

ESPORTS IN UNIVERSITY EDUCATION: A NEW WAY TO LEARN? GLI ESPORTS NELLA FORMAZIONE UNIVERSITARIA: UN NUOVO MODO DI IMPARARE?

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ABSTRACT

This study examines university students' perspectives on esports in higher education. Competitive gaming, framed through gamification, is analyzed in relation to academic performance and skills development. Esports facilities on campuses foster engagement and community building. The paper highlights the emergence of esports curricula and degree programs, underscoring their role in shaping new educational paradigms and supporting students' holistic growth.

Lo studio indaga atteggiamenti e prospettive degli studenti universitari sugli eSports nell'istruzione superiore. Il gaming competitivo, letto attraverso la gamification, è analizzato rispetto a rendimento accademico e allo sviluppo di competenze trasversali. Le strutture dedicate (es. aule, laboratori attrezzati, ecc..) favoriscono l'engagement e la comunità studentesca. L'avvio di corsi e curricula specifici conferma il riconoscimento degli eSports come disciplina accademica emergente con impatto sui paradigmi educativi.

KEYWORDS

Esports in Higher Education; Gamification; Student Engagement; Esports nella formazione universitaria; gamification, coinvolgimento degli studenti;

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Introduction

In recent years, the realm of competitive video gaming, commonly known as esports, has emerged as a significant domain encompassing a myriad of video games constructed upon intricate game design principles (Tang & Palao, 2023). Titles such as *Starcraft II*, *League of Legends*, and *Fortnite* exemplify this burgeoning phenomenon. As a result, both proficient professionals and enthusiastic amateurs engage in structured competitions that define the esports landscape. Despite its relatively recent institutionalization, esports possess the inherent capacity to exert a profound impact on academic and scholastic outcomes within higher education. This research undertakes a comprehensive exploration, employing differential semantics, into the attitudes and viewpoints held by college students regarding their engagement with esports within the confines of higher education campuses. By delving into these perspectives, a deeper understanding of the potential role of esports in shaping educational paradigms is garnered.

1. Theoretical background

The term *gamification* was coined in 2011 by Deterding et al., and it refers to the process of applying game design techniques to mediums other than video games. Gamification is the technique of encouraging individuals to engage in a continuous behavior intention by the design and implementation of certain ludic features. This is accomplished through the process of game design and development. A desire to participate in a game is implicit in the word "game," but gamification refers to the practice of combining many game elements in such a way that the end result satisfies a predetermined set of rules to achieve user engagement within a specific dynamic. People can be entertained by playing video games. According to Tang and Palao (2023), "a game is a problem-solving activity, approached with a playful attitude" (p. 37). This highlights that a single definition of a game often struggles to encompass the many characteristics games can have.

What differentiates gamification from other types of games, such as serious ones, is that playfulness is not always a prerogative of gamification. Watsjold et al. (2022) note that a system constructed utilizing game technology and built using game design concepts with an aim other than mere enjoyment can be referred to as a "serious game." Serious games are complete video games that have been developed for reasons other than the simple objective of providing players with

amusement. They include pedagogical games, simulations, games with significant content, and games with attainable objectives (Li et al., 2023; Díaz-Ramírez, 2024; Nylén-Eriksen et al., 2025).

Esports are certainly competitive video games that are founded on game design concepts; nevertheless, it is debatable whether or not this constitutes them sports in the traditional sense. Some authors emphasize that institutional infrastructure and broadcasting popularity alone are insufficient to qualify esports as “sports,” while others stress their interdisciplinary and emergent nature, highlighting the integration of community, technology, and competitive practice (Tang & Palao, 2023; Zhong, 2024). Esports research is therefore unique due to the fact that it is interdisciplinary and has recently come into existence, with the potential to merge areas of study based on distinct theoretical and methodological frameworks.

Universities worldwide are increasingly embracing the growing phenomenon of esports, incorporating it into their academic curricula through various approaches (Archibald, 2024; Zhong et al., 2025). The emergence of esports programs and curricula has provided students with the chance to engage with the realm of competitive gaming, encompassing both academic and practical aspects (Chang et al., 2024). The evolution in question involves the emergence of academic offerings centered around esports, including courses and degree programs that cover a wide range of topics such as esports management, marketing, and game design. These educational opportunities are designed to meet the interests and career goals of students. In addition to considerations regarding future employment opportunities, educators are increasingly acknowledging the wider advantages of incorporating esports into educational settings, encompassing the potential for fostering skill acquisition and cognitive growth (Lu et al., 2024; Zhong, 2022).

