Social Learning @ University

Hiral Patel, Fiona Duggan and Katherine Quinn

May 2025

Contents

Overview

Understanding social learning

Bond-bridge-connect framework

Social learning is a relationship-based process that seeks to create value for self, others and wider society.

Social learning @ University happens within and beyond timetabled sessions, in physical and virtual space, on campus and elsewhere.

Social learning is a process of **bonding within communities**. Engaging within a community, students develop the skills of collaboration, communication, creativity and confidence. These bonding activities enable students to nurture a sense of identity within their communities. A disciplinary community within which a student is studying is one such example of a community.

Social learning is a process of **bridging across network**. Social learning cultivates a sense of belonging across different networks. Engaging in networks empowers students to build connections, develop resilience, promote work ethic and appreciate the benefits of difference. Engaging in interdisciplinary activities is an example of bridging across disciplinary communities.

Social learning is a process of **connecting with society** and institutional structures. Social learning enables a sense of shared purpose and collective action. Connecting is about participating in authentic learning that addresses real-life relevance, where students embed their learning activities within wider societal challenges. Connecting activities might include student-led initiatives that are supported by institutional processes and resources.

Social learning creates value for self, others and the wider society. Students develop competencies of communication and collaboration, which are much required in the 21st century. By participating in social learning, students motivate and support each other in individual and collective learning journeys. Nurturing student-led initiatives that build on industry and civic partnerships enables students to become active citizens in their institutions and beyond. Social learning is the essence of the university campus experience.

Social learning is not a new idea. We learn socially from the moment we are born. However, what is critical when we refer to social learning at university is that it is a meaningful process of engagement with others that enables us to engage uncertainty with care in order to make a difference.

Understanding social learning

Introducing key conditions for social learning

Effective social learning requires the right organisational, physical and virtual conditions. Based on campus stories that we have gathered, enabling effective social learning requires the integration of four conditions: curriculum, staff-interface, timetable and space.

Curriculum

Universities emphasise social learning explicitly in their curriculum, which is evident in the graduate attributes of many institutions. The hidden curriculum includes the socialisation of learners within their communities through non-verbal modes, modelling and engagement with others. Such an expanded view of the curriculum emphasises the importance of social learning in the context of their academic discipline or field, their school or department, their university and the wider society. Extracurricular activities might involve the co-production of learning experiences through equitable staff-student relationships and connecting student-led initiatives with institutional structures.

Staff-interface

Social learning involves multiple types of interactions with staff as students progress through their learning journeys from directed learners to self-directed learners. While students have staff support during timetabled sessions, staff support also plays a critical role in students becoming self-directed learners outside of timetabled sessions.

Timetable

Recommendations from sector-wide student surveys suggest stacking in-person learning sessions into a few days a week to assist with the cost of commuting as well as those in paid employment. Timetable plays a critical role in integrating social learning activities within and outside timetabled activities in order for students to engage.

Space

Space plays a critical role in the formation and maintenance of social ties. Existing concepts and space models for campus design have addressed some elements of social learning activities outside timetabled activities. There is much knowledge and shared understanding of the typologies of spaces typically found on campus, which contributes to the social learning experience outside timetabled activities. Some space types, such as libraries, learning centres, student centres, cafes, atriums, and courtyards, are well established. Some new space types are emerging, such as maker spaces, practice rooms and sensory spaces. Other spaces, such as circulation, foyers, landings and outdoor spaces, are being upgraded to create better opportunities for lingering, interaction and learning. However, the higher education estate sector needs a coherent concept for campus spaces that enhances the social learning experience outside timetabled activities.

Integrating the social learning landscape

The concept of C-Space

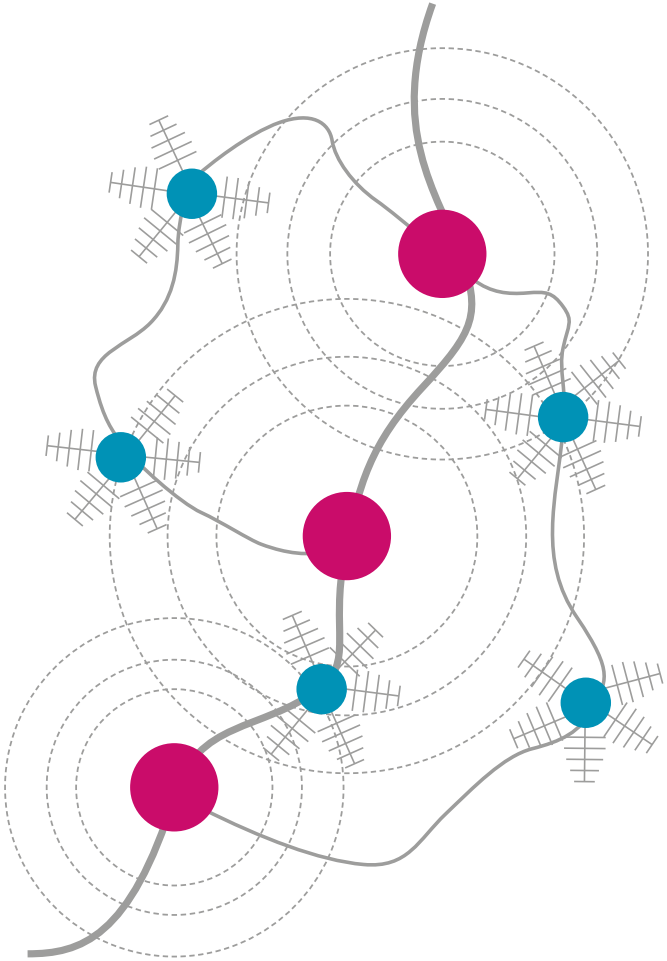
We propose C-Space as a new conceptual tool for integrating campus spaces that enable social learning experiences outside timetabled sessions.

C-Space is about creating great relationships

This concept helps to reframe existing campus spaces and define new interventions. C-Space is not just about the provision of physical spaces; it requires the integration of social learning activities outside timetabled sessions, driven by the curricular, expanded curricular or extracurricular aims and supported by staff-interface. The process of developing C-Space will vary from one institution to another, depending on the organisational and spatial contexts involved. Interventions might include discovery and wayfinding of available spaces, activating existing spaces, making small-scale interventions throughout campus, aligning student services, encouraging better interactions between students, staff and external partners, enhancing timetables for study outside timetabled sessions, improving access to specialist spaces and staff support. Occasionally, C-Space may be about new buildings.

C-Space has six characteristics

1. Enables continuous learning experiences outside and in between timetabled sessions.
2. Connects physical and virtual realms of learning.
4. Enables the sharing of differences within and between communities.
4. Embodies care for diverse student needs.
5. Aids students to get unstuck.
6. Nurtures student agency in the university and beyond.



Enabling social learning

C-Space stewardship

Throughout the research project, we heard over and over again that good social learning experiences don't just happen. C-Space needs stewardship to be effective. Stewardship is acting with care in introducing, activating and sustaining C-Space. The C-Space stewardship has five characteristics:

C-Space stewardship has five characteristics

1. Stewardship is a collective act and is based on trusting relationships and respect between those who commission and deliver C-Space, who create management protocols and maintain those spaces, and those who use the spaces provided in expected and unexpected ways.
2. Stewardship is about continuous learning, which requires a reflective approach to challenging our assumptions and experimenting and trying new things.
3. Stewardship is about nurturing agency and competence among students to activate and enhance C-Space by connecting student-led initiatives with institutional resources in order to create positive change.
4. Stewardship requires institutional support to provide resources in terms of funding, time, and recognition to enable C-Space stewardship.
5. Stewardship promotes active citizenship of staff and students. Students, in particular, are empowered to become change agents within and beyond university communities.

C-Space champions

C-Space needs a range of champions who will take on the challenge of balancing all perspectives at different institutional levels. These C-Space champions include:

C-Space champions represent all perspectives

1. Sectoral bodies promoting the importance of social learning experiences
2. University leaders committing to the resources required for social learning experiences
3. Academic staff incorporating social learning experiences within courses
4. Professional staff integrating operational processes for seamless social learning experiences
5. Estates staff ensuring sufficient space is available for non-timetabled social learning experiences
6. Students participating in the evolution of C-Space provision, management and use
7. Designers creating solutions that address all conditions required for effective social learning

Enabling social learning

C-Space values

The campus stories that emerged from our fieldwork revealed that the design, management and use of C-Space is a process of social learning in action.

1	**Collaboration**	Learning with and through each other.
2	**Caring**	Appreciating diverse viewpoints.
3	**Citizenship**	Participating in societal initiatives.
4	**Curiosity**	Being willing to see with fresh eyes.
5	**Courage**	Being open to new possibilities.
6	**Competence**	Having the knowledge and skills required.
7	**Commitment**	Promising to act with integrity.
8	**Context awareness**	Understanding the learning landscape involved.

