to its high schools with a query — any interest in esports? — 25 schools from its 28 districts jumped up to learn more. The idea was to try launching a league that would leverage internet-based gameplaying to boost STEM education.

But nobody jumped higher than [Fountain Valley High School](#), where 140 students signed up to participate in a League of Legends tournament. There, an in-school double-elimination competition whittled down the contenders to two teams, which went on to represent the high school in the OCDE event.

As hundreds of people cheered for classmates in person and even more streamed the games on Twitch, Fountain Valley High beat out La Quinta High to claim the championship for the inaugural season of the Orange County High School Esports League.

That was just the start. Since then, the high school has launched an after-school esports club that now has 200 students involved. And that fledgling league has grown into the

[North America Scholastic Esports Federation](#), featuring two brackets — western and eastern — with 135 clubs around the country engaging some 1,700 students.

Why the explosive growth? OCDE Executive Director Tom Turner said that so often with STEM, a lot of products are sold to schools “that adults find interesting and then they try to convince the kids about how relevant and fun they might be.” However, esports “flips that paradigm on its head. The kids are already interested in it. We take that interest, and we find the learning. We don’t have to convince them of anything.”

What High School Esports Requires

Locking into this tailwind of activity requires a few components. At the front of the line are the games themselves. In high school esports, the two most popular games currently are [League of Legends](#) and [Overwatch](#), both also played at the college level. However, [Fortnite](#), [Hearthstone](#) and [Rocket League](#) are player favorites too. Newcomer [Apex Legends](#) is likewise gaining traction among students.

What's important with all these titles is that the students have chosen what they're going to play. As Turner noted, "You don't want to take a marginalized title because then it looks like you're trying to force something down the throat of kids, whereas they know what's popular." It's the adult's job to figure out if it's appropriate for high schoolers (all those titles listed are) and then "find a way to attach the learning and meaning to it."

There's also the gaming gear. [Huntington Beach Union High School District](#), where Fountain Valley High is located, helped the high schools in that initial wave of activity acquire gaming computers.

At first, when the program was new, the IT organization attempted to retrofit some existing desktop computers to be used as gaming machines, said Dagoberto Hidalgo, senior network technician at the district. But those were too underpowered, leaving the students frustrated with their playing. So IT "went back to the drawing board" and began working with the schools to see what funding was available to buy computers with the appropriate graphics cards, memory and hard drive space.

"We started researching the field and narrowed it down to the [Predator Helios 300](#)," an Acer gaming laptop "that had similar specs to the top-tier gaming machines but for the best price," he added.

Now, esports clubs all over the district have gaming laptops outfitted with 16 GB of memory, a dedicated graphics card with 512 MB of RAM, a solid-state hard drive that houses the operating system and programs and a terabyte "spinning platter" hard drive for additional storage. The advantage of the laptop form factor, said Hidalgo, is that it's an easy matter for the students to haul the computers when they head off to other schools for tournament play.