The presence of esports facilities on university campuses is significantly contributing to the promotion of student involvement and the cultivation of dynamic campus communities (Côté, 2024; AVNetwork, 2025). Furthermore, scholarly investigations of the correlation between engagement in esports and scholastic performance continue to illuminate the multifaceted interaction between competitive gaming and academic accomplishments (Mahmud, 2023; Delello et al., 2025). Universities are effectively leveraging the dynamic potential of esports to not only enhance their educational offerings but also to foster the comprehensive development of their students.

Early examples of esports education emerged in Europe and Asia in the 2000s, but the field has expanded rapidly since then. Today, multiple institutions worldwide have developed dedicated esports programs that combine theoretical and applied learning (Białocki et al., 2024). This development marked a significant milestone in

the academic landscape, demonstrating the recognition of esports as a legitimate field of study within higher education (Archibald, 2024).

On-the-job education remains essential to industry professionalization. As the esports industry grows, higher education institutions are realizing the value of esports education. Academic esports programs have expanded in popularity, as has collegiate competition. They give students the knowledge, skills, and abilities to work in a range of esports-related fields, while also fostering transferable skills such as teamwork, adaptability, and communication (Zhong et al., 2025). Most current programs focus on training to develop a workforce that supports professional and amateur competitive esports ecosystems. Esports curricula vary, but their main goal is to prepare students for both industry-related and non-industry employment (Chang et al., 2024). This integration creates new jobs and teaches similar topics to traditional academic programs. However, esports programs also have unique features related to sport business and management, media and communication, sport science, and game creation (Lu et al., 2024). Sport management principles such as marketing, sponsorship, branding, media agreements, event and venue administration, governance, and customer behavior can be applied directly to esports, and internships or field experiences are increasingly part of curricula (Archibald, 2024).

In a broad sense, the objective of esports education is to enable students to acquire knowledge and abilities related to esports that go beyond theoretical and practical aspects often covered inside traditional classroom settings. There exist advantages that extend beyond conventional instruction, thereby equipping students with the necessary skills and knowledge for their future professional endeavors (Zhong, 2022). Involvement in esports gameplay at institutions of higher education has been found to facilitate the acquisition of transferable skills such as teamwork, communication, and adaptability (Zhong et al., 2025). Moreover, the incorporation of an institution's competitive esports teams with academic esports programs is recommended in order to offer supplementary curricular and co-curricular learning prospects (Chang et al., 2024). These collaborative opportunities facilitate experiential learning experiences for students, which can serve as a valuable supplement to their classroom-based educational endeavors.

The phenomenon of the expansion of worldwide esports degree programs can be better understood and classified by applying Rogers' Diffusion of Innovations Theory (2003), specifically the concept of innovation adoption. This theory serves to clarify the process through which innovations, such as new products, ideas, services, and so on, are embraced by people. It is evident that the adoption of innovations occurs at disparate rates among diverse sectors of a population (Hayden, 2019; Lu et al., 2024). Rogers (2003) proposes a classification of

innovation adopters into five distinct categories, as outlined in a bell-shaped "adoption curve." These categories are as follows:

Innovators: These are the early adopters of esports degree programs. They are the individuals who are quick to embrace new ideas and are willing to take risks. In the context of esports degree programs, innovators might include the educators and institutions that were among the first to recognize the potential of esports as an academic discipline and were willing to invest in creating such programs, even before it gained widespread attention.

Early Adopters: Early adopters are influential figures in the field of education and esports. They recognize the value of esports programs and become advocates for their adoption. They can include educators, industry professionals, and organizations that are willing to support and promote esports education. Early adopters play a crucial role in shaping the perception and acceptance of these programs within the broader education community.

Early Majority: The early majority represents a larger segment of the population. In the context of esports degree programs, this group includes students and institutions that see the value in esports education but may need more evidence, testimonials, or success stories to fully embrace the idea. As esports degree programs prove their worth and demonstrate positive outcomes, the early majority becomes more willing to adopt them.

Late Majority: This group tends to adopt innovations only when they become a mainstream or established part of education. They may require more convincing and external motivation (Lelonek-Kuleta, 2021). As esports degree programs become more widely accepted and integrated into the academic landscape, the late majority may start offering similar programs.

Laggards: are typically the last to adopt innovations. They may have reservations or less education in this context. It may take a considerable amount of time for laggards to accept esports degree programs, and some may never do so. Laggards are often characterized by lower self-esteem and lower levels of education (Hayden, 2019).