Getting started

C-Space tool gauge

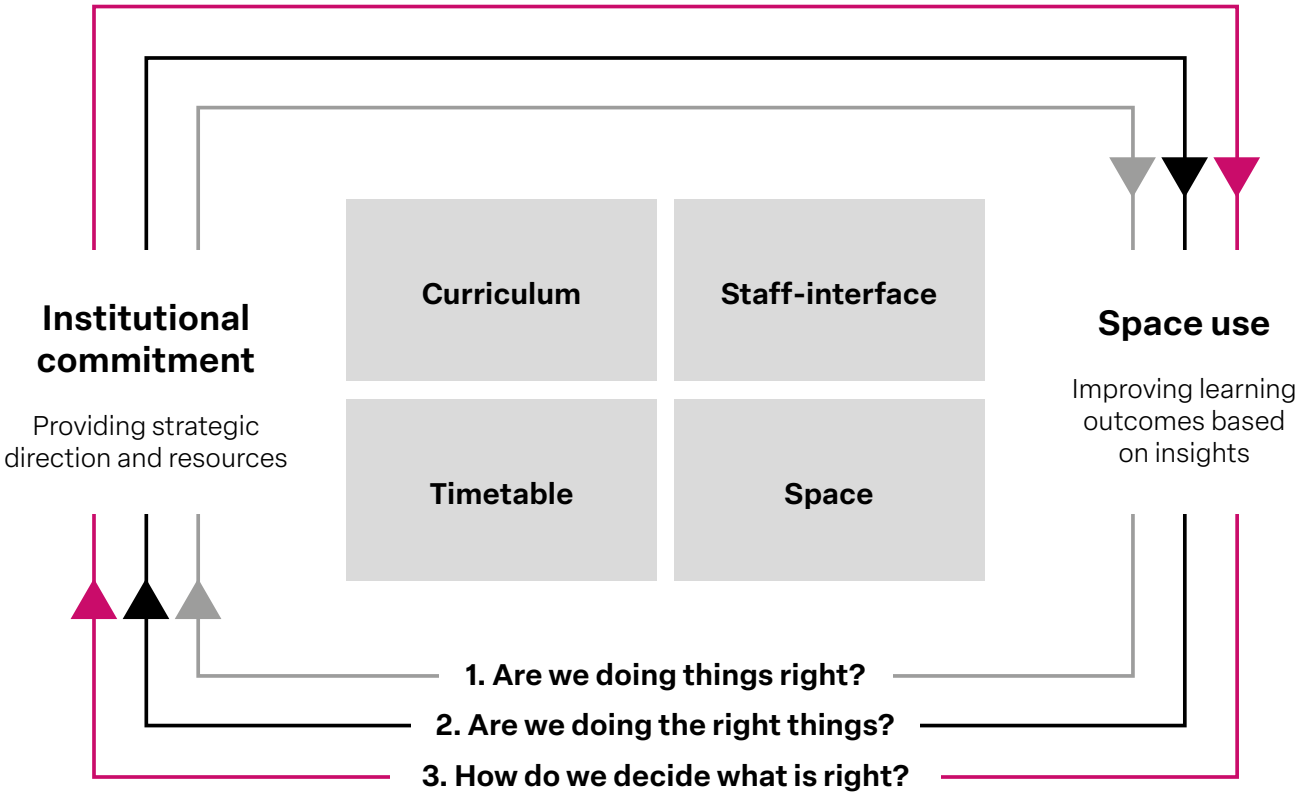
The C-Space tool gauge could be used to evaluate existing spaces or define new interventions.

For existing spaces, the positioning of the attributes could be flexed depending on the context, resources available and desired outcomes.

For new interventions, the positioning of the attributes could be used as a briefing tool to understand needs. Change could be initiated by starting with any of the attributes.

The process is one of triple-loop learning.

1	**Single-loop**	What's known
2	**Double-loop**	What's knowable
3	**Triple-loop**	What's unknown



Social learning in action

We're very grateful to the University Design Forum (UDF), Association of University Directors of Estates (AUDE) and Willmott Dixon for commissioning this research and to the Steering Group, which supported and challenged us throughout the process. Our understanding of the role space plays in social learning is an evolving journey, and we feel very fortunate to be part of it.

Over the last 18 months, our research on how the design, management and use of campus spaces might enable better social learning experiences became a journey of learning-by-doing. We shared this journey with many, learning from and with students, academics, researchers, estates, professional services, designers and built environment experts. Our research tools were largely qualitative: open-ended discussions within our interdisciplinary project team comprising two academics and one practitioner; fieldwork with our four student co-researchers as well as other staff and student research participants; continuous learning (observing, testing, reviewing, reflecting) with our project steering group representing different stakeholders; online sounding panels with expert academics and practitioners; discussions involving diverse interests and experiences at workshops and conferences. By slowing down and paying more attention to what we were seeing, feeling and attempting to give voice to, we collectively came to a shared new understanding of what social learning actually means, and what it could mean for campus space models.

For all those who seek to influence the design, implementation, use and management of C-Space, we have learnt that this is likely to be best enabled via processes involving social learning in action.

Dr Hiral Patel, Cardiff University
Fiona Duggan, FiD
Dr Katherine Quinn, Cardiff University

Creating better learning experiences

This research report is the culmination of another collaboration between AUDE and the University Design Forum. It began with a shared recognition that learning takes many forms. The research was commissioned with a team of specialists well-practised in learning and spatial planning and has opened up new ways of looking at spaces for learning. It considers the potential that spaces offer to students in their learning and, for that matter, anyone who may use and enjoy that space.

Social learning is a familiar term that has become synonymous with modern pedagogy. The research found that social learning is not tied to one type of space. As a way to learn, it can happen in all spaces at any time. From a Director of Estates' perspective, it is about building capabilities within the institution to align curriculum, timetable, staff-interface, and space for enhancing social learning. It is vital that we can create and curate spaces that offer the best amenity and experience.

C-Space, as a spatial concept, provides a thinking tool to integrate organisational, spatial and virtual realms. It needs commitment from the institution, such as in the form of resources and recognition, together with an understanding of the study experience which is grounded in practice and goes beyond metrics. The university community and its networks can thrive in the right setting. Design is key to stewardship of C-Space, in order to invite and encourage a sense of ownership of those spaces, and nurture a positive experience for the individual and for society.

Trevor Wills, UDF Chair and Director of Estates & Facilities, University of Plymouth

Empowering learners

At AUDE, we champion the critical interplay between campus environments and the communities they serve. It is a personal and professional passion to explore how spaces on campus empower both staff and students to curate environments that instinctively meet their diverse and evolving needs. This research report, developed through collaborative research, reflect a vital truth: spaces are not merely physical; they are lived, relational, and deeply connected to how we experience learning and belonging.

The “C-Space” concept presented here emphasizes the integration of non-timetabled spaces —corridors, atriums, gardens, and more—into a coherent, purposeful framework for social learning. These spaces are designed to communicate with their users, offering intuitive cues for engagement, collaboration, and reflection. They become vibrant, user-centred ecosystems where the physical environment naturally guides behaviour.

At its heart, this work challenges traditional boundaries. It reframes campus spaces as dynamic hubs of bonding, bridging, and connecting, underscoring that learning is not confined to classrooms or timetabled sessions. Instead, learning thrives in moments of interactions, spontaneous dialogue, and shared discovery.

As we face sectoral challenges, from financial constraints to sustainability imperatives, this research has shown how, together, we can not only support but empower and inspire the next generation of learners and leaders to create campuses that are truly inclusive and empowering.

Jane Harrison-White, AUDE Executive Director

Understanding social learning

1. Introducing bond-bridge-connect framework

Learning is a social process

Higher education is continuously changing. Yet, some things don't change. Learning remains a social process based on relationships. Social learning is not a new idea; social learning can be interpreted back to the foundation of how we learn as humans.[1] Developing a sense of being and belonging through social relationships is a prerequisite for children to develop the ability to learn the essential tools of speech and language, and social learning continues throughout one's life.

Social learning is not an isolated phenomenon. We are all learning socially all the time. However, we need to think critically about what we actually want to learn or unlearn socially and the role of the university in this. The marketisation of higher education in the UK has led to a critical rethink of the role of the university in a democratic society. As John Holmwood argued:

"Public reason in a democratic society requires more than an effective system of higher education at the service of democratic knowledge, but that is at least one of its conditions".[2]

The challenge is how we live with differences in order to make a difference. There is an urgency to collectively act in response to the climate crisis, address health and financial inequalities, and create educational environments where curiosity, hope, and courage can thrive. The relational aspect of learning is becoming increasingly crucial in the context of our hybrid realities that span physical-virtual realms. Indeed, emerging from the aftermath of COVID-19, where loneliness among university students is high, there is a call for action for universities to inculcate circumstances for social learning that are positive and growth-supporting and that integrate students, universities, and civic society.[3] As Richard Dober proposed:

"Each college and university should have an appropriate image of its own making, an amalgam of buildings and landscapes that communicates a distinctive sense of place, functionally suitable for the institution's particular purposes. The image and reality should promote community, allegiance, and civility while at the same time encouraging diversity in discourse and vision, which gives our colleges and universities a special status in a humane and civilizing world."[4]

Theories we drew upon

Social learning theorists Beverly Wenger-Trayner and Etienne Wenger-Trayner describe how social learning creates value at the levels of self, others and the wider society.[5] Social learning involves mutual engagement at the boundaries of learners' knowledge and a desire to pursue a joint inquiry together. Such pursuit is undertaken by caring to make a difference, engaging uncertainty and paying attention. In this context, social learning is "*a particular experience of engagement that takes place among people in pursuit of learning to make a difference*".[6]

Granovetter's work describes strong and weak ties.[7] Strong ties between family members, close friends and neighbours are built through continuous interactions over large amounts of time. Strong ties can be enabling or constraining. Weak ties with distant friends, associates and colleagues are created between individuals from different groups. Weak ties are "*an important resource in making possible mobility opportunity … and play a role in effecting social cohesion".* [7] Strong 'bonding' ties and weak 'bridging' ties are both essential for a healthy society. Putnam wrote in Bowling Alone*: "Bonding social capital constitutes a kind of sociological superglue, whereas bridging social capital provides a sociological WD-40."*[8]

Woolcock's concept of social capital extends the social capital framework to include linking institutional norms and structures that facilitate collective action.[9] Social relationships are one of the ways in which we cope with uncertainty, extend our interests, realise our aspirations and achieve outcomes we could not attain on our own. This involves creating alliances between grassroots actions and institutional structures by working together with individuals in positions of power, which Woolcock terms 'Linking'. Poortinga aptly summarises the three elements of social capital as: "*…bonding social capital referring to aspects of 'inward-looking' social networks that reinforce exclusive identities and homogeneous groups, bridging social capital to 'outward looking' social networks across different social and ethnic groups that do not necessarily share similar identities, and linking social capital to norms of respect and trusting relationships across power or authority gradients."*[10]

Guild HE and National Students Union make a case for engaging students in active citizenship activities and empowering them to contribute to their communities, have better connections with communities and become change agents.[11] A conducive learning environment where students feel connected, supported and valued is essential for students to actively develop a sense of belonging for themselves.[12]

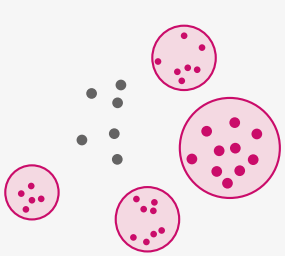
Bond-bridge-connect framework

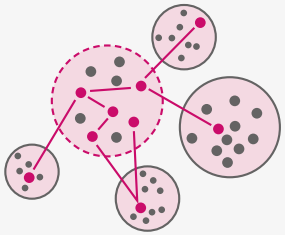
Our initial findings from this research project highlighted confusion about what social learning is among staff and students. We, thus, aim to provide a framework for understanding social learning at university. **Campus Story 1**

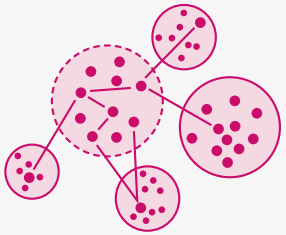
Synthesising the conceptual frameworks described above allowed us to create a **bond-bridge-connect framework for social learning** that aims to deepen students' ability to belong to communities, participate in networks and shape society.

