

Staying Ahead of the Metagame: Esports Basics for K-20

Both K-12 and colleges and universities are scrambling to keep up with demand for the newest mode of learning: esports. Two experts explain why it's happening and how to get started.

Whether it's a high school, college or university, interest in esports is running high. One of the reasons: Many students are already gaming, so why not find ways to instill learning where they're already hanging out? Dell Technologies Education Strategists **Jeanne Weber** (higher education) and **Snow White** (K-12) work with schools in developing esports programs that tie to career pathways and help students gain valuable skills for continuing their education or moving into jobs. In this interview Jeanne and Snow share their observations on why esports is gaining speed, how teachers and faculty can participate and what's needed to launch an effective esports program.

This interview was annotated for brevity. You can hear the entire interview with Jeanne and Snow – including examples of how schools are embedding learning into game playing, what games are the most popular ones to play right now and what's on the horizon for esports in K-12 and higher education – on *THE Journal's* [Viewpoint podcast](#).

Why are schools and colleges so interested in getting into esports?

Jeanne Weber: A large number of students are deeply involved in the esports community in games like League of Legends and Overwatch at the collegiate level, and they seem to be following what the professional gamers are doing. But what's even more compelling is how it's tying into life skills or future careers — things like shoutcasting, broadcasting, understanding the technology itself, artificial intelligence, graphic design. According to the reports that we've seen, this whole industry is anticipated to grow and almost double in revenues between now and 2021. It's an exploding field that is not only about the sport but also providing fertile ground for future career opportunities for our students.

Snow White: College is definitely a lot more mature in esports. But back in 2018 we started seeing a rise in K-12, and I think one of the reasons is that we're meeting the learners where they're at. They're already interested in gaming. In fact, 70 percent of students already identify themselves as gamers. So, we're finding something that is not only engaging for students but can bring in other skills as far as critical thinking, strategy, problem solving — skills that we want to make sure our students have, to be successful in college and career.

Yes, there is the gaming, but there are other parts of it too — the shoutcasting, analytics, statistics, nutrition and exercise. It's thinking about the whole child that we talk about so often in K-12 and how esports can actually be cross-curricular throughout numerous academic areas.

Jeanne Weber: We're seeing everything that Snow was talking about translate up into the higher education

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community. The students are playing for multiple hours potentially; so, their physical endurance, their mental endurance, their problem-solving skills, their communication skills, their strategic thinking skills are integral to success, not just for the gaming but as it carries forward into different disciplines and areas of study.

Let's talk about how teachers and faculty are involved. What roles do they play?

Jeanne Weber: At a collegiate level, you have physical trainers, nutritionists, this whole network of support people. When it comes to who the coaches are, oftentimes they are faculty members who are gamers themselves, so they understand the nuances of each game. Some are seeking out professional gamers who are looking to get out of game play and retire into coaching roles or doing it dual purpose as they're playing.

Snow White: At the K-12 level, it's evolving. My recommendation is to look for someone who has coached another sport. That's a special skill. Just because you're really good at a sport doesn't mean you're a really good coach. You need expertise in motivating players. A lot of schools that I've talked to are using existing teachers to coach, but

then as they mature in their clubs, we're starting to see [people] from the athletic department become esports coaches. That's an area where we are growing: [considering] what kind of professional development we need to develop for some of these faculty members who want to be coaches.

What's needed to set up an esports program?

Jeanne Weber: We're seeing sponsorship for esports come from a number of different areas of the higher education institution. Sometimes it's athletics, sometimes it's student affairs or the office of student success. Sometimes it's somebody that's involved with a group of students who have started their own club team.

In the work that I've been doing with institutions, as they're starting to build this out, you have to give consideration to different hardware options. For example, at Dell, one of our major gaming platforms is Alienware, which is what the professional teams use. That's a great starting point.

Something you also have to consider is setting up your esports arena. An arena doesn't have to be this huge space. It can be a reasonably sized room that may hold up to 10 players. At the collegiate level, players tend to play in five-player teams. So, you may want to

have five stations set up for your home team, if you will, and then buy an additional five stations if you want to invite in the visiting team. You may also have coaching stations in the room — one for each team. If you want to broadcast the competition or participate in broadcast, that would need separate machines. Large format displays also come into the picture for audience viewing.

One of the things to give consideration to is hardwiring your game stations to the network. Wireless or a VDI [virtual desktop infrastructure]-type of simulation connection can create latency, which players are going to hate because they're not going to get that immediate, rapid response that they're going for.