Rogers' classification of adopters—innovators, early adopters, early majority, late majority, and laggards—can also be applied to esports education (Lelonek-Kuleta, 2021). In the early stages, innovators and early adopters were the first educators and institutions to recognize the potential of esports as an academic discipline and invested in programs even before they gained widespread recognition. As the value

of such programs became more evident, the early and late majority embraced them, with laggards eventually acknowledging their role in academia.

The recognition of esports facilities as a noteworthy phenomenon in modern higher education has resulted in a heightened comprehension of their influence on student engagement and the overall campus atmosphere. These state-of-the-art facilities not only offer students a conducive environment to enhance their gaming skills but also foster an active and inclusive community (Zhong, 2024). They serve as pivotal hubs for supporting social interaction, promoting connections among individuals from diverse cultural and experiential backgrounds who share a mutual passion for gaming (Côté, 2024). The existence of esports facilities within the academic institution promotes a sense of camaraderie among students, contributing to robust interpersonal connections and a perception of belonging (Zhong et al., 2025). Furthermore, the presence of esports facilities has the potential to enhance school morale and institutional identity, as colleges organize competitive esports tournaments that attract both participants and observers, thereby enriching the campus atmosphere (EdTech Magazine, 2024; AVNetwork, 2025).

Finally, academic research of the influence of esports on cognitive development and learning outcomes indicate that participation in competitive video gaming can provide both advantageous and disadvantageous effects of gameplay (Zhong, 2022; Delello et al., 2025). In order to enhance educational performance, it is imperative to establish a harmonious balance between participation in esports and other academic pursuits (Mahmud, 2023). Studies investigating the intricate relationship between participation in esports and academic achievement have yielded valuable findings regarding the impact of competitive video gaming on students' scholastic success. The research findings related to this complex dynamic are diverse, suggesting an increasing amount of knowledge in this field. The findings of a study done by Hwang and Kim (2022) indicate that involvement in esports does not inherently hinder academic performance. On the other hand, the previously mentioned observation highlights the inclination of students engaged in esports to demonstrate adeptness in managing their time, since the competitive aspect of gaming requires the development of discipline and efficient time allocation. However, it is crucial to recognize that excessive involvement in gaming can lead to negative consequences, as demonstrated by a comprehensive analysis carried out by Gurbuz and Celik (2022), which revealed a correlation between frequent gaming and worse Grade Point Averages (GPAs). According to Hamari and Koivisto (2015), the association between esports and academic performance is contingent upon an individual's capacity to effectively manage their conduct and allocate attention to various responsibilities. There is a correlation between students who are capable

of efficiently balancing their gaming activities with their academic responsibilities and their ability to maintain or potentially improve their academic performance. Therefore, the principal inference derived from this study is that involvement in esports does not inherently yield adverse consequences on academic achievement. The manner in which students manage and control their gaming activities plays a crucial role in shaping the connection between their involvement in esports and their academic performance.

2. The study

The purpose of this survey is to provide a preliminary assessment of the views that students have regarding esports. Is there a correlation between familiarity with esports and support for the institution of such competitions in educational settings? Does the proportion of male to female students that have an interest in that topic vary? According to the research that has been done, there are two primary hypotheses that need to be investigated before these questions can be answered.

H1: Competitive and casual gamers, in comparison to non-gamers, would report having more positive opinions toward the use of esports in educational settings and would have a greater desire in doing so.

H2: It is hypothesized that females will report lower ratings across the board for all interest areas.

2.1 Methodology

The Esports Semantic Differential Scale, also known as the ESDS, was developed with the participation of 449 students from four different departments at the University of Applied Sciences and Arts of Southern Switzerland (SUPSI). This school is unique since it is one of just two universities in Switzerland that provide instruction in Italian, thus creating a research environment that is culturally distinctive. The composition of participants in the study consisted of 53% males, 37.3% females, and a significant 9.7% who chose not to disclose their gender. The inclusion of demographic diversity in this study provides a nuanced perspective, as it encompasses a wide range of viewpoints within the university population.

When the survey was carried out, the vast majority of the students (85%) were enrolled in a bachelor's degree program, while the remaining students were enrolled in a master's degree program. In 2021, the data were collected over a two-month period. This substantial representation from the undergraduate cohort not only underscores the widespread interest in esports at this academic level but also

implies potential implications for the integration of esports-related topics into undergraduate curricula. The inclusion of both undergraduate and master's students broadens the applicability of the findings across academic levels and introduces a comparative aspect. This dichotomy enables researchers to discern potential nuances in esports engagement, attitudes, and expectations between the two academic tiers. Such insights can be invaluable for educators, policymakers, and industry professionals seeking to tailor their approaches and initiatives to the distinct needs and preferences of students at different stages of their academic journey.

