

Creation of Retro Games Room Supporting Student Belonging

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Abstract: Video games when utilised in academic settings have the potential to enhance the student learning experience through their immersive qualities. When integrated and combined with course curriculum they can aid student engagement and retention. Video games, when also applied within a social context in education have the ability to contribute to student success at university through supporting and facilitating student wellbeing, inclusion, equality and a sense of community. The aim of this paper is to present a case study about the co-creation of a retro games room by students and educators within a BSc (Hons) Computer Games Development programme at a Scottish University. The idea behind the retro games room was to offer a multifunctional space where students can socialise, relax and share their passion for gaming out with their core academic studies. The room has fostered a sense of community and belonging among students making them feel part of their academic programme. The paper provides a scoping review of the academic literature associated with supporting student belonging in higher education via student identity and engagement. In addition, the paper presents predominately quantitative results on the students' experience of using the room to develop a sense of community and identity with a view to enhancing student ownership and belonging on the programme. The paper illustrates the logic and justifications made regarding the proposed use of the room from a student belonging perspective. It denotes how a combined community of practice and affinity space approach, with a shared interest of bringing students together has the potential to enhance their overall positive wellbeing. The paper also provides a solid case study for other educators to reflect on regarding ways to enhance the student experience on their respective programmes from the grass roots level.

Keywords: Retro games, Video games, Student belonging, Community of practice, Affinity space

1. Introduction

A particular challenge that colleges and universities find difficult to overcome and address is retaining students once they have enrolled (Kimbark et al., 2017). In addition to the concept of student retention, academic schools and departments remain preoccupied about ensuring that students maximise their student experience whilst undertaking their studies (Tight, 2019). Closely aligned with the aspect of student retention is the notion of student engagement. According to Wolf-Wendel et al., (2009) engagement is also associated with the areas of involvement and integration which relate to one another. Student involvement relates to “... *the amount of physical and psychological energy that the student devotes to the academic experience*” (Astin, 1984, p. 518). Examples of this might be engagement with studies, spending more time on campus, joining student societies and interacting with other students and staff members. Student integration theory (Tinto, 1987) focuses on the extent to which students are able to participate and acclimatise with the academic and social systems of a college or university. It can be argued that academic and social integration are similar in theoretical constructs to that of student involvement. Tinto's theory of student integration also focuses on the notion of commitment where there are two types: goal and institutional commitment. Goal commitment relates to the aim of completing your studies at your academic institution whereas institutional commitment relates to retention at your current institution. These concepts of commitment relate to the notion of student belonging which in the context of higher education refers to “... *students' subjective feelings of connection and integration with their institution and campus community*” (Pedler et al., 2021, p. 398). This psychosocial construct is influenced by students' educational context and interpersonal relationships (Gillen-O'Neel, 2019).

Post Covid-19, the educational landscape has significantly altered where academic institutions and educators have to consider and initiate novel ways to support student belonging, enhance student engagement and retention. One way to potentially achieve this is through the use of immersive technologies an example of which are video games. A salient quality of video games is that they are interactive. A perception of video games are that they “... *are designed for players to actively engage with their systems and for these systems to, in turn, react to players' agentive behaviors*” (Granic et al., 2014, p.66). The diversity of game genres and platforms used to video games them means that they can be applied in a wealth of educational contexts. By definition, video games are engaging in the sense that students are intrinsically motivated to play them often dictated by personal enjoyment, fun and the aspect of participation that can facilitate collaboration among peers. Player engagement, from a gameplay perspective, relates to the gaming experience often associated with the concepts of immersion and flow. This paper provides an overview of how the utilisation of an on-campus space, in the

form of a video games room, when factoring in the theoretical constructs of student belonging, has the potential to enhance the student experience on a computer games development programme.