Social learning at university is a relationship-based learning process of bonding within communities, bridging between networks, and connecting with society and institutional structures in order to create value for self, others and the wider society.

Social learning is about developing a sense of identity and belonging, shared purpose and collective action.







	Bond in communities	Bridge across networks	Connect with society
Learning journey			
Directed learner	Discovering our world	Glimpsing a bigger world	Transforming our world
Involved learner	Defining who we are	Extending who we are	Developing a collective voice
Self-directed learner	Building new communities	Creating new networks	Making new partnerships
Learning attributes			
Engagement	Observe & emulate	Engage & exchange	Partner & innovate
Knowledge	Shared thinking	Diverse thinking	Joined-up thinking
Competence	Definition	Extension	Impact

Bond

Social learning nurtures a sense of identity within one's community. Engaging within a community, students develop the skills of collaboration, communication, creativity and confidence. These **bonding** activities enable students to discover and define their knowledge base.

"If one isn't strong enough at one thing, they might gain more knowledge on it as it is usually easier to ask a friend than a lecturer." **– Student**

"I also enjoy carrying out independent work whilst surrounded by course mates, who I can run ideas by or have proofread work for me. I often feel motivated to work when others around me are too – I think this is the mirroring idea of social learning." **– Student**

Bridge

Social learning cultivates a sense of belonging across different networks. Engaging in networks empowers students to build connections, develop resilience, promote work ethic and appreciate the benefits of difference. These **bridging** activities enable students to glimpse a bigger world and extend their knowledge.

"In medical engineering, we often have to work in teams and share ideas. Social learning helps us understand different perspectives and solve problems together." **– Student**

Connect

Social learning enables a sense of shared purpose and collective action for transformational outcomes. By participating in authentic learning, students connect their learning activities to broader societal matters and real-life challenges. The connection between students and society might be encouraged through pedagogical approaches such as community-engaged learning and service learning. The **connecting** activities encourage making partnerships to link the bottom-up initiatives with institutions and wider societal structures.[9]

"Social learning is important for my course as we constantly try to understand society and why people do things, so we essentially are drawing on everyday experiences, analysing and seeing what we can learn from them. For my research methods module last year, we conducted observations for our research project, and that was important for social learning as we were observing people's habits and trying to make sense of it by placing it in the context of society." **– Student**

Social learning is the essence of the university campus experience

> **"Social learning means being connected to my peers, the university as a whole and in the greater community to learn collaboratively for the greater good of all." – Student[13]**

Higher education in the 21st century needs to develop cultural and civic literacy, competencies for communication and collaboration, character traits of persistence, leadership and socio-cultural awareness.[14] With **technological advancements and the diffusion of artificial intelligence**, we are flooded with information. Education, in this context, needs to focus on collective sense-making of the information, appraise what is important and be able to synthesise different types of information.[15] In this context, the Future Skills programme by Kingston University offers an exemplar for developing abilities needed in the 21st Century, including communication, problem-solving and creativity.

Social learning has an important role to play in motivating students. Several new models of learning are emerging that offer a hybrid combination of learning on-campus and off-campus learning.[11] **Flexible learning** offers choice and control to learners in terms of pace, place and mode of learning.[16] Modes of learning could include distance learning, blended learning, block-course models, apprenticeships and traditional residential degrees. However, learning with peers is integral to all these models and adds purpose for coming to the university campus. Even in entirely online courses, such as MOOCs, participation in small groups engaged in synchronous activities motivates students to engage in learning, even if they are not wholly aware of the pedagogical aspects of social learning.[17] Thus, social learning is becoming increasingly important as the flexibility of the learning experience increases.

Social learning also enables students to **build industry partnerships and contribute to the civic mission of universities**. Imagine Futures, JISC's recent horizon-scanning project maps emerging higher education models, particularly addressing the business and industry requirement of soft skills, the broader recognition of the role of higher education in engendering social impact, and initiatives to build partnerships and share resources with industry and local communities.[18] The Civic University Network advocates for the active participation of students in their local communities facilitated through curriculum and extracurricular activities, which could improve students' sense of belonging and agency.[19] Active citizenship at university includes volunteering, democratic engagement, involvement in environmental sustainability, community engagement and global citizenship.[20] The partnerships built with local communities and industry, in turn, enable graduate retention and socio-economic development of those regions.[21]

2. Identifying factors affecting social learning

Students are facing many challenges

Improvements needed in course delivery

In the National Student Survey 2024, which surveys the final year students studying undergraduate courses in the UK, the theme that scored the highest positive measure (the proportion of respondents who gave a positive answer) is that of 'Learning resources' (86.9%), which include support and access to library resources, learning spaces, IT resources and facilities.[22] However, the categories that showed the lowest positive measure are 'Student voice' (74%), which includes how student feedback is sought, valued and acted upon, 'Organisation and Management' (75.3%), which includes how well the course is organised and changes to the course are communicated, and 'Assessment and feedback' (78.3%), which includes clarity about marking criteria used, fairness of marking and assessment, timely feedback, being able to demonstrate your learning through assessment and being able to improve one's work based on feedback received. Thus, while the learning facilities are much improved, course delivery, assessment and feedback, and acting upon student feedback require more attention for a better student experience.

Search for belonging

At the level of postgraduate taught degrees, a similar picture could be found in the 2024 Postgraduate Taught Experience Survey.[23] 91% of respondents agreed that there is appropriate access to physical library resources and facilities, and 89% agreed that there is appropriate access to IT resources and facilities. 88% agreed that they could access subject-specific resources and facilities. Despite all this, only 69% of respondents agreed that they felt part of a community of postgraduate taught students and that they felt a sense of belonging. Only 64% of students agreed that there were sufficient opportunities to interact with other postgraduate taught students. Thus, despite reporting good access to physical facilities, almost a third of students do not feel a strong sense of belonging. Student involvement in the design and management of campus spaces plays a critical role in fostering a sense of belonging in oneself, in the immediate environment and in broader society.[24]

Self-directed study is critical

Taught modules in courses are assigned credits. An undergraduate degree typically consists of 360 credits, with 120 credits per year. One credit equates to 10 notional hours of learning. These notional hours of learning include associated contact hours, independent study, and assessment.[25] Contact hours could be in-person or virtual. They might consist of direct interaction between a student and a member of staff that could be either instruction, participatory discussion, guidance or personalised feedback, interaction via email or pastoral support through personal tutoring. In addition to the contact hours, independent, self-directed learning outside scheduled learning activities is equally essential, distinguishing higher education from general and secondary education.[26]

> **Self-directed learning outside 'contact hours' is fundamental to university education.**

Reassessing time on campus

The Student Academic Experience Survey 2023, which is representative of the undergraduate student population in the UK, is the most telling of sectoral trends related to the student experience.[27] When respondents were asked a qualitative open-text response to the one thing that their institution could do to improve the quality of their academic experience related to the quality of teaching and learning, being able to be active learners in the classroom, developing a rapport with lecturing staff and more opportunities for making contact with peers were cited. Being able to apply the knowledge gained on the course to create better job prospects for the future was another key theme. Packing in more contact hours does not seem to be working. The year 2023 saw the highest study workload in the last five years, reaching 33.4 hours per week. The survey reveals the tension that, while the volume of timetabled contact hours has increased along with time spent on placements or fieldwork, the proportion of self-directed study is the lowest. More contact hours do not always mean higher student satisfaction, as students with more than 30 hours per week were not quite as satisfied as those who were assigned 20-29 hours. One of the recommendations of the 2023 survey report is to create timetables that stack in-person learning sessions into a few days a week to assist with the cost of commuting as well as those in paid employment. Thus, timetabling is a crucial aspect to consider.

The timetabling approach could help integrate self-directed learning with the scheduled teaching hours.

Cost of living crisis

As per the Student Academic Experience Survey 2023, the cost of living crisis is one of the top factors which makes students question the value of higher education. Financial difficulties and the challenge of balancing study and other commitments have been cited by twice as many students who considered leaving university compared to 2021. 55% of students are in paid employment while studying, with the mean number of hours per week worked increased to 7.5 hours in 2023, compared to 4.8 hours in 2019. The survey also found that 1 in 10 students reported having caring responsibilities, which is often compounded by working long hours in paid employment and/or commuting long distances. Access to affordable food on campus is one of the key issues.[28] Students are also facing challenges in participating in student societies due to cost commitments, which might otherwise offer opportunities for interactions among students with different socio-economic backgrounds by participating in subject-specific communities and/or diverse interest groups.[29]

The cost of living crisis is affecting students' abilities to study on campus.

Wellbeing concerns

Supporting university students' mental health and wellbeing is a high priority for the higher education sector.[30] University UK's Mental Health Charter[31] and the Okanagan Charter[32], which promotes health and wellbeing in higher education internationally, emphasise a whole campus approach which integrates policies, practices and campus environments and identifies the vital role of building social relationships and creating thriving campus communities for student wellbeing. The largest study of student mental health in the UK conducted in 2024 revealed that students need support to build social connections when transitioning to university.[33] Students with low mental health cited social anxiety and the cost of living crisis as two key challenges for building friendships.

Positive social relationships are fundamental to student wellbeing.