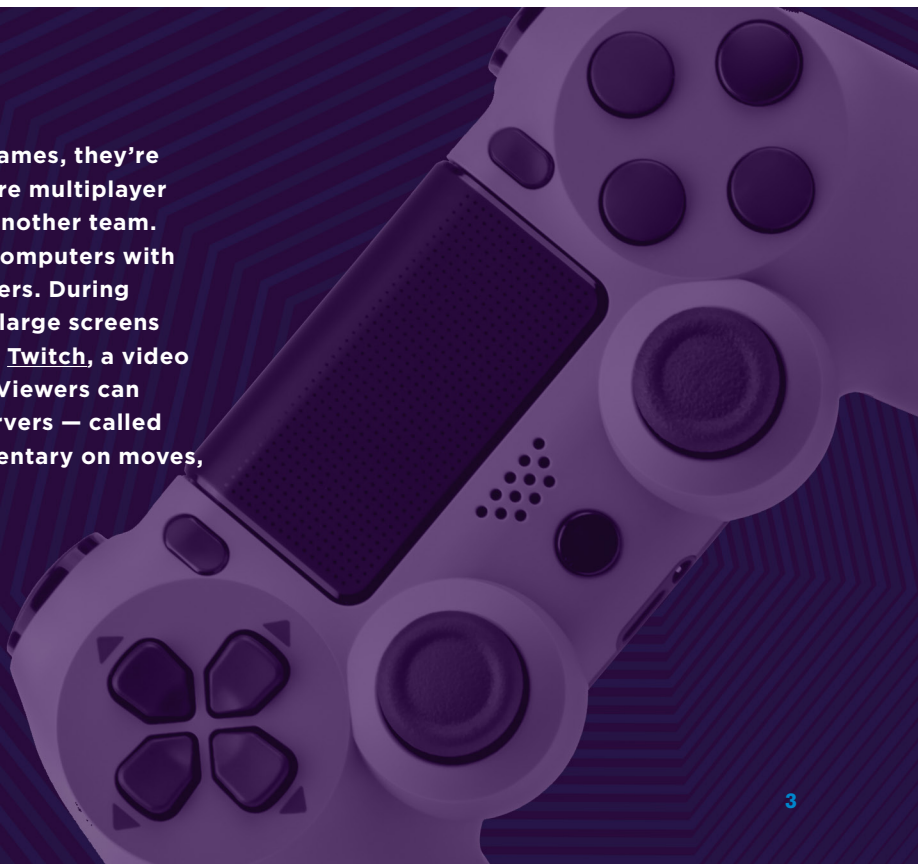
[HyperX](#) donated gaming headsets to enable players to communicate with each other; principals identified unused classrooms or other spaces where the clubs could set up; and the esports initiative was off and leveling up in the district.

Interestingly, even as many schools and districts all over the country have struggled to build out their wireless networking, esports is one area where copper is still king. The district packed the classroom where Fountain Valley High's esports club plays, for instance, with Ethernet ports and a dedicated switch so students could run physical cables to their machines to minimize any latency related to data streaming.

Ultimately, however, the one vital component required to make a success of esports in any school costs nothing at all, and that's student interest, said Turner. "Interested students will help overcome any barrier you have at a school to start an esports club."

Esports Explained

Whenever you see people playing online video games, they're participating in esports. Most often, the games are multiplayer — people on one team playing against those on another team. Competitions typically take place on jacked-up computers with keyboards, not on gaming consoles with controllers. During competitions, audiences watch the gameplay on large screens (in person) or view it as it streams on YouTube or [Twitch](#), a video platform like [YouTube](#) but dedicated to gaming. Viewers can listen to the players themselves or to other observers — called "shoutcasters" — who deliver colorful live commentary on moves, tactics, blunders and strategies.





Girls and Esports

It's not easy to get girls involved in esports — for a multitude of reasons — but once they do, the outcome can be amazing.

Girls who game as teens are more likely to get into STEM degree programs at the college level. That was the finding of [a study](#) undertaken at the UK-based University of Surrey and funded by the British Academy last year. [According to researcher Anesa Hosein](#), girls considered “heavy video game players” were three times more likely to take a science, technology, engineering or math (STEM) undergraduate degree than non-gamers. For her research project, Hosein followed a group of 3,500 teenagers from the time they were 13 or 14 years old until most had turned 25. Girls who played at least nine hours of video games a week “were 3.3 times more likely to study STEM” than those who didn’t.

Hosein is hoping that the research provides a “basis” for “encouraging gaming” in girls. But accomplishing that is a “continual challenge,” according to Mark Deppe, director for esports at the [University of California, Irvine](#), one of the largest collegiate esports programs in the country. Two big reasons he thinks girls are turned off to esports:

- Boys and girls are sometimes “encouraged to do different

activities at a young age,” and boys, especially, are pushed to begin “playing competitive games early on”;

- The online gaming community “can be hostile.” As Deppe pointed out, “The in-game communications and chats can be misogynistic and hurtful,” targeting women as well as other under-represented students. As a result, he added, “It’s hard sometimes to get through the online abuse and hostility that can be a part of the esports world.”