2. Student Belonging and Community of Practice

2.1 Concept of Student Belonging

Belonging, in the context of higher education, is a “multi-faceted concept” that has now gained greater attention post Covid-19 where it encompasses institutional approaches towards enhancing support practices related to mental health, inclusive pedagogies and curricula to boost student engagement, progression and retention (Webster, 2022). It can be argued that there is a psychological component associated with connectedness related to the notions of belonging and inclusion. One perspective to view student belonging is to consider ways in making “... students feel accepted, respected, included and supported by the educational communities and settings in which they are involved” (Berryman and Eley, 2019, p. 993). The notion of student belonging in higher education can be associated with a wide range of factors such as academic and social engagement, creation of personal spaces on campus to allow students to engage with one another and being able to relate to the aesthetics and environment of their surroundings (Vytniorgu, 2022). The concept of belonging in the domain of education has been researched from different perspectives in an attempt to understand and conceptualise student belonging. Araujo et al., (2014) have proposed a three-tiered “Belonging Model” that supports students through the transition of the student lifecycle. In this context, students belong to their professional cohort or programme, their interdisciplinary learning environment or school and the global intercultural networks associated with their specialist subject areas. Goodenow’s (1993, p.80) Psychological Sense of School Membership (PSSM) Model perceives belonging relates to situational and social factors that relate to “... the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment”. Additional theoretical underpinnings related to student belonging, that can provide educators with ideas on how to support the notion within education are summarised in table 1.

Table 1: Theoretical underpinnings supporting student belonging in education (table by authors)

Theoretical Underpinning	Author(s)	Concepts and Understanding	Recommendations for HE Practice
Tinto’s Student Integration Theory	Tinto (1975, 1993)	Academic and social integration affect student persistence. Student success in academic performance enhances confidence and commitment. Student belonging equates to student retention where students need to feel a sense of connectedness academically and socially.	Programmes at HE level require to promote initiatives to allow students to become more affiliated and involved within the academic and student community at university. Consider ways to facilitate academic and social integration to support student persistence.
Strayhorn’s Model of College Student Belonging	Strayhorn (2018)	A sense of belonging is viewed as an essential and fundamental human need with the outlook that when met students are more likely to excel in their educational environments.	Reflect on ways to promote inclusion that relate to students’ identities and create on-campus environments that support this. Ensure that belonging is factored into academic programmes, strategic plans and retention initiatives.
Student Involvement Theory	Astin (1984)	Focuses on the notions of physical and psychological energy that students assign to their academic experience. Involvement fluctuates and is dynamic. Academic and social involvement contribute to a student’s belonging, development and persistence.	HE institutions need to focus on the concept of student involvement and student time as a resource and how it is applied between the learning process and campus engagement. Students should be encouraged to actively participate in activities on campus and programmes must promote involvement.
Social Identity Theory in Higher Education	Tajfel and Turner (1979)	Belonging is influenced by group affiliations. Students socially categorise themselves into groups and find belonging in these groups through social identity (e.g., race, culture, gender).	Establishing inclusive learning environments, adhering to identity-affirming and involving the student voice in campus initiatives. Develop identity-affirming spaces that support and facilitate in-group and intergroup experiences.

2.2 Communities of Practice

Communities of practice (CoP) is a term that was coined by Lave and Wenger in 1991 and relates to people engaging with one another in a social context who share common interests in sharing experiences and knowledge on a certain topic sometimes in an informal setting. The commonality of the subject area is what traditionally brings members of a community of practice together through a notion of shared identity. The three key components of a CoP that include the concepts of domain, community and practice (Jakovljevic et al., 2013). The domain of a CoP is the shared interest, motivation or passion about a specific subject area or activity that gels the members of the community together with a shared identity. It is traditionally viewed as the starting point of any CoP where there has to be a sense of focus with voluntary membership attracting various members who share their knowledge, experience and expertise on an activity or past time (Mercieca, 2017). The aspect of community is defined by three underlying concepts: joint enterprise, mutual engagement and shared repertoire (Wenger, 2000). The formation of a CoP involves members establishing a collective aim, rationale or purpose defining the boundaries and scope of the community – essentially the rationale behind why the community is being established. This relates to the concept of joint enterprise. The notion of mutual engagement relates to the belonging of the community members through communication, interactions and connectedness. Mutual relationships are further accentuated through diversity where homogeneity is not primarily a core requirement (Wenger, 1998). The idea of shared repertoire is associated with the set of resources that evolve over time that members use, are familiar with, enhance and develop. Shared repertoire does not remain constant but naturally evolves as the CoP expands. The repertoire of a CoP includes “... routines, words, ways of *doing things, stories, gestures, symbols, genres, actions or concepts*” (Wenger, 1998, p. 83).