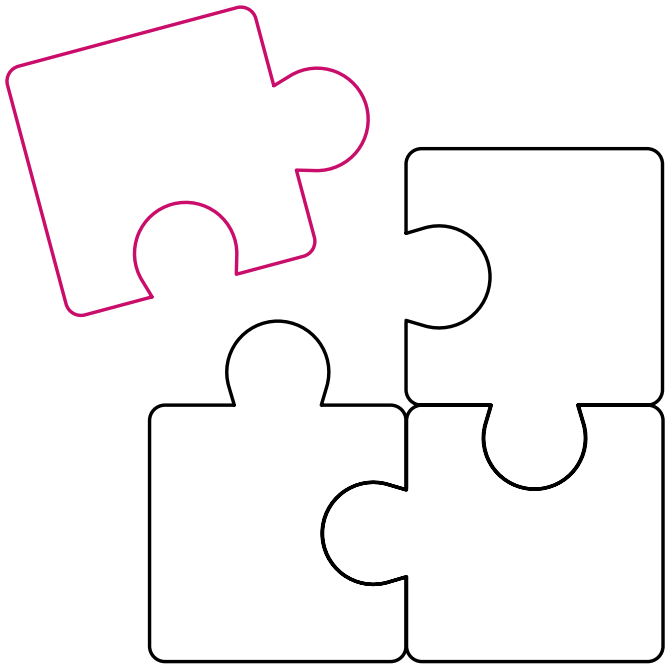
Need for space

There is a spatial aspect to this. The challenge is often creating a coherent experience for students across the campus and the learning activities that they engage in. Raise Network Guide emphasises a need to create space for relationships and communities to develop, for students to learn and socialise, and for students to feel a sense of ownership of that space.[34] Recent research by WONKHE and Pearson, drawing on a UK-wide survey of staff and students, recommended integrating carefully designed opportunities for social learning, supported by appropriate academic support services, to build social connections through course design and delivery.[35] Moreover, their research also emphasises the importance of communal course spaces designed in partnership with students and adequately signposted to ensure students can use them.

3. Introducing key conditions for social learning

From our conversations with research participants, observations of social learning activities and review of existing literature, we identified four conditions that played a key role in shaping the social learning experience.

1. **Curriculum**
   Defining what to learn, how to learn, why to assess.
2. **Staff-interface**
   Enabling students progress from directed to self-directed learners.
3. **Timetable**
   Developing delivery models that incorporate non-timetabled activities.
4. **Space**
   Ensuring students move seamlessly across physical and virtual space.



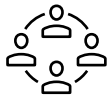
Condition 1: Curriculum

Curriculum

Curriculum is vital in embedding social learning within students' learning experiences. Curriculum involves what is to be learnt (content), how it can be learnt (pedagogy) and how to assess what is learnt (assessment). Approaches to content, pedagogy and assessment differ according to discipline. Moreover, the pedagogical aspirations of higher education institutions vary, and not all institutions might use "social learning" as a term within their curriculum frameworks or education strategies. Students at different levels of progression might approach social learning differently.[36]

However, there are overarching similarities when it comes to desired learning outcomes. Most higher education institutions have developed a set of graduate attributes that outline skills, qualities and understanding that all students would develop during their time at an institution, regardless of the learning outcomes of a particular degree course they might be pursuing. Despite the variance in pedagogical approaches, a study of graduate attributes of 76 UK Universities revealed three common themes:

Developing the importance of self-awareness, emotional intelligence and effective communication.



Building employability skills and professional development through the ability to work effectively with others.

Cultivating active citizenship within local and international communities with an awareness of one's impact on the ethical, social and physical world.[37]

Social learning is at the core of these themes to create value for oneself, the group in which one is involved, and the wider society. These attributes include definition, extension and impact. They are acquired by students learning how to belong to communities, participate in networks and shape society.

Expanded curriculum

The curriculum is not fixed but *"an ongoing social activity involving interactions between students, teachers, knowledge and milieu"*[38] and is typically experienced in three ways: described in the course handbooks, delivered by the staff, and experienced by the students. (**Campus Story 2**) The hidden curriculum includes the socialisation of learners within their communities through *"non-verbal modes include imitation, copying or mirroring of expert skills and knowledge, modelling, private trial and error, and community member critique"*.[39] This hidden curriculum could involve the students' learning experiences within the university and beyond to include employment skills or work-based learning experience during a placement year.[35] (**Campus Story 6**) The longitudinal qualitative and quantitative study of user behaviour in Mann Library at Cornell University revealed learning activities that included solving problems through collaboration, being together with other students who might be working on the same learning materials, collaborating to compile learning materials, brainstorming, quick catch-ups with students or teaching staff, practising presentations, working on extracurricular projects, or just studying in the proximity of other students, i.e. working "alone together".[40]

The ethos of 'students as partners' goes beyond the notion of 'students as customers' and is increasingly adopted in the co-production of learning experiences, including curricular or extracurricular activities. Such partnerships are built on equitable social relationships between staff and students and are based on engagement, care, and connections.[41] (**Campus Story 4**) Such an expanded view of the curriculum emphasises the importance of social learning in the context of their academic discipline or field, their school or department, their university and the wider society.[39]

Extracurricular

Extracurricular activities include connecting student-led initiatives with institutional structures. The story of Future Skills at Kingston University demonstrates how such student-led initiatives are organisationally and spatially integrated to enhance students' learning experience (**Campus Story 6**). The TU Delft **Dream Hall** provides opportunities for students to co-produce & innovate through a student-owned initiative, coupled with institutional support for building facilities, guidance and governance. More details of the Dream Hall are discussed in Part 5.

Condition 2: Staff-interface

Social learning involves interactions with staff as students progress through their learning journeys. The student learning journey involves progressing from directed learners mastering basic content and skills to self-directed learners consistently applying what's being learnt. Becoming a self-directed learner with staff support is key to engaging in learning activities outside timetabled sessions. The role of staff is to match the stage of learner's self-direction and prepare them to progress to higher stages:[42]

Directed learners are directed by teachers in timetabled learning sessions that include lectures, seminars and skills sessions.

Interested and involved learners are mentored by teachers, teaching assistants, tutors, librarians and technicians in learning activities that include facilitated discussions, group projects and skills development. These types of engagement take place in timetabled and/or learning activities outside timetabled sessions.

Self-directed learners seek support as needed from academic and professional services staff in a range of activities that include individual study, work placements and student life generally.

The journey to become self-directed learner is not a straightforward linear process but one that will vary according to learning abilities, attitudes, preferences as well as curriculum requirements. The goal is to integrate student needs with teacher input, learning activities, timetabling and the required physical and/or virtual resources. The staff-interface here is not limited to academic staff, and third space professionals have a key role to play in the learning journeys of students to become self-directed learners.[43]

Coordinating and leveraging expertise from staff across the universities is required for an effective social learning experience. (**Campus Story 6**)

There is an ecosystem in universities that is larger and more diverse than in the classroom. From outreach to student support, digital teams and library services, colleagues working beyond the classroom shape student progression, retention and graduate outcomes. The colleagues in these teams are often termed third space professionals as their experience and expertise don't readily fit into academic/non-academic categories.[44]

Condition 3: Timetable

In our fieldwork, we discovered that social learning activities wrapping and outside timetabled activities are often intertwined with timetabled activities, whereby students might arrive earlier before their sessions and catch up with peers, or they might have a quick discussion with their tutor after the session, or they might do individual or group work in the hours in-between their sessions. Spaces on campus where these activities could happen outside and in-between timetabled activities become essential in supporting individual learning activities, strengthening peer-to-peer interactions, and nurturing a sense of togetherness, whether that's as a group of friends or a cohort, a school or department, or a professional community. (**Campus Story 2**) We also found that students went to a new building other than their usual departmental building because they had a timetabled lecture in that other building. By scheduling sessions in different parts of the campus, the timetable also becomes a vehicle for students to explore and familiarise themselves with the campus and potentially disintegrate the idea that they need permission to enter other buildings on campus.

Since the late 1990s, there has been a growing interest in course delivery that mixes face-to-face and online mediums.[45] These types of courses are referred to as mixed instruction courses, also referred to as hybrid, blended, flipped, or inverted courses, and have an impact on time spent within timetabled teaching sessions. Mixed instruction courses vary according to the medium of course delivery (e.g. delivered through tutor or technology) and type of learning activity (acquiring, discussing, applying). Adopting mixed instruction models might result in a reduction in time spent in timetabled teaching sessions, and it might result in an increase in overall time spent learning in a course due to engagement outside timetabled sessions.[46] In terms of design and management of campus spaces, students' presence on campus is thus intertwined with the approach of course delivery and the timetable associated with it.

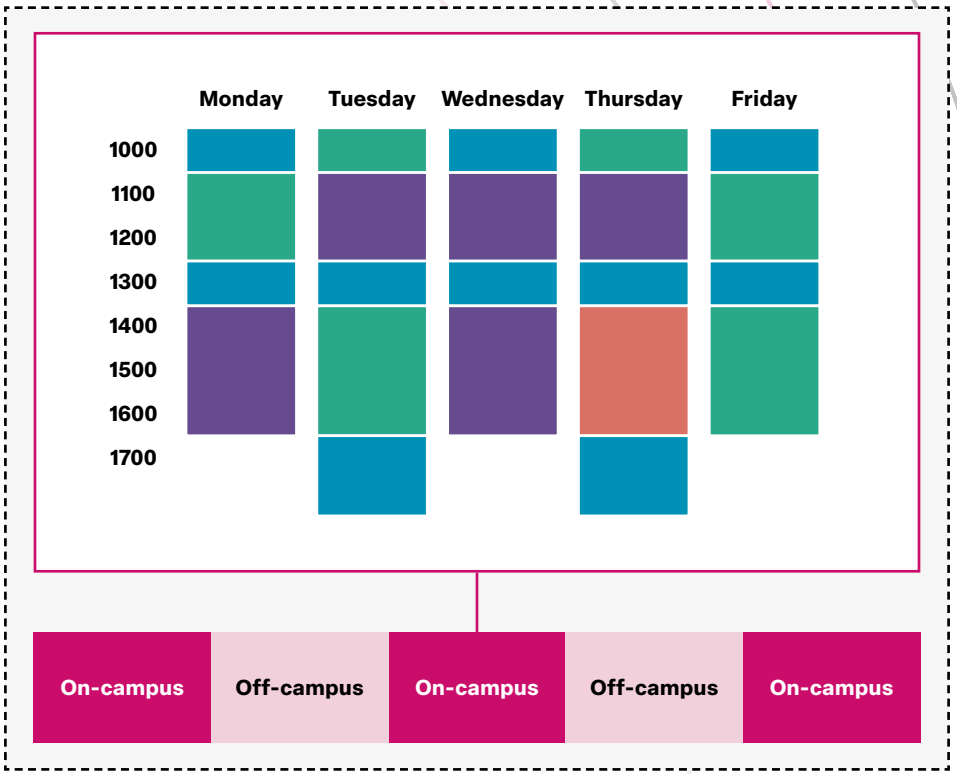
Two examples that demonstrate an integrated approach to timetabled and learning activities outside timetabled sessions for effective social learning are described next.