Other things to think about too are how you want all of these feeds either incoming and outgoing to be protected and managed on the network. So, there are some security concerns there. Then, if you're going to start to record and broadcast, you need to think about compute and storage and networking bandwidth. These are all things that are integral to the success of being able to run these programs beyond the gaming station sitting on a desktop.

There's a lot of discussion going on about setting policy around what games to play. Specifically, does the institution want to sanction the playing of "first-person shooter games." There are varying opinions out there on that. Then you have all of the physical assets for maintaining the health and welfare of your students and your players in your team, like you would for players on the football team or soccer team.

Some universities are also looking at



things like setting minimum GPA standards for participation in varsity and club programs.

Something else to consider is what leagues to join. That includes [NACE](#), the National Association of Collegiate Esports; [EGF](#), the Electronic Gaming Federation, which covers esports for colleges and high schools; [TESPA](#); and [ACEL](#), the American Collegiate Esports League. They can help with things like setting up competitive play, getting you into organized competition schedules with other institutions and licensing issues.

Snow White: High schools have their own leagues too: the [High School Esports League](#), [PlayVS](#) and [NASEF](#), the North American Scholastic Esports Federation.

Jeanne Weber: There's a lot that goes into figuring out this whole ecosystem. Do you want to set up a few kiosks on campus to test the waters and see what student interest is, do you want to help support and sponsor a club team, or do you want to elevate the conversation and [develop] more of a varsity team?

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This is not a small endeavor, but you don't have to undertake building a 100-seat arena. You can start very small and dip your toe in the water and continue to evolve and build.

Snow White: For K-12 what I usually start with is what is your vision that you want to see with esports? Is it going to be a club or is it going to be more of a varsity level team? Once a school district truly identifies the vision of what they want, then there are the four “p's” that I tell them to think about: place, people, process and products.

If you're really thinking about varsity level, then for place you'll say, OK, we need a place for them to play and we need a place for streaming and broadcasting.” For people, “We're going to need some professional coaches.” For process, you'd think about sponsorships, developing curriculum, aligning it to state standards. And for products, for example, what's your infrastructure going to look like to support the vision? Infrastructure needed for streaming is going to be

different from infrastructure for implementing esports at a club level after school.

Jeanne Weber: I tell people, if you're aware of a group of students that is playing esports on your campus, go sit down and have a conversation with them and develop a better understanding of what they're doing, why they're doing it, why they're so passionate about it. Then use that as a platform to evolve the conversation. And talk to your colleague institutions. Pay attention to what's happening across the whole of the landscape that is esports in education and start to think about where you're going with this, what you may or may not want to do with it.

Snow White: My advice for K-12 is to give your students voice and choice. Get them involved in helping build your program. We as adults are of the older generation; esports is new to us. But the students — they know what's going on and they have some really creative ideas about how they could build a program in high school. So that would be my priority advice. Get the kids involved.

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Turning to Student Voice and Choice for High School Esports

Even though this Texas district is fairly new to esports, it's already seeing the impact on student skills and their levels of motivation.

[Grapevine-Colleyville Independent School District](#) CTO **Kyle Berger** is facing new kinds of challenges he never could have foreseen before introducing an esports program into his high schools, including taking calls from college recruiters who want to know more about some of his players and hearing from parents wondering how they can get their kids on the teams. But, as he explains in this interview, the response from students has made those tiny hassles all worth the effort.



How do you describe esports to people in your district and not have them think, "Oh, great, the kids are going to be playing video games instead of learning"?

Kyle Berger: That was one of the first challenges that I came across when it came to esports. I said, "We're going to consider bringing esports to high schools and the reason we're doing that is because over 250 colleges are giving full-ride scholarships." And when I said that, all of a sudden, the parents and other administrators in the district perked up a little bit. The overall structure of esports is estimated at a \$4 billion industry that's growing, and we need to be able to start preparing our kids for how to take part in that. Still to this day it has been one of the most underestimated things I've done in my career in K12 technology. I did not anticipate the overflow of interest we're having here in Grapevine-Colleyville.

What does esports look like at your district?

We surveyed our kids and asked, what would be the interest? We settled on League of Legends and Rocket League. And then we put out there, who wants to sign up to take part in this? We set up interest meetings and ended up with overflowing lecture halls. I had to keep scheduling more interest meetings.

We settled on 75 esports athletes, and that really was due to overall restraints we had on equipment and space. Over this past semester, every Tuesday night, we have six teams playing League of Legends against teams all across the central U.S. Then on Thursday nights we have up to five teams on Rocket League that play, again, against teams all over central U.S. In the morning and after school, students come in for practice here and there, to really hone their skills around esports.