3. Video Games, Immersion and Student Belonging

3.1 Video Games and Immersion

Gaming, or the activity of playing video games, have often been associated with concepts of enjoyment, fun, immersion, engagement, flow and player experience. Predominately, when relating to the player experience, the concepts of immersion and flow are often intertwined. In the context of video gaming, “... *immersion is concerned with the specific, psychological experience of engaging with a computer game*” (Jennett et al., 2008, p.643). The concept of flow, associated with immersion and gameplay relates to “... *a feeling of complete and energized focus in an activity, with a high level of enjoyment and fulfilment*” (Schell, 2015, p.138). Stated from another perspective, “*The Flow Channel is the state of mind that makes us to stay focused on an activity. When we loose the flow, we switch to another activity*” (Sala, 2013). Various categorisations of immersion exist such as sensory, challenge-based and imaginative immersion (Emri and Mäyrä, 2005). Sensory immersion focuses on aspects of audio-visual stimuli, challenge-based relates to the player’s level of cognitive ability to overcome hierarchical challenges within the game where imaginative immersion is associated with the player’s emotional connection with the game’s story, narrative, world and even character development.

3.2 Video Games and Affinity Spaces

The immersive characteristics of video games also have the potential to support and facilitate the notion of an affinity space (Gee, 2017). Affinity spaces are places that can be either physical or virtual where people share their common interests and knowledge about a specific area. For example, students coming together to share their passion for video gaming equates to having a shared interest and commonality. Affinity spaces have a socio-cultural focus (Gee, 2018) to them where engaging in video games via their immersive qualities allows gamers to share their interest or passion for a particular type of game. The level of player engagement is enhanced by interest-driven participation where the challenges of gameplay can stimulate intellectual engagement, “*kinaesthetic involvement*” (Calleja, 2011, p.55) and social engagement via being connected with friends and other players (Schønau-Fog and Bjørner, 2012).

Beyond supporting student collaboration, accessibility and shared interests, an affinity space that encompasses a video games room can also support the notion of a learning community. For example, commercial video games can support the development of metacognitive skills which is deemed essential to develop effective learning (Checa-Romero and Gimenez-Lozano, 2025).

4. Creation of Retro Games Room

4.1 Rationale Behind Games Room Idea

This section of the paper provides an overview of how the concept of student belonging was supported and facilitated through the development of a retro games room on the BSc (Hons) Computer Games Development programme at the University of the West of Scotland (UWS). The primary foundation and thinking behind the room was motivated by how best to enhance the student experience on the games programme and at the university.

The concept of the student experience is one that has become prevalent within higher education institutions though defining it appears to be slightly vague (Benckendorff et al., 2009). The student experience encompasses a multitude of factors that can impact a student's positive experience at university that include: social integration and belonging, the student voice and participation and achievement of academic and personal goals. There was also a consideration to try and support the concept of the sticky campus. This is viewed as giving "... primacy to the students' social experience of learning by blurring formal and informal elements of campus spaces" (Berman et al., 2024, p.74). The development of a safe and communal space for students to use would have the potential to enhance student wellbeing and belonging on campus, a place to socialise and to aid student retention on the programme. The logic for the room's design did adopt a spatial approach adopting the view that "... space is socially constructed..." and that "... social relations and interactions are affected by space..." (Samura, 2018, p.21).

4.2 Bridging CoPs and Affinity Spaces

When designing the room, the educators did not view affinity spaces as a distinct concept from a CoP but considered both constructs to be "*mutually reinforcing*" (Jones et al., 2016, p.115). It was considered that the room could have a dual purpose where it could be used by students to discuss their coursework within their project teams in the form of study groups thereby facilitating collaboration and mutual learning with a heavy emphasis towards the notion of shared repertoire. The notion of the CoP would emphasise the notion of shared practice through coursework projects whereas notion of the affinity space would cater for events, meetups and hobby related interests (e.g., the Tabletop Society). Both theoretical constructs would support the aspect of a sense of community building and student engagement where shared identity and practice could be shared among the students.

4.3 Student voice, TEQF and Co-Creation

When establishing the idea of the retro games room, staff members on the games programme valued the relevancy and importance of incorporating the student voice providing the students with a sense of empowerment towards the layout in addition to what should be included in the room. Furthermore, the underpinning of the room was influenced by the institution's values of respect and inclusivity in addition to two of the key principles of Scotland's Tertiary Quality Enhancement Framework. A core component of the framework is the notion of student engagement and partnership emphasising the incorporation of the student voice – "*Every student, every place, every level*". The room was able to embody this through adhering to the 3 C's model of staff-student co-creation, namely, community, collaboration and cohesion (McIntosh and May, 2025) which when interconnected supports the concept of relational education or pedagogy (Su and Wood, 2023) that values the notions of cultural and social awareness where the logic behind the room was to create an inclusive, safe and respectful environment for students to connect with one another. The process of co-creation, which is dynamic and grounded in the theory of change, would assist towards establishing an "... enduring sense of belonging and connectedness..." through "...relational approaches and dialogue in collaboration" (McIntosh and May, 2025, p. 40).

