ESPORTS AND EDUCATION:

A PARTNERSHIP FOR SUCCESS

Esports - organized, competitive video gaming, has moved into the mainstream. According to EdTech Magazine (2018), more than 100 million people worldwide participated in esports in 2017. This growing movement is flourishing on high school and college campuses nationwide. Over 100 colleges in the U.S. have joined the National Association of Collegiate Esports (NACE) consortium, and many other interstate and regional leagues have been formed.

Direct benefits from participation in the esports ecosystem can be observed for students, for schools and for the community at large. Students receive social and psychological benefits from participating in group activities. Skills such as familiarity with technology, analytical thinking and motor skills are honed through gameplay (Hilvoord, 2016). In addition, millions of dollars in athletic scholarships are awarded each year for esports; $9 million of which was awarded through NACE schools alone. Schools see the benefits of increased student attraction and retention, as well as increased nontraditional interest in STEM studies from students who identify as female (Magid, 2017). New professions, economic development possibilities and potential increases to the technology pipeline can benefit the community at large.

OAKLAND UNIVERSITY ESPORTS:
A CASE STUDY

A large number of high school and higher education institutions in Michigan are currently involved in, or intend to pursue, esports at their organizations. Oakland University's Interim CIO, Lori Tirpak, explained her school's progress toward an esports program.

Inclusivity and fostering a sense of well-being were big drivers of Oakland's decision to get involved in the development of a Varsity D-1 program. This program consists of three esports teams and a club program with multiple teams. "Esports is attractive because it's inclusive. Students from all ethnicities, economic backgrounds, genders and physical capabilities can equally participate. From my research, students enjoy playing and engaging with teammates with diverse backgrounds in safe inclusive settings," said Tirpak. The low cost of entry to

the sport, student demand and growing statewide interest also contributed to Oakland's pursuit of esports.

At many colleges, student athletic programs comprise more than competition. Schools, like Oakland, focus on the total well-being of the student, including their health, wellness and academics. Esports athletes receive access to a dietician, wellness professionals and fitness trainers, are subject to GPA minimums and are permitted only 5 hours of gameplay per day. With these parameters in place, students receive social, technological, psychological, physical and academic benefits.

Oakland University's esports program is currently in development. The university has partnered with Game Time to hold tournaments and practices in their facilities. Oakland is considering future renovations for on-location gaming spaces.

Oakland University is one of the many high schools and colleges in Michigan entering the esports ecosystem. Others, such as Western Michigan University, Lawrence Technological University and Pinckney Community Schools have made progress on the development of their programs. Anecdotal evidence amongst these schools suggests the potential for increased student engagement and enrollment as their programs progress.

Lori Tirpak
Interim CIO
Oakland University

ESPORTS HIGHLIGHTS:
AROUND MICHIGAN

Many Merit members, including Lawrence Technological University, Wayne State University, and Western Michigan University have begun exploring esports within their organizations. The following page provides a high level overview of their efforts.

Lawrence Technologial University

Lawrence Technological University along with school CIO, Tim Chavis, partnered with Yellow Flag Productions to explore, develop, and implement a full scale esports program.

After receiving cross campus support from the president, provosts, dean of students, and the IT department, three consecutive esports competitions were held. A fourth is in the works. Lawrence Tech also offers degree programs in Game Art and Game Software Development. Some campus programs are eligible for the school's scholarship offerings.

Wayne State University

Since 2019, Wayne State organized live stream and outreach events to include opportunities for those interested in recreational gaming. The community has grown to become a more cohesive unit on campus, and with varying levels of interest, great collaborations have happened among the students. WSU is competing competitively via Tespa, the student competitive gaming organization. They have begun planning to grow this program exponentially over the next three years.

Western Michigan University

Western Michigan University has an esports arena that includes: 190 spectator seats, 36 gaming computers (24 practice, 12 competition), 2 large projection screens and full production operation: sound, moving lights, wireless microphones, cameras, streaming production computers, and a shoutcasting booth. WMU's esports team includes more than 70 students. The university also hosts tournaments and summer camps for high school and middle school students.

To learn more about the progress of Merit's community, consider attending GAME (Gaming, Academics & Michigan Esports), the esports community of practice.