Example 1: Block course model

Caroline Almond at the Welsh School of Architecture has developed a block-course model for the Master of Architecture through several years of ongoing improvements based on student feedback. The first year of this course is delivered through three one-week blocks on campus dispersed across an academic year. When away from the campus, tutors organise activities in virtual learning environments to gain learning support from staff and encourage peer-to-peer interactions. Learning from peers is embedded through course learning outcomes, designed learning activities, formative feedback strategies and assessment. During the one-week block when students are on campus, activities in-between timetabled sessions are anticipated, facilitated, supported and embedded in the timetable. Curricular changes are continuously made based on lessons learnt each academic year to encourage peer-to-peer interactions through structured and semi-structured activities, which are scaffolded by staff presence. Social learning outside the taught sessions is considered and included in the timetable. Students are given dedicated space to work and be together outside timetabled sessions. The curriculum, staff-interface, timetable and space are integrated for the following:

- **Orientation:** Addressing practical aspects such as where the students store their luggage, refreshments on arrival to allow mingling and settling in, how they get hold of their university ID cards from the university's central security office, and offering department building tours.
- **Learning support:** Coordinate sessions with personal tutors and student services such as the library and career support so that students can have in-person interactions with them and build awareness of the support available to them virtually when they are not on campus.
- **Self-directed study:** Setting up time and physical space for students to focus on individual or group self-directed learning outside scheduled taught sessions. At the same time, academic staff are available or willing to provide impromptu feedback. Students new to the city could also use some time to explore the city.
- **Building connections:** Facilitating vertical interactions between year groups through networking activities, opportunities to meet representatives from industry, and facilitating and encouraging student representatives to organise social activities for the cohort in the evenings.

While self-directed learning is assumed to be organised by students themselves, timetable design plays a definitive role in supporting students to participate in social learning outside timetabled sessions on campus.



Staff interfaces

35% taught classes, staff guided activities

35% student-led projects, staff facilitated activities

20% mingle, staff available to consult

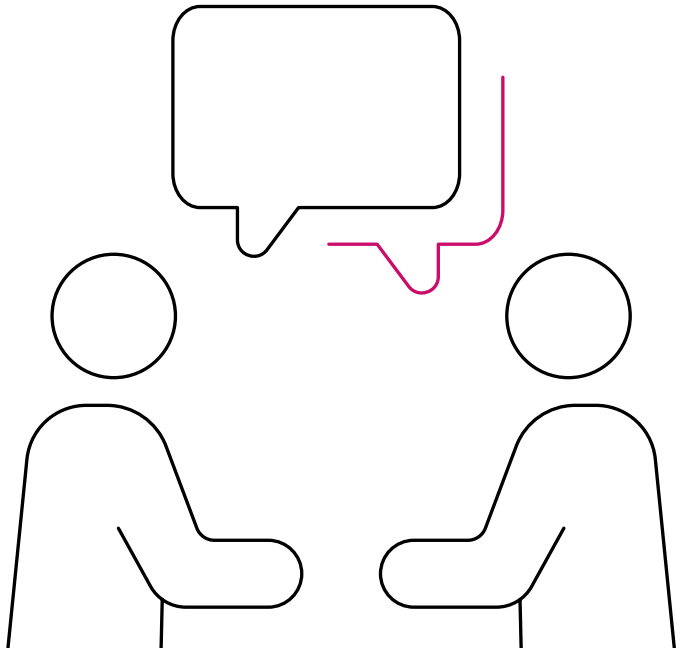
10% optional learning activities, staff available to consult

plus open-access services: library, maker-lab, student services

An example timetable of a block course

Example 2: Apprenticeship model

Hiral met a cohort of ten students studying a five-year apprenticeship degree course, which is delivered in collaboration between a Further Education (FE) college and a university. The students work full-time four days a week and study for one day a week, which is typically a Thursday. The first three years of the degree are delivered at the FE college, and the last two years are delivered at the university. When the FE college facilities are closed during the three half-term breaks a year, the students are expected to come to the university even if there are no scheduled teaching sessions and undertake self-directed study with a provision of tutor support available online if needed. During one such half-term Thursday on campus, Hiral met the whole group of ten students trying to find a room to study that could accommodate them all:



HP: So, do most of the students in your year come on this sort of day?

Student 1: *Yeah, we are contracted. Yeah. It would be like if we didn't go to work for a day and then phone in. We really have to be here, yeah.*

HP: *Who would record that you are here doing this work?*

Student 1: *It's a good question. It's not recorded.*

Student 2: *Lecturers do a weekly register for lectures, but not for these half-term sessions. But you would be at such a disadvantage not to come in for these sessions. Because we're studying only one day a week, missing a day is like missing a week. If you don't show up, you will fall behind, and lecturers will know. If anything, these half-term days are the most important. With a lecture, information is sort of thrown at you. The half-term sessions are the days that you can actually get in the learning because we are studying together.*

HP: *And why do the whole cohort of ten students need to work together as a team? Due to a project that you have?*

Student 1: *It can be a project, or sometimes some people might be struggling with certain modules. People in this type of course have children, families and work. For us three, for example, we have been in education for all of our lives. Some people have bigger breaks in education, so they sometimes need a little bit more help with studying. We can give that help if it is an easy thing and the lecturer hasn't got time. So it's just useful to try to help the guys out, as well as them helping us if we ever needed it. And because we're doing this course alongside work, the other four days of the working week, we don't have time to put aside for university work. So having a room for all of us to study together every time we are on campus is really beneficial.*

> **The intentional integration of self-directed study in the timetable, along with the provision of appropriate space, could provide opportunities to streamline study time in response to the growing pressures on students' time.**

Condition 4: Space

Space plays a critical role in the formation and maintenance of social ties.[47] Spatial composition, which includes the presence of fixed places that make interaction possible and enable engagement in a shared focused activity, are essential in creating and maintaining social ties.[48] Spaces for social learning outside timetabled activities are not typically accounted for in estate management statistics, and it is difficult to classify and benchmark such spaces.[49] Such spaces could range from circulation spaces, such as corridors and atriums, to more specialist spaces like drop-in labs and workshops. If social learning activities outside the timetabled sessions are critical to the curriculum and overarching learning experience on campus, adequate provision of such spaces is necessary. Various spatial typologies already exist to conceptualise spaces for opportunities for self-directed study outside timetabled sessions.

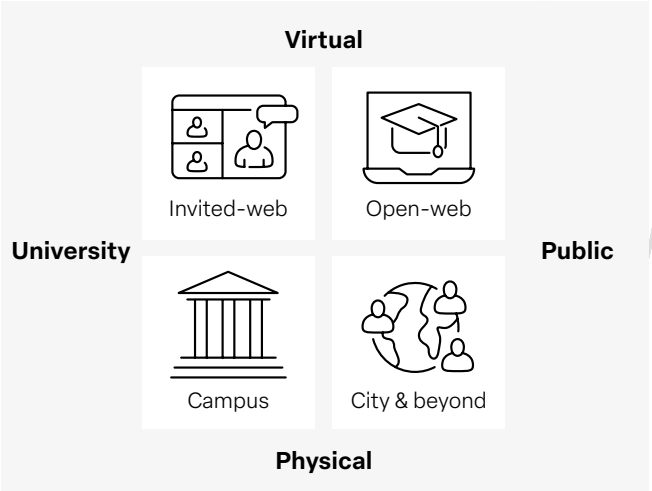
The **college** buildings of early universities, such as Bologna, Cambridge and Oxford, often emerged from small public houses. They were typically organised in a single building with a courtyard, surrounded by cloisters and accommodation for classrooms, offices, a kitchen, a dining hall, a chapel, and dormitories for professors and students.[50] **Libraries** have always been an integral part of universities, with their emphasis now shifting from managing book stock to supporting student learning activities through technology provision, student support services and peer-to-peer interactions, as well as emphasising a civic role. Offshoots from libraries include **learning commons**, which focuses on information technology skills, and **student centres**, which provide study spaces and access to staff for study advice.

The term **campus,** with a strong emphasis on building social connections, emerged in the North American context with the establishment of Harvard University as detached buildings surrounded by a free-flowing green space in the form of a meadow. Thomas Jefferson conceptualised the University of Virginia as an academic village:

"The term of academic village, beside its rural connotations, implies a social model of a small community with its own internal life embedding all villagers into the social network far away from urban anonymity. A young student, once integrated into the social network by rituals and a rich village culture of sport, art, and all manner of clubs and friendships during a formative period of life, remains a member of the village community as long as he lives, especially if the village is renowned. The village concept thus paves the way to the creation of a wealthy alumni network, the basis for successful fundraising." [50]

The **sticky campus** is a more recent notion that embodies social learning. The purpose of the sticky campus is to encourage students to stick on campus by creating third spaces between their homes and classrooms. The sticky campus provides relaxing, socialising, eating and studying spaces for students who otherwise might have gone off-site. The predominant examples which apply the sticky campus idea tend to be providing specific zones or a dedicated 'student-centred' building in certain parts of the campus. There is potential to expand this idea further across the campus, ranging from touch-down spaces near teaching spaces for studying before/after timetabled sessions to more specialist learning facilities with subject-specific resources and staff support.

The **learning landscape** approach argues that spaces for learning activities outside timetabled sessions are as important as teaching spaces and presents a way in which these varied learning spaces could be strategically coordinated in campus planning.[51,52] McCrone develops the concept of 'ecotones', transitional spaces where two distinct ecosystems overlap, such as a lecture theatre where teacher-directed learning might happen and an adjoining study zone where students engage in self-directed learning.[53] The study zone extends opportunities for students to engage with their lecturers before and after the timetabled session. Transition spaces such as corridors and foyers also have the potential to reframe relationships between tutors and students.



