Esports as a Catalyst for Connected Learning:
The North America Scholastics Esports Federation

Collegiate esports’ rising popularity has created a host of new educational and research opportunities, ranging from understanding and modeling these communities to expanding programs beyond college into high-school learning environments.

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In the recent years, competitive multiplayer video-game play, or “esports,” has risen as one of the most influential spectator and participatory sports among young people worldwide. According to Forbes, global revenues of the esports industry in 2018 are predicted to reach $1 billion, increasing 38 percent from 2017 [1]. In North America, there are now more than 120 universities and colleges with collegiate esports teams, many which grant scholarships to their top players. As universities start establishing bases for collegiate esports, more students are encouraged to participate in esports on campus. According to Wired, the number of students who registered as players in the Tespa league has increased from 7,000 in 2015 to nearly 20,000 in 2018 [2].

University of California, Irvine (UCI) was one of the first universities to launch a collegiate esports program and, with it, a state of the art esports arena located in the heart of campus. The arena was designed for multiple purposes: 1) entertainment, by equipping with high-end computers and broadcasting systems; 2) community, by providing space for student club activities; 3) competition, by furnishing collegiate team’s training and matching area on the main floor; and 4) careers, with training for staff roles and professional development built into the overall design [3]. Perhaps the most novel aspect of the UCI esports program was its overt support for academic esports research. The program granted access and provided...
resources for research faculty on campus to conduct research from multiple domains spanning neurobiology and behavior, computer science and informatics, social sciences, sports science, and media studies. Taken together, the program has allowed the esports community on campus the opportunity to connect, evolve, and professionalize.

In the words of the program director Mark Deppe: “At UCI Esports, we elevate competitive play to harness human potential. For us, esports is about more than competing at the highest level; it’s about learning, developing people, and making the world a better place. Our vision is to be the global hub for esports where academia and industry collaborate to improve competition, advance research, engage communities, create entertainment, and launch careers.”

For many UCI students gaming has long been a pastime, with the Association of Gamers and the Video Game Development Club being the largest two undergraduate clubs. In a campus-wide survey conducted in 2018, we examined the overall popularity of games and esports on campus among undergraduates, gaming habits and preferences, and general attitudes toward games. In a representative sample of 686 students (44 percent female and 53 percent male), we found more than three quarters of students on campus play videogames (77.1 percent), although the same gender differences found across the games industry persist. Nearly all male students game (92.8 percent), but just over half (58.9 percent) of female students do. The top three game genres on campus are first person shooters (FPSs), role playing games (RPGs), and multi-user online battle ground arenas (MOBAs). The top two motivations for play are challenge (13 percent) and playing with friends (13 percent); and the biggest concerns are potential interference with school (29 percent), concerns about addiction (25 percent), and time (13 percent).

While interference with school was the number one concern of students, our survey found very little reason for concern except at the extreme level. On UCI’s campus, time spent gaming is fairly evenly distributed with one fourth (25 percent) of undergraduates gaming 0-3 hours weekly, one fourth (25 percent) gaming 3-6 hours weekly, and one fourth (25 percent) gaming between 6-14 hours weekly. Only a small portion (roughly 2 percent) of students game more than 40 hours per week. Influence of gameplay on academic performance and affiliation was weak (Kendall $\tau = 0.06$, p-value = 0.02) and limited to extreme gamers. When the extreme players pool was removed, we found no significant relationship between gameplay hours and GPA ($\tau = 0.0568$, p-value = 0.06). Gaming up to 14 hours weekly (75 percent of students sampled) shows no relationship with GPA at all ($\tau = 0.0094$, p-value = 0.7892).

**ESPORTS ON CAMPUS**

Our campus-wide representative survey provided a bird’s eye view of gaming on the UCI campus. To understand the esports program and community in greater detail, we took a closer look at the community’s different roles and functions. We conducted a qualitative research study that used ethnographic methods to investigate the social ecosystem within the campus esports community [4]. Over roughly two years, we observed participants in the arena and at esports-related events, focusing on day-to-day game related activities, team practices, special events, and tournaments. Members of our lab were actively involved in both the games (e.g., “League of Legends”) and online game communities, and participated in the larger esports professional and collegiate scene (e.g., at local esports centers and international

![The esports ecosystem.](figure.1. The esports ecosystem.)
conferences like TwitchCon and BlizzCon). We also conducted a series of closer, more focused analyses including: a cognitive analysis of the UCI collegiate esports team [5], a content and pattern analysis of Twitch channels [6], and interviews with on-campus players and spectators [7].

From this body of work, we developed a model of the esports ecosystem shown in Figure 1 [4]. The esports community is comprised of five categories: the competing team, content creators, strategists, organizers, and entrepreneurs. While players on the competing team are positioned at the center of esports-related activity, it is the surrounding roles, practices, and products that serve as the generative engine of the community as a whole.

Content creators are artists, streamers, and journalists across diverse platforms and variety of media (visual, audio, written, and video) with demonstrated expertise across academic domains, skill sets, and tools. More than within any other category of esports community members, the line between professional and amateur is blurred among content creators. For example, many professional streamers start a part-time while having a full-time job in another field. Once they start to earn as much from advertisements and viewer donations as from their official employment, they consider streaming as a full-time job. By contrast, a professional cartoonist can draw a fandom cartoon just for fun and be willing to share it with others online.