Learn more at Merit.edu/GAME.

ESPORTS: *IT'S NOT JUST A GAME*

VIDEO GAMES DON'T DISCRIMINATE. *REGARDLESS* OF OUR PHYSICAL LIMITATION, ETHNIC IDENTIFICATION, GENDER, OR ANY TRAIT THAT MAKES YOU AN INDIVIDUAL, WE ONLY SEEK PLAYERS **STRIVING TO BE GREAT.**

DON'T BE FOOLED– IT'S **NOT EASY.** ESPORTS ATHLETES ARE HELD TO THE SAME ACADEMIC STANDARDS AS OUR PEERS IN TRADITIONAL SPORTS.
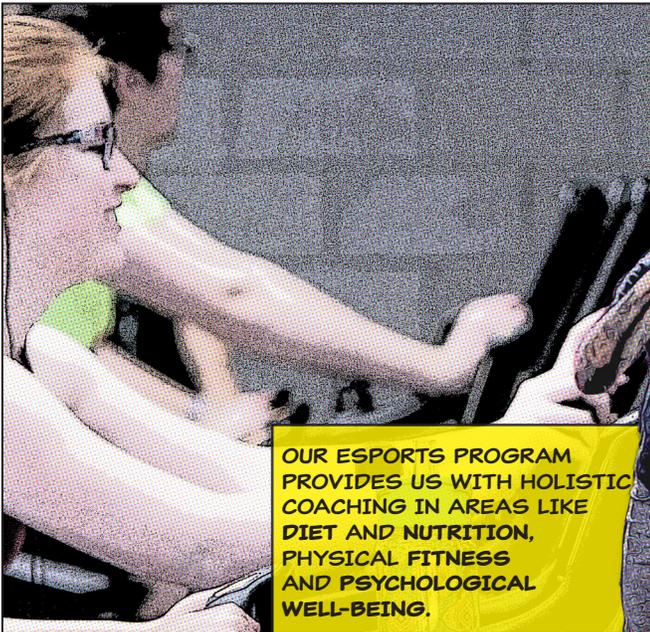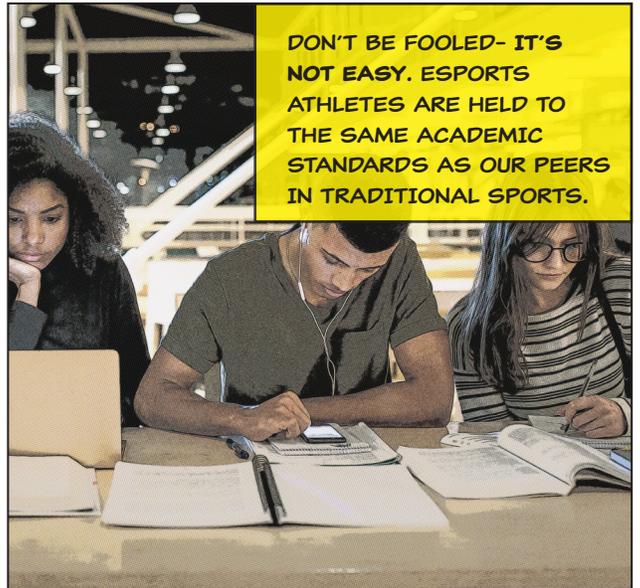
OUR ESPORTS PROGRAM PROVIDES US WITH HOLISTIC COACHING IN AREAS LIKE **DIET** AND **NUTRITION,** **PHYSICAL FITNESS** AND **PSYCHOLOGICAL WELL-BEING.**