The **networked learning environment** model includes learning spaces that extend beyond the campus, classrooms, and the city, and it incorporates the curricular changes towards active learning supported by digital technologies.[54] For universities that wish to adopt a strong civic role in their local context, the 15-minute campus model offers an approach to share facilities with local communities and vice versa and to develop strong transport links.[55]

The **solid-liquid-gas** spatial model, developed by den Heijer, explains the development of university campuses in response to the rapid digital transformation in higher education.[56] The solid element represents a university campus with hierarchical structures and a need for territory. The liquid element represents flexible and fluid structures and shared facilities. The gas element represents autonomy and mobility and includes virtual infrastructure supporting teaching and learning, as well as off-campus work. These spatial qualities can be combined in various ways to define a university campus.

As we progressed through the research, we discovered two things.

Firstly, social learning can happen at any time and anywhere on campus. Social learning spaces are often conflated with informal spaces. The terminology of formal and informal spaces is not helpful. (**Campus Story 1**) We, thus, refuted a deterministic approach that social learning only happens in so-called 'social learning spaces' or 'informal spaces'.

Secondly, while there is much knowledge and shared understanding of campus models and the typologies of spaces typically found on campus, the university sector currently lacks a spatial concept that integrates the variety of campus spaces for learning outside timetabled activities, which coherently contributes to the social learning experience of students, staff and external partners.

In searching for this concept, we do not assume deterministic relationships between space and the types of activities that could happen in that space. We do not preclude the possibility of classrooms, labs and other typical teaching facilities to accommodate learning activities outside timetabled sessions. We acknowledge that the boundary between timetabled and non-timetabled learning activities might be blurred, as seen in the block-course model example above. We view the timetable as an organising element of student presence on campus, which has significant implications for learning practices on campus. This concept needs to accommodate a multitude of possibilities for interactions between all types of campus spaces and activities that happen outside timetabled sessions.

We need a coherent concept for campus spaces that integrates the social learning experience on campus.

Integrating social learning landscape

4. Introducing C-Space

C-Space is a conceptual tool for a campus-wide approach to integrating all spaces that support social learning beyond the timetabled sessions.

Flowing within and between campus buildings and grounds, such spaces include circulation routes with opportunities to linger, places to meet and work on student-led projects, and quieter places to reflect and recharge, in addition to well-established typologies where activities outside timetabled sessions happen, such as libraries, student centres and cafes.

C-Space concept for social learning @university

C-Space seeks to create a positive campus experience for everyone, connecting timetabled sessions and learning activities outside those sessions across different locations and encouraging students to stick on campus with the purpose of social learning.

"Campus landscapes, teaching halls, research centers, and dormitories are the most visible elements of a school's social infrastructure. But the edges and borders matter too because they shape whether and how students learn to engage in public culture and interact with people who are not like them."[57]

The development of C-Space will vary from one institution to another, depending on the organisational and spatial contexts involved. Interventions might include discovery and wayfinding of available spaces, activating existing spaces, making small-scale interventions throughout campus, aligning student services, encouraging better interactions between students, staff and external partners, introducing new programmes, enhancing timetables for study outside timetabled sessions, improving access to specialist spaces and staff support. Occasionally, C-Space may be about new buildings.

If appropriately designed and managed, bookable resources such as classrooms and seminar rooms could provide additional C-Space when not in use. We call this kind of use **C-Space+**. For such flexibility to be effective for students, it is essential to have good signposting and discovery of such spaces, as well as creating a familiarity with such patterns of adaptative use. A use protocol might become instrumental in overcoming any perceptual barriers and making students feel welcome in the space. The furniture layout of classrooms and seminar rooms might be scripted towards particular teaching and learning practices, and careful attention might be needed to determine how the furniture, equipment, and ambience are flexed to become C-Space. The staff-interface in such spaces might be a vital element to consider, whether such interactions are planned or incidental, related to study support or general oversight. Not all classrooms and seminar rooms might be suitable for C-Space, and a considered appraisal might be needed in collaboration with students and staff.

Thus, C-Space is not just about the provision of physical spaces. Instead, C-Space is best conceptualised as ongoing socio-material interactions,[58] which requires the integration of social learning activities outside timetabled sessions, driven by the curricular or extracurricular aims and supported by appropriate physical layout and technology as well as staff presence.

A note on the term C-Space. We considered several existing terms, such as learning commons, sticky campus and study hubs, to convey the concept of an integrated campus-wide spatial framework for non-timetabled activities. Each of these terms has been used in particular ways. We could not find an existing term that could be adapted for this concept, operationalised for use in practice, and conveyed the characteristics below. So, we propose a new term, C-Space.

"In universities, for instance, one often finds areas with some comfy chairs, tables, and tools – such as a printer, screens, audio – set up outside the library for students to study together or to carry out a group project. These are often called social learning spaces, but we would not call the physical space itself a social learning space in our definition. If, say, student representatives across faculties and years use this location to explore new ways of approaching the administration, they may well have a social learning space in our sense."[6]

Six characteristics of C-Space

1 C-Space enables continuous learning experiences outside and in-between timetabled sessions.

C-Space is a continuous series of indoor and outdoor campus spaces that enables students to undertake social learning activities outside timetabled sessions as they move through the campus on any given day. Such activities might include queuing up or gathering to chat in the corridor before and after the timetabled sessions. Students might study individually or do group work in a nearby study zone between timetabled sessions. Students might go from their departmental building to a central library to borrow a book they need urgently for their studies. Students might have lunch with friends in a courtyard garden or a café to discuss their study progress along with other social matters. The presence of others in such common and shared spaces might enable students to spontaneously join a group of friends or peers from the course. Simply seeing other students studying could motivate one to study as well.

C-Space, as a conceptual tool, enables us to consider this series of spaces as a coherent and continuous space model. Connecting different amenities across the campus, such as food provision, microwaves, water, toilets, printers, lockers, specialist equipment, labs and studios, is essential so that students can conveniently access them between timetabled sessions. In the study of the ambience of library spaces, Crook and Mitchell found that students use a range of settings, including silent study spaces and collaborative spaces, depending on the intensity of focus required versus the possibility of progressing the work in discussion with others.[59] A range of different furniture types and flexibility of layouts afford opportunities for students to adapt the settings to suit their needs. (**Campus Story 7**) They identified four types of collaboration that students engaged in: focused collaboration (planned and outcome-focused), intermittent (convene for self-directed study with occasional discussions), serendipitous (chance meetings) and ambient sociality (being part of a studying community).

Circulation spaces become critical in encouraging a range of learning activities between timetabled sessions – highlighting the idea of an 'inhabited lobby'.[61] C-Space argues that such in-between spaces should be viewed as an integral space that creates a positive learning experience rather than an overhead space subject to spatial and financial efficiencies. Moreover, these spaces also need ongoing funding for activation once they are physically constructed.

> **"something happens because something happens because something happens" and "nothing happens because nothing happens".[60]**

> **"Entrances, porches and many other forms of in-between spaces provide an opportunity for 'accommodation' between adjoining worlds. This kind of provision gives rise to a certain articulation of the building concerned, which requires both space and money, without its function being easily demonstrable – let alone quantifiable – and which is therefore often very difficult to accomplish and requires constant effort and persuasion during the planning phase".[62]**

2 C-Space connects physical and virtual realms of learning.

Savin-Baden and Falconer focus on the challenges of hybrid interactions between physical and virtual spaces,[63] such as attending a virtual meeting in a physical open-plan study space. There may be concern about lack of acoustic privacy regarding what's being said, as well as concern about background noise being picked up via microphone. The basic requirements for hybrid interactions in C-Space move beyond providing electrical charging sockets to include acoustic privacy, display screens and furniture layout. Moreover, using different spaces for learning on campus, students remain connected to a continuous virtual realm.

Physical and virtual merge together as students engage in self-directed study. Students may use their laptop to write an essay using the university's digital platform while surrounded by various analogue learning materials such as books, notepads, sticky notes, and highlighters. While studying, they may seamlessly switch between checking social media on a tab opened side-by-side with that of a journal article.

Savin-Baden and Falconer relate the adjacency and overlay of physical and virtual realms, such as the social relationships built in physical space on campus being extended into the university's virtual environment and vice-versa. The space for interaction and exchange includes both physical and virtual presence. Students also use both physical and virtual information to coordinate and organise their time on campus. When searching for a space to study on campus, a student might physically go to their favourite spaces to see what's available. They might set up a Whatsapp group chat to organise study together or select a preferred space that suits the nature of study at that particular instance in the academic year. Alternatively, they might check their campus app for real-time occupancy data to see what's available where. For example, the University of Warwick's dashboard shows real-time information for available study spaces across the campus. It enables wayfinding that can take into account individual and/or group preferences.

3 C-Space enables the sharing of differences within and between communities.

Convivial spaces make one feel welcome and have a sense of joy.[71] Conviviality focuses on living with others, togetherness, and engaging with diverse communities and differences within communities.[72] Diverse students move about university campuses daily. However, proximity is not enough. Places and practices are needed to bring together diverse groups and individuals within those groups. Events and courses where objects, services, or knowledge can be shared create autonomy to do things differently within communities. A few examples of learning convivially are the case studies The Live Projects Network[73] has collected. These case studies demonstrate knowledge sharing between universities and external collaborators, ensuring students gain relevant learning for their educational development while collaborators benefit from their engagement.

For the student Eleanor Zalick from Nurture-U's Compassionate Campus research project[67], doing an internship on campus was her best experience at the university. It was the first time she felt connected with the university and had a sense of community as she interacted with the university staff and students. The Nurture-U project also showcases a community garden on Exeter's campus. Tending the community garden, or just coming to sit in the garden, offers an opportunity for university members to learn to be in a place and be with other people. The kindness and hospitality of the gardening group make one feel good when they might be feeling homesick or lonely. It is an aesthetic green space to make friends and do things together. Such spaces serve as 'foci' where joint activities can take place and enable the formation of social ties.[74]

4 C-Space embodies care for diverse student needs.

Social relationships have a critical role in improving students' well-being. From the perspective of students, learning experiences which provide flexibility to adapt learning based on their needs, building connections with peers and tutors, and undertaking learning to make a real and valuable contribution positively impact their well-being.[64] The pedagogies of mattering proposed by Gravett[41], which build on the ethics of care, foreground students' agency in shaping the curriculum, learning moments and assessments, rather than these three aspects being 'done to' them. The design and use of campus spaces could also reimagine power relations; for example, tutors and students sharing the same café areas create a sense of academic community where students feel valued.