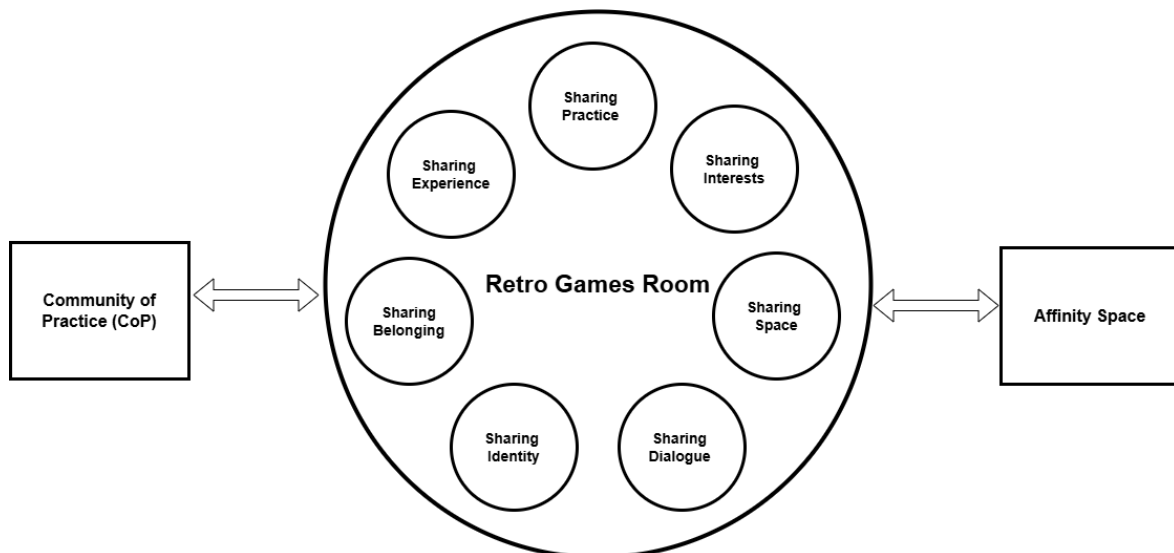


Figure1: Bridging CoP and Affinity Space (figure by authors)

Figure 1 provides an illustrative overview of how the concepts of CoPs and affinity spaces have informed the underpinnings of the retro games room. The affinity space aspect allows the students to share their passion for gaming. The CoP element offers students using the room an opportunity to collaborate and share ideas in a games setting related to project work. Figure 1 gives a depiction that whilst CoPs and affinity spaces are distinct in theory and practice, commonalities and co-existence can be found through subject area of study, coursework, sharing and exchanging ideas in addition to sharing interests and passions for gaming.