While Deppe acknowledged that UC Irvine hasn’t “solved the problem yet,” the university is actively working toward wooing more female participants, including at the high school level. For example, for two years, the school has run a [Girls in Gaming](#) summer camp that brings juniors and seniors of both genders to campus to explore topics such as careers in gaming, streaming, game development and the competitive scene. A big emphasis is on networking and learning from guest experts how to overcome the challenges posed by working in a “male-dominated industry.”

The university also assembled a [diversity task force](#) to examine the esports ecosystem, he said. That initiative convened diversity experts along with gamers and community members to

contribute to the conversation. The 15-page “[inclusivity plan](#)” that grew out of that gathering offers a “code of conduct” relevant for any esports club (among the rules, “no toxicity” and “no harassment based on a person’s identity”); a recommendation that the school host a college tournament specifically for players from underrepresented groups; and encouragement to fund scholarships to draw in student streamers who specifically are willing to “speak to issues of diversity and inclusion in their commentary.”

A couple of high schools in the sphere of influence for the university are seeing interest among girls percolate. And though progress is slow, enthusiasm is building among both the players and the adults.

[Fountain Valley High's](#) esports club, which draws some 200 students, last year

began hosting an all-female Overwatch team. For now, said Ryan Pham, the teacher who mentors that club, growth of female participation has “happened organically.” The girls “were interested, they started to play, then they became part of the team.”

[Troy High School's](#) all-girls team faced an obstacle from an unusual place: school administration. [According to student and team captain Mindy Young Joo Jun](#), “They kinda didn’t want us to face hate or toxicity from the community, and they were scared of backlash.” Fortunately, she added, Carlos Aldaco, team coach and guidance technician for the high school’s counseling department, “pushed really hard for it,” talking to district leaders until they “eventually ... came around to it and agreed.” Now the all-girls team focuses on League of Legends, although female students also

play alongside male students on the high school’s Overwatch teams.

Coach Aldaco’s philosophy, as he told a Syfy Wire reporter: “It’s not gonna be an easy process for them. They’re going to face a lot of criticism online [and] offline. People are gonna make fun of them, and I expect that. But I told the girls, ‘In order for you girls to change that environment, you need to participate.’”

“We need to give all students these opportunities, and not just those who are able to take part in an after-school club,” he says. “Sometimes something as simple as transportation can be a barrier to participation — especially for students who are already underserved. That’s why I’d like to see more effort to bring these programs into the regular curriculum as well.”

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Turning on Twitch

One of the reasons Twitch is so popular among gamers is because it allows them to view other gamers and pick up new strategies they can try in their own playing. But that’s also the reason why some high school esports clubs have stopped broadcasting their gameplay on the streaming platform.

Just like football teams that prefer to keep their practice and game videos private, esports club teams have become so competitive that “the students are hesitant to have their stuff posted because their competitors will then search that and see how their play-by-play goes,” said Ryan Pham, a teacher at [Fountain Valley High School](#).

That’s an outcome that’s frustrating to him. After all, producing those videos is supposed to be another outlet for students to develop their creative skill sets and add to their digital portfolios. “I want students to broadcast, but now the competitive aspects make them more protective.”

There’s little he can do. After all, he pointed out, the program is supposed to be “student-driven.” Currently, Pham is hoping they’ll at least consider saving videos and posting them “after season.”





5 Ways to Fund Your Esports Club

While esports may be inexpensive compared to other sporting activities on campus, it still needs some amount of investment. Here's how to raise the funds you'll need.