IN THE ESPORTS ENVIRONMENT, WE CAN **BUILD FRIENDSHIPS** WITH PEOPLE WHO SHARE OUR PASSION. ACHIEVEMENT IN ESPORTS IS NOT JUST ABOUT HOLDING A TROPHY. YOU **CARRY GOALS** IN PERSONAL OR PROFESSIONAL LIFE AS A TEAM. AS AN INDIVIDUAL, YOU DEVELOP MORE *CONFIDENCE*, DRIVE, CAMARADERIE AND SPORTSMANSHIP. STILL, ACHIEVING A **TROPHY** IS THE **CHERRY ON TOP.**
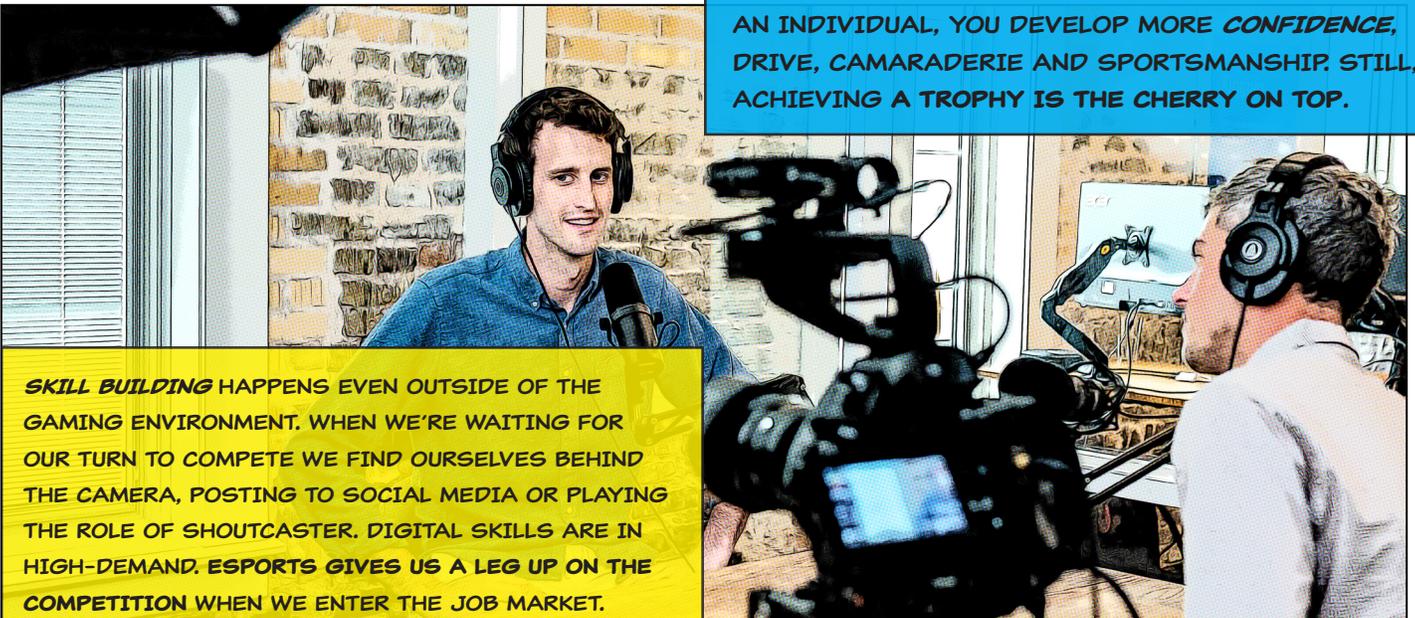
SKILL BUILDING HAPPENS EVEN OUTSIDE OF THE GAMING ENVIRONMENT. WHEN WE'RE WAITING FOR OUR TURN TO COMPETE WE FIND OURSELVES BEHIND THE CAMERA, POSTING TO SOCIAL MEDIA OR PLAYING THE ROLE OF SHOUTCASTER. DIGITAL SKILLS ARE IN HIGH-DEMAND. **ESPORTS GIVES US A LEG UP ON THE COMPETITION** WHEN WE ENTER THE JOB MARKET.

SECURITY CONCERNS

With any network connection, security measures should be top of mind. From internal and external attack threats to the challenges associated with BYOD integration, esports security policies and practices are integral to organizational protection and successful game play. Some cautionary considerations include:

DDoS Protection
Volumetric attacks can cripple network connectivity, which is the cornerstone of online gaming. These attacks are commonly sourced from commodity internet, and having proactive monitoring and response means that your players don't have to worry about being kicked from their games at the least opportune moment.