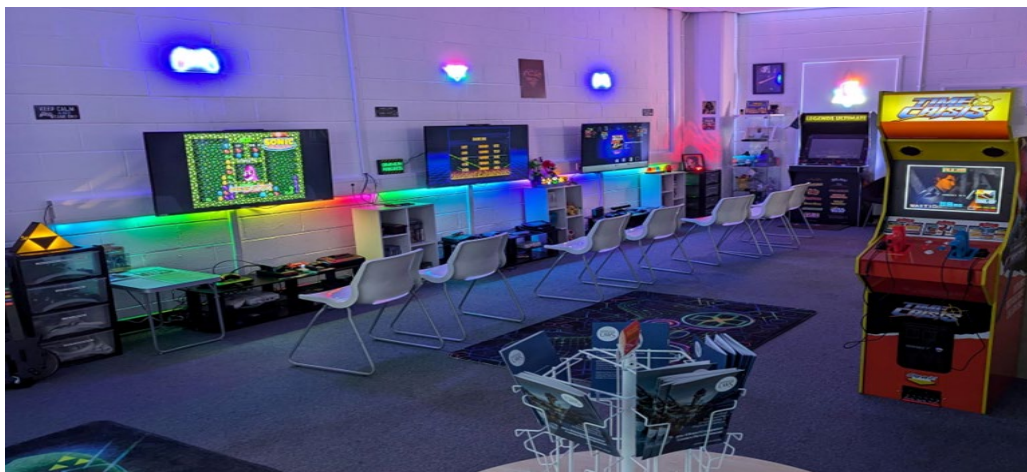


Figure 2: Accommodating student belonging in the retro games room

Figure 2 gives a sense of scale of the retro games room and the use of space allowing the students to engage in various activities in the context of an affinity space but also providing a safe space where students can formally discuss practice and share ideas related to coursework.

5. Initial Student Feedback

It was important to receive student feedback about the retro games room to ascertain views about its use and general perceptions whether students thought that it enhanced their overall experience on the computer games development programme. The questionnaire adopted a predominately mixed methods approach though the weighting was primarily quantitative. The sampling approach adopted was non-probability where convenience sampling was used based on the ease of access of participants and that the area of focus related to the Computer Games Development programme. An acknowledged limitation of the questionnaire was the low response rate with only 22 students on the programme having completed the questionnaire. Resulting from this, descriptive statistics were used as no generalisations were being formed which ruled out the use of inferential statistics being unable to obtain a sample from a larger population.

22 students from differing years of study completed the questionnaire. 18 (81.82%) were male, 2 (9.09%) were female and 2 non-binary/third gender (9.09%). Age range varied from 18 to 31 indicating a young age group overall. Students were asked on average, roughly, how many hours they spent using the retro games room per week. 5 students reported that they spent less than one hour (22.73%), 10 stated one to two hours (45.45%), 5 confirmed two to four hours (22.73%), 1 spent four to six hours (4.55%) in the games room with 1 stating over ten hours (4.55%). Students were also asked why they played computer games with a range of speculative reasons provided to them. The results can be seen in table 1.

Table 1: Student reasons for playing computer games

	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE	TOTAL	WEIGHTED AVERAGE
Fun/Enjoyment	95.00% 19	5.00% 1	0.00% 0	0.00% 0	0.00% 0	20	1.05
Completionist motive (i.e., in finishing a game).	36.84% 7	52.63% 10	5.26% 1	5.26% 1	0.00% 0	19	1.79
Escapism (e.g., being immersed in the game).	52.63% 10	42.11% 8	5.26% 1	0.00% 0	0.00% 0	19	1.53
Socialising (e.g., playing with friends).	57.89% 11	21.05% 4	21.05% 4	0.00% 0	0.00% 0	19	1.63
Loyalty towards a game (e.g. a particular game franchise).	22.22% 4	38.89% 7	33.33% 6	0.00% 0	5.56% 1	18	2.28
Entertainment	85.00% 17	15.00% 3	0.00% 0	0.00% 0	0.00% 0	20	1.15
Curiosity (i.e., playing a new game, different game genre).	42.11% 8	47.37% 9	10.53% 2	0.00% 0	0.00% 0	19	1.68
Competitiveness	35.00% 7	35.00% 7	25.00% 5	5.00% 1	0.00% 0	20	2.00
Relaxation	66.67% 12	27.78% 5	5.56% 1	0.00% 0	0.00% 0	18	1.39
Autonomy (freedom to explore, play the game).	42.11% 8	52.63% 10	0.00% 0	5.26% 1	0.00% 0	19	1.68
Improvement (e.g., bettering a score, completing a level).	35.00% 7	45.00% 9	20.00% 4	0.00% 0	0.00% 0	20	1.85
Develop gaming skills	40.00% 8	30.00% 6	25.00% 5	5.00% 1	0.00% 0	20	1.95
Obtain a feeling or reward/sense of achievement	55.00% 11	25.00% 5	15.00% 3	5.00% 1	0.00% 0	20	1.70

Students were also asked the question whether the retro games room provided them with a sense of student identity on their programme. 18 students responded to this question with 5 non-completions. 8 (44.44%) strongly agreed that the room provides them with a shared sense of student identity whilst on campus, 5 (27.78%) agreed and 5 (27.78%) neither agreed nor disagreed. 1 student did however state that did not consider the primary purpose of the room to be a space to promote identity: *“I don’t personally get what about the space is meant to promote identity, equality and diversity. It’s a space where peeps can relax and enjoy the common interest of video games. Not a place for announcing personal identity beliefs”*. We also asked students whether the retro games room had enhanced their student experience on the computer games development programme. 18 students replied to this question with 5 non-completions. 12 students strongly agreed (66.67%) that their student experience had been enhanced via engagement with the games room. 3 agreed (16.67%), 2 neither agreed nor disagreed (11.11%) whilst 1 student surprisingly disagreed (5.56%). Students were also asked to rank what concepts that they considered the games room supported. This can be seen in table 2.