This interview was annotated for brevity. You can hear the entire interview with Kyle – including how he's building interest among female students in esports, where he's hoping to integrate esports lessons into traditional courses and what he's advising his K-12 peers to think about as they're launching their own esports programs – on [THE Journal's Viewpoint podcast](#).



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We took one of our traditional computer labs and modified part of it to be our esports labs. We outfitted our computer labs with Alienware gear, which are high-level-performing Dell devices, and set up 12 stations at each one of our high schools. That way we can rotate our kids through as they have gameplay. Then we have broadcasting stations inside of each computer lab where our students do live announcing and video streaming of the games as they're going on as well.

So esports isn't just about playing the video games.

You have the game aspect of it, which much like other athletic events or activities, requires collaboration, teamwork and all that. But we also have analysts, teammates or students that watch the film or help coach with our esports coaches as well. They're helping facilitate strategic stuff for the players. Then we have the team that's doing the broadcasting. And then we also have other students who do the social media marketing. It continues to grow with all these different avenues, much like it would be in the professional side of the house for esports.

Where did your coaches come from?

We have two teacher/coaches at each of our high school campuses that help facilitate our esports program. And to be honest, we were going into a great unknown. There wasn't much out there. There's not a professional development course that you take as teachers to be esports coaches. What made it exciting and successful was that we went to the table with our students. We asked, "How do we need to make this? What do we need to do to make this successful? What does this need to look like?"

Our kids helped research it and our kids are the ones that said, "We need to go online with streaming. Let's figure out how to do that." And they took that portion of it. The students really started taking ownership and started crafting this overall program. So, our coaches really just became facilitators to help guide and make sure everything was coming together.

What's the atmosphere like when students are playing the games?

It's quite different from what you would think of for a computer lab in general. I've



been a CTO for several years, and I'm used to beating up these hardware companies: We need the cheapest machines you can get, and I need to put them all in there. But then when it comes to esports, we needed higher-performing equipment. So, the computers are very high-end. They each have 27-inch monitors that are set up and displayed, specialized keyboards for gaming operations and even specialized chairs. The kids also have headsets so they can communicate with each other as they're doing strategy during the game.

And what was funny is, at first, the students were like, "Oh, we're going to just be using our regular computers. That's not going to work." And so, they had an expectation already. When we unveiled what we had brought to the table with Dell and Alienware, they were like, "Oh my gosh, this is top of the line for us to compete with."

It really helps set the tone for us overall — even down to jerseys. They all have uniforms when it's game day. They're all uniformed out as a team representing the school district and playing on the national stage.

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Are these students learning something besides how to improve their gaming?

In education overall, if a student is involved in an extra activity other than just going to class, that has dramatic impact on their academics overall. What is interesting is that about 60 percent of our students who are in esports weren't involved in any other activities. They finally found something that they enjoy, that they could be a part of. What that meant for us is that even though esports isn't sanctioned by our state governing sports league, we still follow the same rules as: You've got pass your classes to be able to participate and play. You have to have good discipline, attendance and all that.

Well, some of these students — they were good students, but they never had much motivation to make sure their grades made the mark. When we first started, we had kids coming to the table: “Mr. Berger, I got a 70 on this particular test, but here's what I'm going to do. I'm going to tutoring tomorrow because I'm going to guarantee that I'm passing because I need to play.” That might not have been something that that student would have considered before because there was no incentive.

Then there's the collaborative nature of it, when these kids are getting together and analyzing the game play, working together, helping each other, building their strengths — you start seeing all sorts of different elements come out.

One of the biggest ones is general improvement on communication skills. What you find sometimes with traditional gamers is that they may not have the best communication skills. Really, working as a team and talking has expanded their abilities. Some of these kids say that they're experiencing benefits in their traditional classes just from their involvement with esports, which I think is a win-win all around.

It's really exciting. I anticipate us growing from 75 to at least doubling out to 150 esports athletes next year at a minimum.

Will you be adding additional schools or expanding your labs?

The big thing is building capacity for our coaches and support mechanisms, instructor-wise. We're looking at developing an esports coaching clinic this summer and bringing in some professional esports folks to help teach our coaches how to coach and facilitate esports.

And then we're expanding our computer labs at our high school campuses so that we have more available spots for kids to play and be a part of the overall environment.

The leagues have been going now here for 10 weeks. We're in our playoff season. And I still get calls weekly from parents asking how they can their sons or daughters involved in the program.

Just what you thought you'd face as a CTO.

No kidding. Who thought I'd be having video game teams and building that out, so much to where within this past month I've actually had calls from college recruiters to ask about our esports athletes? As a CTO, I never thought I would have colleges calling me saying, “Hey, we want to talk about ‘Johnny’ and his esports play at your high school.”