Gaming DMZ Security
Internal DMZs ("demilitarized zones," as they are colloquially referred), which is a buffer between the public internet and an internal network for esports, must be appropriately secured. Router ACLs (access control lists) to restrict traffic from less secure portions of the network should be used. If a network leverages firewalls, protection rules should be included at the top of your firewall ruleset and avoid adding any "deep inspection" routines, as they can add costly latency to the traffic.

BYOD Security
Players enjoy participating on their own personalized and customized gaming machines, however the integration of numerous unknown computers together onto the same network can pose some potential security problems. Gamers should ensure the following to secure their own machines:

- The **Windows Firewall** should be enabled to prevent any incoming connections; of particular note is restricting any Windows file sharing (SMB) and management (WMI). Blocking this traffic will not interfere with any gaming operations, and will keep the gaming computer safe from inadvertent attacks from other gamers during a session.

- All operating systems and content delivery platforms should be **fully patched**. This includes the base Windows OS, as well as game launchers including Steam, Origin, and Blizzard. There are occasional vulnerabilities in these systems which could result in system crashes or worse if not updated.

- Enable **two-factor authentication** for any gaming accounts. In addition to potentially losing items or subscriptions if passwords are discovered, many platforms will disconnect players the moment a second login occurs. Enforcing 2FA keeps malicious actors out and active gamers playing.

- Finally, a lightweight **antivirus program** should be run before any event, ensuring that gaming computers are malware-free and secure.

CONNECTING OUR ESPORTS COMMUNITY -

THE ROLE OF A RESEARCH AND EDUCATION NETWORK

Low latency and low jitter are what gamers strive for. Latency is the average amount of time, measured in milliseconds, for information to travel the internet from your home to the server, and then back to the gamer again. Jitter is a check on the consistency of the latency of the connection to the ISP. Merit's network keeps pace with the largest commercial networks worldwide (Griffith, 2017).

Research and Education Networks play a vital role in connecting our state's esports community, both through physical networking and collaborative approaches. Merit has begun a number of initiatives to support these efforts.

Esports Network Optimization Pilot Project

Gaming performance relies on a strong connection - hiccups from jitter or high latency can quickly determine the outcome of an event.

Merit's network is highly performant, with near-symmetrical upload and download speeds, low latency and low jitter. To continue to provide a premium esports experience and a level playing field for our members, Merit is forming an Esports Network Optimization Pilot Project with a select group of higher education institutions in Michigan. The goals of this pilot effort are to explore additional performance optimization opportunities, to identify additional private peering needs with major providers and to provide strong approaches to security on gaming connections.

Esports Community of Practice

Launching this April, Merit has created an esports community of practice. GAME (Gaming, Academics & Michigan Esports) brings together peers to discuss the emerging esports landscape and to collaborate, share best practices, and solve pain points as a group. This community of practice provides both an online forum and quarterly meetings with in-person and remote attendance options.
Learn more at **Merit.edu/GAME**.

Educational Events and Resources

Educational events, webinars, and community meetings hosted by Merit provide ongoing opportunities to collaborate and learn from national leaders in the esports, networking and communications industries.

The Merit Member Conference will feature a number of esports related educational sessions, including a keynote panel discussion examining the statewide initiatives and the breadth of esports impact on our students, educational institutions and public and private organizations. Learn more at **Merit.edu/MMC**.

Additional community meetings and educational opportunities are shared through Merit's email communications. Subscribe at: **Merit.edu/opt-in**

SOURCES

Levine, E. (2018, October 18). *Why Educators Should Embrace Esports.* EdTech. https://edtechmagazine.com/higher/article/2018/10/why-educators-should-embrace-esports

Hilvoorde, I. V., & Pot, N. (2016, May 1). *Embodiment and fundamental motor skills in eSports.* Taylor & Francis Online. https://www.tandfonline.com/doi/full/10.1080/17511321.2016.1159246

Magid. (2017, June 7). *Women Comprise Nearly One-Third of Esports Audience*. Magid https://magid.com/mentions/women-comprise-nearly-one-third-esports-audience/

Griffith, E. (2019, January 15). *The Best Gaming ISPs of 2019.* PC Mag. https://www.pcmag.com/news/the-best-gaming-isps-of-2019