At the front line of the esports business, entrepreneurs extend the boundaries of esports practice. In supporting innovation, they are responsible for creating new products, deliverables, services, and opportunities. At one entrepreneurial extreme, we have third-party developer start-ups that usher in a wide range of innovation; on the other side are established merchandisers and marketers with international investments in high profile teams like the 2017 League of Legends World Championship rematch between Samsung Galaxy and SK Telecom.

Strategists, by contrast, are almost exclusively comprised of coaches and analysts whose interest is gameplay data analysis for direct improvement of a specific team or community contributors (theorycrafters); those who maintain the knowledge base of the constantly changing balance of game characters (meta) and who contribute to the shared public (most commonly, on forums).

Finally, we have the oft unsung organizers. General managers handle the administrative details of the team’s roster and finances, event organizers handle the online/offline competitions and marketing events, and IT support staff maintain the technical infrastructures needed for live competition and spectating. Each category of esports participation represents a bevy of knowledge and skills with direct connection to academic standards highly valued in education. So, given these connections, is there a way to leverage the tidal wave of interest in esports to authentically engage young people in school?

![Breakdown of Student Talk](chart.png)

**LEVERAGING ESPORTS IN HIGH SCHOOL**

The idea of building out esports programs at the high-school level has a rich history. We conducted a qualitative census of all high-school programs in the United States [5], including all programs that included structured or organized esports competition across two or more schools. At the time of our census, there were 10 programs total (not including our own which was, at that time, only in its first pilot year). We interviewed leaders of each program about the details of their program including goals, structures, and challenges. All 10 programs interviewed were for-profit, and while some programs were permitted by the schools, none were actively school supported (e.g., given access to school computer labs or connected to classroom curricula). Across all 10, leaders discussed the benefits of their program in terms of increasing community and social connections among peers, but none had
forms of engagement for students beyond team competition. All programs we examined overtly aimed to create a positive competitive environment for kids and set behavioral expectations with codes of conduct and other policies, but none included instruction or mentoring on the topic of social or emotional behaviors and none included metrics for success or assessment. In sum, although the aspirations to enrich esports were certainly there, the actual programming to accomplish it was not.

It was against this context that we created the North America Scholastic Esports Federation (NASEF). Our organization takes a very different approach [8], using esports as a trojan horse for connected learning [9], which is learning that connects students’ interests in esports participation with academic, career, and civic achievement. The learning environment also connects students with a network of mentors and peers who can support their learning and build relationships between young people and the broader community as a means for affiliation, recognition, and opportunity. Launched in 2017 in California and now expanded across North America (U.S., Canada, and Mexico), the NASEF league and club structure directly connects academic content to esports in authentic ways to enrich students’ gameplay and to demonstrate to young learners how school content across the disciplines is directly and crucially relevant to our everyday lives. Our fundamental premise is that “the most resilient, adaptive, and effective learning involves individual interest as well as social support to overcome adversity and provide recognition” [8]. NASEF makes good on this principle using the enormous popularity of esports among students.

NASEF accomplishes this through careful design. NASEF happens on school campuses with teachers as “general managers” (GMs) to serve as on-site guides and trained online esports coaches, as well as college kids who are vetted and trained through Connected Camps to mentor youth and help students improve their gameplay and teamsmanship. The program emphasizes inclusion and diversity within participating groups, rotates game selection in order to appeal to a wider variety of gamers, and has a community code of conduct that prioritizes teamwork, diversity, and respect of self and others. Perhaps more remarkably, we focus on clubs rather than teams as a way to engage students not only in the competition but also, more crucially, in the myriad roles that comprise the esports scene. Toward these ends, we offer ongoing informal (and formal, described later) curricula for teacher general managers at each site in the form of digital toolkits on key topics such as “building your PC” and “learning how to shoutcast,” with topics further amplified through UCI hosted Saturday workshops on college campus and more intensive summer camps. Our goal is for students themselves to run the teams and league while we as adult organizers mentor them from the sidelines.

NASEF takes research and assessment seriously. The charge of our lab is to understand what is working, how well, and for whom in the context of this novel educational esports program. In the first year of NASEF, we conducted a formative evaluation of six of our clubs over the course of the pilot 2018 tournament season. We collected more than 20 hours of field notes from six schools, selected for maximum variation (e.g. half affluent and half with significant free lunch programs), in addition to interviews with participating students (n=39), teachers GMs (n =10), coaches (n =5), and parents (n =10). We did not include

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FUTURE DIRECTIONS

Through programs like NASEF, we are only beginning to understand the ways in which the passions of this new generation of players might be leveraged to make school more relevant and to connect young people to career pathways and future selves. The results thus far have been encouraging. When you step back and consider esports at the global level, you see many forms of engagement by individuals across different stages of their life, careers, and aspirations. Some prominent players go professional but many choose to remain spectators and enthusiasts. Some grow up to become game developers to create new products within the genres and forms they love. Some leave games behind to only later pick them back up again as parents who hope to share the love of play and joyful collaboration and competition with their young. There are many ways to play, and many diverse forms of engagement in esports that go well beyond the stereotype we sometimes still hold of lone individual at the screen with their hands to keyboard. We need more research on these forms of play and more serious interrogations of player experience both in and beyond the screen. This continuum of participation in esports and video games makes these interest-driven pastimes vital sites for engagement, socialization, and learning.

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REFERENCES


Biographies

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