What's next?

When we started looking at the esports industry altogether and seeing how vast this has grown as an opportunity for our kids, we said we need to figure out a way that we can make sure we're better preparing them to go into this environment. We brought our partners like Dell to the table and some of our students and we started developing curriculum for what this will look like.

We're looking to start rolling that out next school year and officially putting it to the state to be a sanctioned course by the state of Texas. And then we hope to continue to grow and possibly create our own esports certification. Just one step at a time.

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Esports as Education Game Changer

Since its launch at this college, organized esports has woven itself into research, course offerings and recruitment tours.

When the [New York Institute of Technology](#) took a gamer's advice to organize esports play for its students, little did the institution expect that seed to grow into groundbreaking medical research, a potential area for development of a new minor and a recruitment lure for new students. In this interview [Dan Vélez](#), NYIT's director of [Athletics and Recreation](#), and [Jerry Balentine](#), dean of the [College of Osteopathic Medicine](#), explain what medical issues esports players face as athletes, how esports compares to other athletic endeavors and what the future looks like for students who immerse themselves in the world of collegiate online gaming.

This interview was annotated for brevity. You can hear the entire interview with Jerry and Dan – including free medical advice for esports coaches, what two conversations you need to have to make esports successful on campus, and how esports fits into student wellness – on *THE Journal's* Viewpoint podcast. [Click here.](#)

Jerry, what kinds of medical concerns to esports players specifically face?

Jerry Balentine: I would in general say you're looking at a very young population. If you who had asked me at that age, does anything hurt you, I would always have said no. And we find the same thing with esports athletes. They're young, they're resilient. But when we observe them, either by videotaping them or sitting in the room with them as they play, we realize what their problems are. In general, you can divide it into a few areas: Visual issues and muscular skeletal effects. The esports competitor watches the screen four, six, eight, 10 hours a day, and that obviously has an effect. And the shoulders are tight or the wrist is being moved too much. There are stories of some of these esports professionals ending their careers relatively young, because they cannot take the pain anymore.

But then we also look at how we can help them improve. So, how can we point out to them that by sitting in the chair for two, three hours straight, their spines are starting to curve, their head is dropping and therefore their performance will be suffering?

We do a whole bunch of programs, including taking athletes while they're playing the game and forcing them to take a break and go on a treadmill for a couple of minutes. We're working with them on how they eat and how nutrition plays into this.

Our sports medicine medical team works a lot with long-distance athletes. We take the experience we have with that and translate it into this new activity and look at how we can improve the performance and avoid injuries.

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Talk about that research you’re doing.

We publish a good amount of research. Part of it is trying to figure out where esports fits in. When you look at an esports player, you don’t really think of them as an athlete upfront. Are they athletes or not? Should they be competing in the Olympics, for example, or should they not? Some of the research is position papers on how to evaluate this. Some of our other papers are about how to put together an esports medical team to treat those athletes. We’re looking very specifically at some video capture of the athletes’ performance and publishing papers on changing the spine and so forth.

We’re currently working on a very interesting project where we take saliva samples and evaluate players’ Melatonin levels, evaluate some of the cortisol levels in their blood, to see if this constant looking at a screen fools their body into screwing up the day-night cycles. We’re finding early results that their bodies are somewhat confused [about whether] they’re really asleep or awake.

We have a lot of experience with concussions and brain-related injuries. And we’re trying to relate that to what happens to the brain when you get this massive amount of data through your eyeballs sent up to the brain all the time.

OK, Dan, you’re an athletic director and you have dealt with traditional intramural sports like lacrosse, basketball, soccer, volleyball, baseball. But esports?

Dan Vélez: It’s part of our sports portfolio. I always tell people, yeah, they’re athletes. They practice, they put a lot of time and effort in, the same way that our lacrosse team goes out every single day for two, two and a half hours’ worth of practice. [Our team], the CyBears, are doing the same thing. They’re trying to perfect a very specific skillset like every other athlete does. They’re part of our family. We treat them the same way. They get the Under Armour gear that our regular student athletes get. We celebrate them with

weekly awards the same as our traditional athletes, and we celebrate their academic accomplishments too.

How does esports differ from what you’re doing in those other sports?

Dan Vélez: The sedentary piece. And this is where Jerry and his folks really come into play. Traditional athletes are active; they’re up and down a field; they’re up and down a court; they’re in the weight room. There’s that physical component that we know and understand. We know how to create the best lacrosse player, the best basketball player, from a medical standpoint, when it comes to nutrition, when it comes to physical exercise. What we’re recognizing is that our sedentary athletes, the CyBears, need some of that as well. And as Jerry touched on, we need to have them walk on a treadmill after they’ve been playing for so long, have them go through stretches. We’re realizing that there’s a lot of crossover. We have to tweak it so that it works with what their bodies are



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going through.