Furthermore, the decision to span the data collection process over two months enhances the robustness of the study. This deliberate timeframe minimizes the risk of bias introduced by short-term fluctuations, offering a more comprehensive understanding of participants' responses and behaviors (Bryman, 2021; Creswell & Creswell, 2023). It also provides a more nuanced perspective on potential variations in esports engagement over time, allowing for a richer interpretation of the data.

The study utilized a meticulously developed research technique, incorporating multiple components to methodically investigate the complex dynamics of participants' engagement with esports. Each section of the survey was carefully designed to collect insights into different dimensions of the phenomenon under study.

Demographic information section: designed to establish a comprehensive profile of participants by gathering details on gender distribution, academic level, and other relevant variables, facilitating a nuanced examination of the intersections between academic stage and involvement in esports.

Gaming habits section: focused on general gaming behavior. Ad-hoc closed questions were included to capture the frequency, duration, and patterns of gaming activity, as well as participants' awareness and understanding of esports (Fetters & Molina-Azorín, 2020). These queries provided detailed perspectives on both gaming preferences and styles of interaction.

Attitudes and expectations section: explored the emotional and cognitive dimensions of participants' perspectives on esports. Questions were designed to elicit expectations, aspirations, and subjective perceptions, thereby offering deeper insights into the factors influencing engagement with esports.

Esports Semantic Differential Scale (ESDS): implemented as the fourth component, the ESDS provided a structured and standardized framework for assessing perceptions of esports. The use of this scale enabled both cognitive and affective

appraisals to be captured in a rigorous way, supporting validity and reliability in scale-based measurement (Boateng et al., 2018; Hair et al., 2021).

In brief, this study employed a diverse and carefully designed methodology to thoroughly investigate the attitudes, actions, and perceptions of participants in relation to esports. The comprehensive incorporation of demographic data, gaming patterns, attitudinal measures, and the ESDS combined contributed to a rigorous and multifaceted examination, yielding significant insights into the complex aspects of students' involvement in esports.

3. Results

The results of the analysis showed that prior esports knowledge was positively correlated with gaming behaviors, including time spent playing ($r=.594$) and time spent watching others play ($r=.418$). According to this finding, the participant's willingness to support the official adoption of esports in school settings increased with knowledge ($r=.514$). Concerning ESDS, the dimensions amusement and innovation were strongly and positively inter-correlated ($r=.401$) whereas equity was the dimension with less inter-correlations. Gender differences were explored with analysis of variance.

The two groups reported statistically significant differences for all the considered domains. The largest significant differences were found in relation to amusement, knowledge of esports, and time spent in playing, with males reporting higher scores than females. The distribution of participant by profile of gaming was as it follows: 26.1 % "non gamer" ($n=94$), 43.9 % "casual gamer" ($n=197$) and 14.7% "competitive gamer" ($n=66$). 19.8% of the sample did not declare their gaming profile. Overall, the MANCOVA model did not reveal a statistically significant main effect for academic year [Wilks' $\lambda=.972$, $F(7,266)=1.10$, $p=.357$, $\eta^2=.028$]. On the contrary, the gender of the participants yields a statistically significant main effect [Wilks' $\lambda=.867$, $F(7,266)=5.85$, $p < .001$, $\eta^2=.133$]. Given the robustness of the overall effect supported by the full model [Wilks' $\lambda=.100$, $F(7,266)=342.1$, $p < .001$, $\eta^2=.900$], next the main effects of each domain of interest were reported separately.

Attitudes towards esports: the main effect of gaming profiles (non-gamer, causal gamer, and competitive gamer) on amusement ($F=20.6$, $p < .001$, $\eta^2=.233$), equity ($F=9.07$, $p < .001$, $\eta^2=.118$), immersivity ($F=16.29$, $p < .001$, $\eta^2=.193$), and innovation ($F=4.63$, $p=.001$, $\eta^2=.064$) was statistically significant. Similarly, general main effects of gender on amusement ($F=31.7$, $p < .001$, $\eta^2=.104$) and immersivity ($F=7.28$, $p = .007$, $\eta^2=.026$) were found with females scoring lower than males. On the contrary, for innovation ($F=3.86$, $p = .051$, $\eta^2=.014$) and equity ($F=0.34$, $p = .558$,

$\eta^2=.001$) gender did not report a statistically significant effect. Figure 1 summarizes mean scores of the SDS dimensions in relation to gaming profiles.