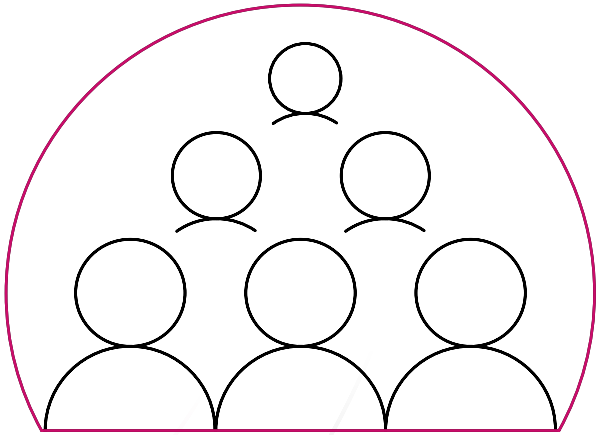
Diversity among students includes a range of different dimensions, such as educational, dispositional, circumstantial and cultural.[65] Creating inclusive spaces that address diverse student needs to provide a supportive learning environment. Student diversity could be identified along four dimensions[65]: educational (prior educational and work experiences), dispositional (identity, motivation, preferences, attitudes, beliefs), circumstantial (age, disability, caring responsibilities, financial background), and cultural (language, religion, ethnicity). Embracing an empathy-driven approach is recommended to address any intersectional conflicts between groups with different needs. [66]

We found that the provision of storage and lockers, self-catering facilities, quiet study spaces, contemplative spaces, and sensory spaces are some examples that demonstrate care for diverse student needs and provide a physical infrastructure to support learning activities. The story of Eleanor Zalick, an undergraduate commuter student, highlights the need to integrate the needs of diverse students rather than separating them into categories:

"*In some ways, it's like nice that you are kind of being recognised that you don't have all the things that other people do. But at the same time, it does feel like - oh, you are the disadvantaged student, let me do something to help you disadvantaged student. Instead of being like, oh, you're the disadvantaged student, here's a thing for you, being like, okay, you know, here's some cheaper options if you need them for all students. We're not gonna whisper it to the disadvantaged students in the corner and then point at them and say, I helped you.*"[67]

The findings from Nurture-U's Compassionate Campus research suggest stress is one of the critical factors affecting students' ability to learn while highlighting the role of friends and family in motivating them to learn. The student guidance on bonding to make friends and bridging to build networks emphasises the role of wrap-around spaces outside timetabled sessions and spaces.[68] The work of student societies could be integrated within such wrap-around spaces, where they can organise activities for students to meet and engage in meaningful interactions.

The Forum at the University of Exeter, identified as an exemplar project in the HEDQF-RIBA exhibition in 2009, has continued to create opportunities for curricular and expanded curricular and extracurricular learning for students ten years on.[69] The most recent intervention adjoining the Forum is the Sarah Turvill Multifaith Centre,[70] which provides spaces for multi-faith activities and creates a continuation of the street serving students' needs, which the Forum offers.



5 C-Space aids students to get unstuck.

Learning can be an uncomfortable process. Students might encounter threshold concepts[75] in their disciplines, which act as portals that lead them to a transformed view of their subject. However, during this transformative learning process, students will likely get 'stuck' within a liminal space where they attempt to gain a new understanding of the subject. Students may be supported in a 'stuck' state by providing scaffolding or support materials and technology through peer-to-peer collaboration. In the 'stuck' state, students might practice skills, access academic support, take risks, and learn from failing. C-Space is, thus, not just about generic study spaces but also includes specialist spaces and tutor support that can aid students' transformative learning by gaining mastery of subject-specific threshold concepts.

Luke McCrone's study of wrap-around spaces near the lecture theatres revealed that such spaces offer opportunities for students to address failed, hidden and postponed pedagogic interactions.[53] While the lecture theatre might be a scripted space, the wrap-around space adjoining the lecture theatre offers an opportunity to challenge the power dynamic. Such space encourages a shift from a didactic approach to an agentic approach where students can ask questions to other students and their tutors.

Herman Hertzberger proposes the notion of a 'safe nest' where one's things are safe and where one can concentrate, whether working individually or as part of a group.[62] This leads to the idea of a home base, "a nest to fall back on", where the group could express their identity. However, not all departments within an institution might have a home base. There are often tensions between reinforcing the identity of a school/department versus the institution as a whole. Usually, centrally pooled bookable spaces for students are restricted to a few hours per day, and operational models must accommodate flexibility to book spaces for longer durations. C-Space includes spaces where students can express their collective identity as an academic group and create a sense of familiarity and comfort.

6 C-Space nurtures student agency in the university and beyond.

Empowering students to take an active role in the university shifts the discourse from 'students as customers' to 'students as citizens'. The design and management of C-Space becomes a tool to encourage micro-behaviours to enact agency. Connecting the institutional policies and processes with grass-roots student-led initiatives enables collective action for positive change. The Student Sustainability Bungalow at Keele University offers an example of a student-led initiative to 'live what they are learning', created in collaboration with the university's academic staff and Estates Team.[76] A collaborative approach between students, the university, and the students' union could create opportunities for activating C-Space through curricular, expanded curricular and extra curricular activities, developing students' knowledge and skills to create positive change through collective action in the wider society.

Example of C-Space model on a campus

For optimum agility and resilience, we recommend that C-Space adopts a loose-fit, long-life approach in general, rather than being tailor-designed in each situation to a highly bespoke set of uses. The list of space-types below, while not exhaustive, indicates the diversity of spaces that could be integrated into a C-Space model on a given campus, taking into consideration curriculum, timetables, and staff-interfaces:

A corridor bench that offers students to pause and share information on their projects. They might see their tutors passing by and invite them to join the discussion.

A touch-down counter along a ground-floor glazed street front, whereby students and passersby can see each other, spot their friends or tutors and wave or smile at them.

A sofa seating located on a staircase landing, where a tutor can hold an impromptu debrief with their students after their presentation to external examiners.

Study space in a departmental building with roving professional services, technologists and academic staff, and a tea/ coffee kitchenette that's available to all students.

Wrap around study space outside lecture theatres for students to touch down and interact with peers and tutors before and after lectures.

A local library that provides access to a range of resources, with drop-in and bookable settings and study advice staff available to provide guidance.

A study centre providing meeting spaces with subject librarians, personal tutors and academic support.

A departmental café serving affordable food to encourage the co-presence of tutors and students.

Maker-space providing basic engineering equipment to all students, along with induction and guidance provided by volunteering student technicians.

Clinical skills practice space to develop further expert know-how gained during timetabled sessions.

A new type of 'library' providing learning resources other than books, such as objects, maps, and measuring tools.

Exhibition space for display of in-progress design work for students to learn from each other.

Interdisciplinary centre for students from different academic schools to develop collaborative interventions for a shared project brief.

Data visualisation lab shared between disciplines, with training and support provided by specialist technicians.

A network of sensory spaces for retreat and restoration strategically located across the campus, ideally close to busy study areas.

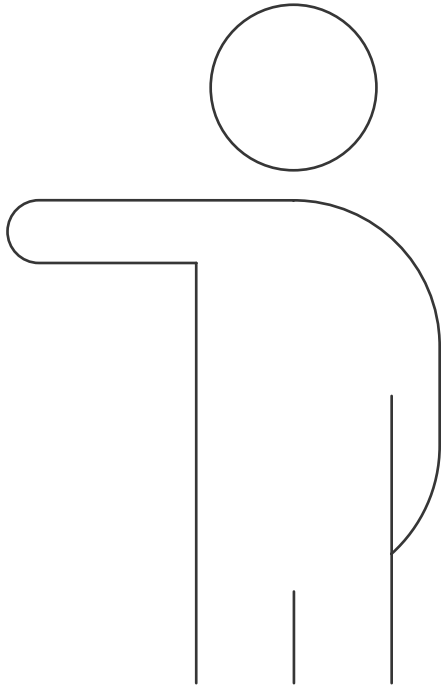
A student society-run café, which provides affordable hot drinks and refreshments and enables volunteering students to develop entrepreneurial skills

Outdoor garden, collectively tended by staff, students and gardening groups from the local community, where all can have lunch together and gather for chats in between lectures.

Enabling social learning

5. Introducing C-Space stewardship

> **"Stewards we are and stewards we should be; with the challenges and opportunities to create, protect and burnish this jewel called the campus design; so that on the outstretched finger of time, it will sparkle forever."[4]**



C-Space needs stewardship to be effective. Throughout the research project, we heard over and over again that good social learning experiences don't just happen. We propose the idea of stewardship as a central tenet for introducing, activating and sustaining C-Space. Considering C-Space as not a fixed object but an ongoing socio-material interaction, staff and students who use C-Space are central to the creation of C-Space.[77]

Stewardship means to care for something that belongs to others rather than oneself. [78] The concept of stewardship is well recognised in the field of environmental sustainability to conserve, preserve and enhance our natural and built environments.[79] There is an emerging body of knowledge on care practices that highlights the active and collective involvement of people who continually adapt their environment to suit the specific situation, and success depends on care work. Caring is *"...to meticulously explore, test, touch, adapt, adjust, pay attention to details and change them until a suitable arrangement (material, emotional, relational) is achieved."*[80] Care involves attentiveness (caring about), responsibility (taking care of), competence (care giving) and responsiveness (care receiving). C-Space design, management and use rely upon and, in turn, enable stewardship through care.[81]

Five characteristics of C-Space stewardship

1 Stewardship is based on trusting relationships and respect.

Stewardship is a collective act that includes those who commission and deliver C-Space, those who create management protocols and maintain the spaces, and those who use the spaces provided in expected and unexpected ways. Relationships between these actors require the ability to see through the eyes of others. Stewardship is about building relationships based on mutual trust and respect. [72] C-Space stewardship invites and enables staff and students to engage and take personal pride in the design, management, activation and use of campus spaces.