The more we talk to them about becoming the best player possible, that's where they buy in. They are uber competitive. They want to win. And whether that's because they have aspirations to be a professional or because they want to become known in the business of esports, they're buying in.

How did esports become such a big deal for NYIT?

Dan Vélez: We had a gaming club, and a young man who's now our director of esports approached the athletic department and said they wanted a more competitive environment to participate in. They wanted more structure — as crazy as that sounds for an 18- to 22-year-old — being a team, of being in leagues and being able to compete for something, rather than getting together every now and again with their friends to play. They recognized there was something very special there, and they were prepared to be able to dive into that.

Jerry Balentine: From my standpoint, it was intellectual curiosity that you find in higher education. I have an incredibly talented faculty. So, when Dan started talking about esports. I started looking into it a little bit. I run with another faculty member here who is an exercise physiologist, Dr. Joanne Donoghue, and I said to her, “Do you think these guys are athletes?” And she said, “No.” I said, “Well, prove it to me.” And the next thing I knew, she was researching and meeting them and starting to write articles and publish. And she goes, “This is really interesting. They might be.”

We had found this really interesting group of people who are very competitive but making all of these — what we would consider — mistakes. Imagine the following. You have a marathon runner. What does the week before the marathon look like? They certainly don't run a marathon the day before. But we found these esports athletes practicing eight hours before the game. Well, is that the right way to do it? Maybe it is in esports, maybe it is not.

This curiosity of working with them got us very excited about the field. And then the more we read about it, the more we realized there was this vacuum where medical fields were not paying attention to it. That immediately got us more involved. The school of health profession has a couple of physical therapists and occupational therapists. We all had this excitement about helping a group of athletes, a group of students, in a field that was really evolving.

Let's talk about the learning related to esports. What future is there for students in esports?

Jerry Balentine: There are multiple areas. We were at the Barclays Center [in Brooklyn] for an event, and it was sold out, with people watching a big screen. We need experts who understand how these events are planned and put together. It's a multi-billion-dollar industry out there that nobody over 25 knows much about except if they have invested in it. We need people who can be the business

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people for that.

Dan Vélez: What I tell people is to get beyond the video games. We already have a customized bachelor’s degree tailed for students. That was the first step we took. We housed it in our school of Interdisciplinary Studies because that allowed us the most flexibility. Now, step two is to take a true cross-disciplinary approach to it and set up almost a minor within this and say, “We’re going to leave 18 credits free for you to focus on something.”

So, one of the things that I’m focusing on with our schools of Management and Health Professions is creating academic tracks that are cross-disciplinary. Take an accounting degree, for example. You could have a future as a CPA, but let’s take accounting philosophies to the business of esports. Let’s take traditional tracks and infuse them with the business of esports. We’ve got a wonderful school of Architecture. Somebody’s got to build these venues that are specific to esports. How do we take the knowledge that we have in our school of

Architecture and how do we apply everything we’ve learned over the years to esports venues?

Or in the health professions. We know how to train a soccer player. Let’s also train these esports athletes to be at their highest level. There’s a vacuum there. There’s a lot of interest in young people who want to be in this industry, but they may be missing some of the educational components, and that’s where we come into play.

You’ve talked about the venues. The Institute recently opened up its own esports center, which sounds like a big budget item.

Dan Vélez: We were able to repurpose space in our library that was underutilized, and it’s almost our Guinea pig. We’ve got plans for new buildings on campus, and within one of those new buildings we’re looking at possibly 1,500 to 2,000 square feet dedicated to esports only. One of the beautiful things about it is, it’s set up where a couple of hours a day it’s dedicated only to the CyBears for their practices, but it’s also open every day

for our regular students. We’ve got some phenomenal Alienware machines in there. I always laugh because the students come in and they’re like, “Whoa, this is so much better than what I have at home. The graphics are so much clearer. Everything works so much faster. The response time of what I’m seeing to the keystrokes is almost instantaneous.”

So, show me the money. How does esports pay off for the school?

Dan Vélez: Look. The academics of an institution are going to sell themselves. But students always want to know, “Well, what is there for me to do?” What we’ve recognized is that, yeah, intramural sports, they’re still big. Rec facilities, they’re still big. But in today’s digital age, the students want and look for different things. This is one of those different things that, if we do it really well, will be a game changer for us, for who we are as a university.

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