Table 2: Student views regarding the supportive features of the games room

	A VERY GOOD EXTENT	A GOOD EXTENT	NEUTRAL	A POOR EXTENT	A VERY POOR EXTENT	TOTAL	WEIGHTED AVERAGE
▼ Social space to relax with my peers.	83.33% 15	16.67% 3	0.00% 0	0.00% 0	0.00% 0	18	1.17
▼ Safe space to meet other students on my programme (forming new connections).	50.00% 9	44.44% 8	5.56% 1	0.00% 0	0.00% 0	18	1.56
▼ Fostering a sense of student identity on my programme.	44.44% 8	33.33% 6	22.22% 4	0.00% 0	0.00% 0	18	1.78
▼ Caters for social inclusion on my programme (e.g., gaming events, competitions).	50.00% 9	44.44% 8	5.56% 1	0.00% 0	0.00% 0	18	1.56
▼ Provides potential for use a learning space.	38.89% 7	33.33% 6	27.78% 5	0.00% 0	0.00% 0	18	1.89
▼ Promotes student autonomy on the programme.	55.56% 10	16.67% 3	27.78% 5	0.00% 0	0.00% 0	18	1.72
▼ Supports student equality and diversity.	50.00% 9	16.67% 3	33.33% 6	0.00% 0	0.00% 0	18	1.83

Students were quite positive about how the community of practice (CoP) approach had worked between staff and students regarding using the room and facilitating social interaction within it. 18 students responded to this question with 5 non-completions. 12 (66.67%) students strongly agreed that this was the case, 3 (16.67%) agreed with 3 (16.67%) neither agreeing nor disagreeing. The question was also asked whether using the games room had impacted students on the games programme to remain on campus for longer. 18 students responded to this question with 5 non-completions. 12 (66.67%) strongly agreed to this question, 3 (16.67%) agreed, 2 (11.11%) neither agreed nor disagreed where 1 (5.56%) student provided a qualitative response primarily agreeing: *“Yes, but class work forces me to rush home to get more work done. Would love to spend more time in there, especially if there was more multiplayer/Co-op options other than Mario and Street Fighter titles”*.

There was a positive response towards the notion that the games room was viewed as a good place to socialise with peers between classes. 18 students responded to this question with 5 non-completions. 11 (61.11%) strongly agreed and 7 (38.98%) agreed that the room catered for social interaction among their peers on the games programme. The majority of the students also agreed that the games room had made their programme and time at university more engaging. 18 students responded to this question with 5 non-completions. 11 (61.11%) strongly agreed, 6 (33.33%) agreed with 1 (5.56%) neither agreed nor disagreed. Students were also asked to state anything that they would like to mention about the games room (e.g., its impact on the programme, their experience of using it). Only 7 open-ended responses were received which were the following:

- “Very good place especially for after or before a class as before we would be waiting around in a bland common area and provides an opportunity for meeting the other years of the course and other courses. It is also an excellent advertisement for the course as it shows the passion of the staff”.
- “I love the games room. But it's lack of multiplayer/Co-op titles of my interest doesn't make me want to bring a mate from the class in there to have a game”.
- “It's very interesting and exciting to have such a cool room in our university. Sometimes me and my friends spend there a couple of hours per week. It's always nice to immerse ourselves in the industry of old games and find something new”.
- “Good way to get to know classmates by playing games together”.
- “Helps break the ice between introverted people by getting them to do something they both enjoy”.
- “It has encouraged students to donate any of their unused consoles to allow others to play and the students are encouraged to bring decorations or to write ideas for competitions”.
- “Would be good if network connection was available for some games (like destiny on Xbox) for multiplayer”.