Recently, a [Pennsylvania](#) nonprofit was awarded half a million dollars by the state to promote computer science and STEM through esports. The new program has set a goal of reaching out to at least 300 high school students in 15 after-school programs, with “highly engaging instruction, ongoing opportunities for team collaboration, creative problem-solving and competitive fair play.” [The Emerald Foundation](#), the recipient of the funding, applied for the grant through a program called [PAsmart](#), intended to help prepare residents for high-skilled professions. The money will go toward funding a “traveling esports arena” to enable participating schools to host regional competitions.

But not every esports club has the expertise of a foundation to pursue grants to fund its programs. Here are five other — perhaps simpler — ways to assemble the equipment and funding you need to enhance your esports club.

1. See what your school can provide. That's where [Foun-](#)

[tain Valley High School](#) started with its esports initiative. According to Mark Ford, senior systems analyst in the [Huntington Beach Union High School District](#), when his district reached out to its schools to gauge their interest in starting up esports clubs, one expectation was that at least some of the equipment needed for the student gamers would come from underused CTE equipment. After all, computer and technical education programs are accustomed to acquiring computers loaded with high-end graphics capabilities so they can run CAD, engineering, and graphic arts and design applications. In situations where those teachers are serving as club mentors, those machines can do double duty. In Fountain Valley's case, the district IT organization provided the high school with an extra switch it had on hand to power the esports classroom gaming gear. Ford also suggested tying the acquisition of gaming computers to larger school computer purchases. He's hearing more and more from vendors that they'll throw in a set of gaming machines as part of their broader school

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– Gerald Solomon,
Executive Director,
Samueli Foundation



computer refresh proposals.

2. Encourage students to take ownership of the club. An important aspect of esports is learning the business side, which includes marketing. Just as the players on a baseball team fan out into the community to sell \$50 or \$100 sponsorships that allow local companies to display signage on their playing fields, esports club members do the same. These promotional banners or posters can hang inside the classroom or club space when the teams are at home. The signage can go up in the cafeteria or auditorium when they host tournaments, or the promotions can be taken on the road and displayed during away events. Any time the esports teams put together programs for special challenges that members of the public are invited to, they can include sponsor logos alongside the schedule to show off their club supporters.

3. Reach out to school fans. Computer science teacher Mark Suter put together a [sponsor letter](#) to solicit the funds his Ohio school needed to support its esports club. The letter emphasized the club’s charter (“Team-based activities with mutually dependent roles result in better humans”), the cost of the specific equipment the club wanted to acquire

and how the additional gear would benefit other educational programs the school was planning to introduce (the gaming computers could, he noted, be used for “experimentation with virtual reality”).

4. Turn to classroom fundraising sites. Sixth-grade science teacher Nicole DeShazer works in a California school where almost every student comes from a low-income household. Although her school has a one-to-one Chromebook program, it lacks many of the opportunities available in other schools for experiences that require a higher technology level. DeShazer and another teacher in the district set up esports clubs in their schools but soon realized there was more interest among students than computers available that were capable of running the high-quality graphics required for esports games. So she set up a [Donor-sChoose.org funding proposal](#), hoping to get enough funding to acquire 12 more [Predator Helios 300](#) Acer gaming laptops. As she has told prospective donors, not only has her new club motivated students to “show up to school,” but it’s also encouraging them to keep up “high grades” so they can stay on the team. Through esports, she wrote, “our students will gain life skills such as cooperation, resiliency, strategic decision making, and effective communication.”

5. Win esports tournaments to supplement the equipment stash. As Ryan Pham, a math, chemistry and CTE teacher, has found, when his esports teams at Fountain Valley High win or place in competitions, they often receive peripherals such as mice, keyboards and headsets as part of the prize bundle. (Students on the first-place teams might also receive small scholarships for their college funds.) [A recent Overwatch tournament](#) put on by the [North America Scholastic Esports Federation \(NASEF\)](#) provided a \$2,500 grant to Troy High School of Fullerton, California, for winning first place. And the four finalist teams won limited-edition versions of headsets for their competing roster.