Gaming habits: in the case of weekly time spent in gaming (Q2; $F=91.75$, $p < .001$, $\eta^2=.403$) and weekly time spent in watching other playing games (Q3; $F=18.29$, $p < .001$, $\eta^2=.119$), a statistical main effect of the gaming profile was found. Finally, the scores of the three groups statistically differed with non-gamers reporting lower score than causal gamers and, in turn, than competitive gamers.

Conclusions

The results of our survey provide a first investigation into the attitudes held by college students regarding electronic sports. In order to evaluate the potential of esports at university level and investigate opportunities in educational settings, we carried out a survey among students at the University of Applied Sciences and Arts of Southern Switzerland. The survey was distributed to students in four different departments. The findings of the survey give credence to the idea that the hypotheses underlying the investigation were correct. There is a high link between familiarity with esports and agreement with using esports in a university context (H1). Competent and casual gamers would be more open to using esports in educational settings than non-gamers. Non-gamers would be less open to using esports in educational settings. In addition to this, we found that the scores of responders identified as women were lower across the board for each interest domain (H2). As mentioned, participants would better appreciate the official approval of esports when applied in academic contexts, the better they understand it. It was observed that the variables of amusement and innovation in the SDS have a strong connection with one another, which demonstrates that the level of innovation might be a factor in engagement. The findings revealed statistically significant disparities between the genders in every aspect that was under scrutiny when gender differences were assessed. The most startling disparity was that males gave themselves greater assessments than females in the categories of amusement, esports expertise, and time spent playing. This was the case for all three factors. There was a statistically significant difference in the results that were reported by the three gaming-related categories of casual players, non-players, and competitive players for the amount of time spent playing and watching others play. Stating that, while establishing a teaching approach, we need take into account the amount of people who do not play, or are not familiar with esports if we envision esports to be a part of training programs or educational resources. Our investigation led us to the conclusion that esports are essential, and the demand analysis assisted us in determining the requirements that must be met within a particular academic environment. It has come to our attention that the majority of players play video games with the intention of acquiring new knowledge. This kind

of activity, in particular, comes with a lot of rewards, especially for male responders. On the other hand, there is a dearth of knowledge regarding esports and a lack of familiarity among students, particularly among female students.

Limitations

The questionnaire has been sent to all the students in our university, for a total of about 6000 e-mails being sent. The response rate was about 7-8%, which we consider a good value given the rather niche topic. This being said, one of the limitations of this study relies on this number, as may be subject to non-response bias. The topic may not be of great interest for non-players and thus the survey may have been ignored by people that are not interested in esports, biasing the pool of participants. Participants that compete in esports event, or are familiar with the concept, may be more prone to answer the questionnaire, slightly biasing the results.

The study may also be susceptible to limited generalizability. The study was performed in a rather small university in a geographical location where the topic of the research is still not widely recognized. We believe that such survey administered in a bigger university, in a geographical area where esports associations and events are more frequent, could have lead to a higher response rate and slightly different results. The purpose of this study, though, is to provide a preliminary assessment of the views that students in our university have regarding esports.

One hindrance of our research with minor impact is the current funding limitations, which have limited the data collection. The study has been carried out with no funds, thus limiting the time dedicated to the study, and the means to motivate participants to answer the survey.

Implications

Research in esports can provide a contribution to the academic understanding of gaming culture and its ramifications, as well as the impact video games have had on society, competitive gaming in general, in an educational setting. In addition to the chance to investigate the prospect of an esports-related degree program, certification, and courses, it may also provide means to engage with the local community and, in particular, to partner with K-12 schools in order to promote STEM education. According to the findings of our research, there is a difference between the genders that is statistically significant in every single area that was analyzed as part of the investigation into gender disparities. This might pave the way for a more in-depth study on diversity and inclusion, which would investigate

these features within the esports ecosystem and promote opportunities and representation for groups that are underrepresented. We have high hopes that the final product of this study will pique the institution's interest in the phenomenon of esports and lead to the institution's subsequent support of additional research in the field. For instance, the institution might provide a location where students can organize esports events or areas that are specifically designated for such activities (i.e., "esports hubs", equipped with gaming PCs). Not only may this implication for the development of infrastructure aid research, but it could also provide students and researchers with experience working hands-on with such equipment. In turn, this would allow the university to hold esports events, which would increase the university's visibility within the industry.

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