6. Conclusions and Recommendations

The aim of this paper was to provide an overview of how the development of a video games room within a higher education institution has the potential to support the notion of student belonging. Furthermore, the paper has indicated that the room can also accommodate students and staff using it within the theoretical and practical remits of a community of practice (CoP) and an affinity space. An acknowledged limitation of the study was the relatively low response rate to the questionnaire where it is problematic for formulate any generalisations. It is most likely not surprising that the students who completed the questionnaire were overall very positive about the games room and its use. It would be useful to undertake additional research in relation to student perceptions on-campus spaces to support student belonging across differing educational disciplines.

In the context of this particular case study, it appears evident that a common and shared interest among students' enjoyment for video games can accommodate the concepts of a CoP and affinity space. The social-cultural aspect of video games when combined with their immersive qualities provides students with direction, purpose, connectedness and commonality in the confines of a safe space to share their interests.

Whilst not every academic institution might have access to gaming facilities, there are however common and salient factors that educators and higher educational institutions can reflect upon when contemplating utilising on-campus spaces to support student belonging. One aspect to consider might be to create the space utilising a bottom-up or grassroots approach thereby involving the student voice and the concept of co-creation. Other factors might relate to identifying a common purpose and use for the space, where the space will be located on-campus and accessibility issues as well, support and buy in from staff, the relevant university school and institution as a whole, usage patterns for the room, health and safety concerns and the integration of any technology if required. Some general considerations in terms of how to initiate or support an on-campus space are illustrated in figure three. It could be argued that considerations impacting the use of on-campus space for students is something higher educational institutions should reflect upon in terms of accentuating and supporting student belonging, retention and progression. This however is something that continues to remain a challenge in the post Covid-19 era.

Figure 3 provides a pictorial overview for educators regarding factors they should consider when creating spaces on-campus to support student belonging and wellbeing. This is in no way an exhaustive list of considerations and requires further empirical research in addition to further engagement with the academic literature. The figure is informed from the authors' own personal experience, logical and practical considerations in setting up the retro games room. This illustration of factors can act as a starting point for other educators to reflect upon if using an open space on their campus for similar purposes. In addition, these potential factors for creating an open space for students to utilise can be enhanced and built upon in terms of contributing to the figure or through time, the development of a generic on-campus space implementation framework.

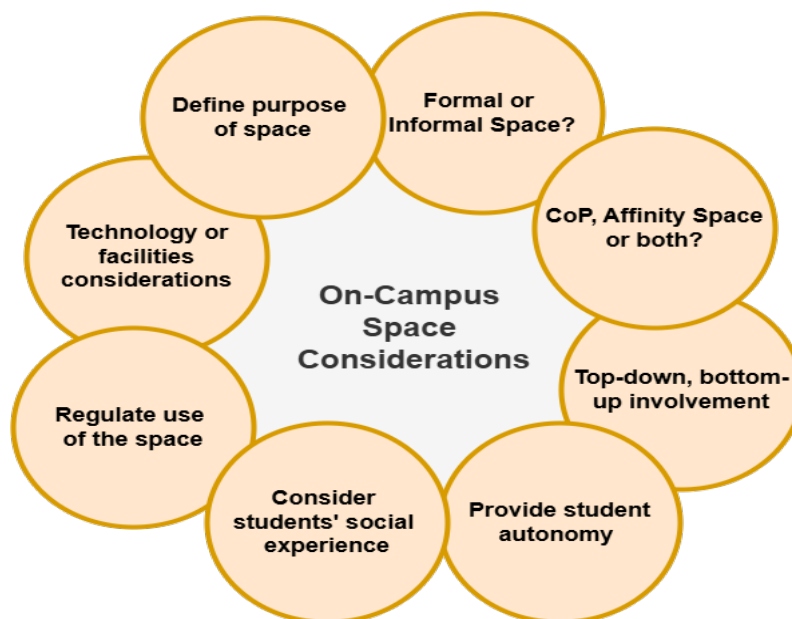


Figure 3: Factors to consider when creating an on-campus space (figure by authors)

Ethical Clearance: Due ethical procedures were adhered to within the context of this study where participation for the students was voluntary and they could withdraw from the questionnaire at any stage. Participant anonymity was adhered to as was the confidentiality of the data obtained. In terms of ethical clearance, the case study was deemed to be of low risk hence there were no issues relating to ethical clearance.

AI Declaration: No AI tools were used in the writing and creation of this paper. Diagrams were created by the authors using the software draw.io and tables created using MS Word by the authors.

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