An esports club can prove to be a relative bargain compared to the typical basketball or football teams, and it will probably have a broader reach among the student body, pointed out Gerald Solomon, executive director for the [Samueli Foundation](#), which has funded the development of NASEF and numerous grants to supplement STEM outreach in education. “All you need to do is take advantage of the resources you have, add a little where needed and you’re good to go.”



High School Esports Sets a Pathway to College

How schools can work with area colleges or universities to grow esports and create a pipeline of college-going students.

Literally dozens of universities and colleges have opened up esports programs in the last couple of years. So, it's little wonder that many of them are dangling scholarship dollars to top esports players with all the fervor of Clemson coaches considering their 2019 football commits.

But scholarships aren't the only higher education link that matters for high school gamers. As Gerald Solomon, executive director for the [Samueli Foundation](#), observed, esports can open up new opportunities. "Some students don't even understand what college is, have never been to a college campus, don't think they can even get into college." For them, esports becomes "a vehicle to be able to pursue higher ed" and gain the skills they'll use to "really thrive in the workforce."

What has been especially effective, he added, is having col-

lege students come into high school esports clubs as "near-peer mentors" and "ambassadors" — people who can share what they know to help student players improve their game and persuade them that they belong in college too.

The benefits go both ways, added Mark Deppe, director for esports at the [University of California, Irvine](#). "Our students who are mentoring in the high schools learn a lot." For example, there's one scholarship player who has been hired to help the [Samueli Academy](#), a high school catering to students from underserved communities, run its esports activities. "It's cool to see a gamer learn how to be a professional out in the world," explained Deppe.

Building that pipeline between K–12 and the university also helps cultivate the kinds of students institutions hope to see walking into their classrooms. "When people show up on col-

lege campuses, we get finished products a little bit," mused Deppe. By reaching them early in high school, there's still time to teach them life skills, such as how to stay healthy, get good grades and "be good citizens to succeed in life."


It doesn't hurt, said Orange County Department of Education Executive Director Tom Turner, that esports is drawing students into STEM who might otherwise be turned off by the typical "patterns" of coding and computer science and robotics.

"Those are great examples of STEM, but it goes beyond that," Turner noted. "If kids are turned off by the idea of coding,

Esports is something they're telling us they like. If we can find some great learning that maybe wasn't highlighted to them, and this can lead to college and career success, then why wouldn't we do that?

this is something that's way more universal. For students who may think they're not deeply interested in high school and bored by what they see on a daily basis, this type of education gives them impetus to show up and find a career where their interests in esports can be developed and lead to a pathway into a junior college or higher ed."

Sometimes, he added, "we as adults need to follow the kids' leads. Esports is something they're telling us they like. If we can find some great learning that maybe wasn't highlighted to them, and this can lead to college and career success, then why wouldn't we do that?"



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Esports Leagues

NASEF isn't the only esports organization for high schools to participate in. Several others have cropped up in the last couple of years. Among the services they provide: starter guides, stats tracking, coaching resources, access to college scholarship information, Twitch subscriptions and participation in league tournaments, with all the gamer swag and prize pools they can muster from sponsors.

- The Electronic Gaming Federation includes a high school division, which promises to help its member schools set up programs that prepare students for professional playing along with other esports-related careers, including casting, event management and media.
- The High School Esports League, which opened in fall 2017, recruits both school teams and individual gamers who may not have a club structure yet. The organization claims to have the “largest” league in the country (including players in Canada). Individual players pay \$25 per season; an entire school pass is \$700 for an unlimited number of players.
- PlayVS is a well-funded tech startup that launched an official national league in partnership with the National Federation of State High School Associations, the governing body for high school sports and activities. Currently, esports teams in 15 states participate in the organization, which hosts competitions on its own platform to pit school teams against each other. The benefit: No travel is required unless or until a team participates in a statewide competition. The disadvantage: PlayVS charges \$64 per student per season.
- Specific states also have their own high school leagues, including Illinois, Michigan and Ohio.



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