2 Stewardship needs continuous learning.

C-Space stewardship requires a reflective approach of continuously challenging our assumptions: the willingness to let go of the old in order to let the new emerge. According to Otto Scharmer [82], systems tend to operate at 4 levels – outputs, activities, ways of thinking, and unconscious biases. Often, we try to address problems by dealing with levels 1+2 (outputs, activities) rather than going deeper to address levels 3+4 (ways of thinking, unconscious biases). We suggest shifting from traditional binaries of formal/informal spaces to a coherent C-Space approach for activities outside timetabled sessions in order to enable an effective social learning experience. This approach requires the integration of curriculum, timetable, staff interface, and campus spaces to develop student outcomes that could create value not just for themselves but also for the broader communities within and beyond universities.

3 Stewardship nurtures and is nurtured by agency and competence.

Space doesn't look after itself. As Hertzberger notes, "*In cases where the organizational structure precludes the users from exerting any personal kind of influence on their surroundings, or when the nature of a particular space is so public that no one will feel inclined to exert any influence on it, there is no point in the architect trying to make provisions of this kind.*"[62] (p.25). In a marketised higher education system, the concept of stewardship requires a shift from viewing students as customers to that of citizens.[83] Rather than simply providing a choice of different physical settings, the goal must be to engender a sense of agency among students to activate and enhance these settings in order to enable social learning for oneself, one's communities and wider networks. The University of Exeter's Community Garden, Keele University's Sustainable Bungalow and TU Delft Dream Hall are examples of student stewardship in action, where student-led initiatives are connected with institutional resources to enable positive change. The ethos of stewardship initiated in these examples continues beyond a particular cohort of students and gets embedded within institutional culture.

Five characteristics of C-Space stewardship

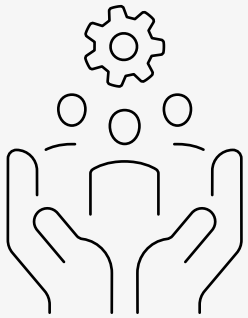
4 Stewardship requires institutional support.

In the current environmental and financial context of higher education, better management and intensified use of existing campus spaces are crucial. Governance structures, such as sectoral and institutional policies and decision-making processes, are key in enabling and rewarding stewardship. To enable and nurture stewardship, the individuals, groups and networks involved in designing, managing and using C-Space require a range of resources, some of which might be institutionally provided (such as funding, time and recognition), while others might be drawn from relations within communities. Stewardship is dependent on an ongoing appreciation of, and engagement with, the context. We believe C-Space needs C-Space champions (see below) who can balance diverse agendas to create effective outcomes for all involved.

5 Stewardship promotes active citizenship.

Stewardship promotes and requires active citizenship of staff and students, which involves volunteering, democratic engagement, environmental sustainability, community engagement, global citizenship, and reflective personal development.[11] Through active citizenship, students are empowered to become change agents, gain employability skills and experience better mental health through the social connections built. A sense of belonging is not something provided to the students, but it is something that students create themselves.[12] For equitable participation that involves substantial student time, we suggest providing remuneration and recognition to students. For staff, accommodating such citizenship activities in their workload and career development pathways is critical.

Stewardship involves...



invite
connect
encourage
communicate
oversee
support
intervene
fix/solve
introduce

Example: WSA Exhibition Hall

The Welsh School of Architecture Exhibition Hall at Cardiff University is an example of a general/enhanced C-Space. WSA has placed the display of exhibition materials and events at the heart of the newly refurbished Bute Building. The generous, double-height main Exhibition Space is a facility available for use by staff and students, connecting the school's diverse activities and specialisms. The Exhibition Hall hosts a range of bonding activities such as timetabled teaching and use as study space outside timetabled use. The block course model described in **Part 2** is accommodated in the Exhibition Hall. It also hosts bridging activities focusing on interdisciplinary interactions, such as conferences, seminars, and networking events hosted by WSA and other schools in the university and student societies. The student degree show exemplifies a connecting activity that links students' initiatives with support from the school staff.

The Exhibition Hall is a unique, flexible space available on campus that provides good accessibility for all users. It is easily accessible from the city centre, with good public transport and car parking provision. Its large flat floor, generous furniture store and acoustic design can accommodate different layouts (lecture, cabaret, posters) to support a diverse range of activities. There is an adjoining kitchenette for use during catered events. The ambience, décor, natural light, and materials are of excellent design quality and a crucial distinguishing factor. The success of the space is also due to the support of professional services staff in managing the space and setting up the room for different layouts.

Example: TU Delft Dream Hall

TU Delft Dream Hall is an example of enhanced/specialist C-Space.[89] The Dream Hall, established in 2006, provides dedicated facilities that include technical equipment, technician support, studios, meeting rooms, office space and a kitchen for the use of TU Delft Dream Teams. The origins of Dream Teams date back to 1999, when the first student projects were initiated and dispersed across the campus.[90] These student-owned initiatives are extracurricular and independent of any study course. The Dream Hall encourages students to have the courage to push boundaries and invite discussion of issues in response to wider societal challenges. Most of the objects built in Dream Hall are vehicles, even though TU Delft has no specific course in vehicle technology.

Dream Teams are interdisciplinary and demonstrate bonding and bridging activities. Participating students take a year off from their course to join (or establish) an interdisciplinary Dream Team to work on their chosen international competition with a clear deadline within that year. It is not part of any study course, and the students do not receive any degree credits. Each cohort continues to build a foundation for the incoming cohorts, creating a vertical bond between seemingly transient student cohorts. A maximum of 50% of team members are allowed from one faculty and require external collaborations (at least 50% of team members must be registered as students at TU Delft). The makeup of the Dream Teams is renewed every academic year. New team leaders take charge and recruit the teams. Knowledge and artefacts are passed on from one cohort to the next, and strong relationships are built among the cohorts. Each team must establish a non-profit association or foundation.[91] The university provides governance and support to Dream Teams exhibiting connecting activities of the bond-bridge-connect framework. The Dream Hall has its own values and standards to guide the behaviour and etiquette when using the spaces. These are framed under the acronym 'DIRECT', which refers to Diversity, Integrity, Respect, Engagement, Courage and Trust.[92] This framework demonstrates strong stewardship by student teams who not only use the space but make it an inspiring place for the whole student community.

6. Introducing C-Space champions

Throughout our study, we found that curriculum, staff-interface, timetable and space need to work together. Having a joined-up approach to the design, management and use of C-Space delivered through collective action keeps coming up as a fundamental condition for success.

Over the years, the complexity of campus management has increased from taking care of the physical condition to including supporting user activities, attracting staff and students, enhancing user satisfaction, supporting diversity and inclusion as well as physical and mental wellbeing, addressing backlog maintenance, sustaining architectural quality, preserving cultural heritage and meeting sustainability goals. Alexandra den Heijer so clearly observes campus management today involves dealing with often conflicting goals, needs and conditions from four different perspectives – policy-makers (organisational), users (functional), controllers (financial) and estate managers (physical).[56]

Policy-makers are focused on goals and societal value: why are we doing this building project/programme?

Users are focused on functionality and user value: does this building project/programme enhance productivity/learning experience?

Controllers are focused on feasibility and financial value: what does this building project/programme cost?

Estate managers are focused on sustainability and architectural value: what is the physical impact of this building project/programme?

To champion C-Space is to address the priorities of each of these four perspectives. This work of championing requires creativity, flexibility, and engagement from everyone involved. C-Space needs a range of champions from different stakeholder groups who will take on the challenge of balancing all perspectives at different institutional levels and different stages of C-Space stewardship. These champions could include sectoral bodies, university leaders, academic and professional staff, students, estates professionals and designers. Universities then need to ask themselves how senior leaders, academic and professional staff, students, and estate managers can be encouraged and empowered to work with the C-Space champions to maximise the impact we believe C-Space can have in enabling great social learning experiences.

1 University sectoral bodies could champion the conversations promoting social learning and stewardship.

This report is an example of two sectoral bodies, UDF and AUDE, coming together to lead the conversation on social learning through social learning in action between academia and practice. Sectoral bodies could champion raising awareness and dialogue build capabilities and best practices for C-Space stewardship for better design, management and use of campus spaces through setting up a Social Learning Working Group. Such a group could facilitate knowledge exchange, pilot projects, and ongoing social learning in action. The group could also consider how C-Space is measured, funded and operated by including it in sector-wide metrics such as AUDE's annual Higher Education Estates Management Report.

Social learning is a key element of higher education. Collaborative inter-sectoral working groups with other sectoral bodies, such as the Advance HE, Office for Students, Society of College, National and Univeristy Libraries (SCONUL), Research Libraries UK (RLUK) and National Union of Students of UK (NUS), to develop training programmes and best practice guidances to build capabilities in university staff and students could enable them to participate in C-Space stewardship. Celebrating and disseminating innovative projects that embody the ethos of C-Space stewardship could motivate the sector to identify new opportunities within constrained financial, environmental and human resources.

2 University leadership could champion C-Space stewardship through institutional commitment.

Creating a coherent social learning experience on campus with efficient use of resources requires an integrated approach to timetabled sessions and activities outside the timetable by coordinating purpose, people, processes, and place. University leaders could clarify institutional principles and intentions for nurturing social learning. Institutional leadership could play a critical role in enabling C-Space stewardship in order to develop graduate attributes related to social learning, which include communication, collaboration and citizenship. C-Space stewardship needs institutional resources. Institutions could lead the development of recognition and reward programmes for knowledge and skills development through stewardship activities conducted by students and staff. They could strengthen industry and civic partnerships by activating C-Space for teaching, research, and outreach activities in collaboration with outside organisations.

3 Academic & Professional Services staff could champion the integration of social learning and C-Space stewardship in the curriculum.

Curriculum and timetable design are two key tools for academic and professional services staff to embed social learning within educational programmes. Integrating the social learning framework of bond-bridge-connect within learning outcomes will enable a coherent social learning experience, nurture students' sense of ownership and agency in C-Space, and motivate students to become active citizens of the academic and local communities through C-Space stewardship. Moreover, our findings suggest widespread confusion around social learning. The pedagogical expertise is extremely valuable in raising pedagogical awareness of social learning not just within one's own institution but across the higher education sector globally.

4 Students could champion participation in C-Space stewardship.

Students have an essential role in C-Space stewardship, which includes design, management, activation and use of C-Space. Students could identify opportunities to enhance social learning within the institution through open dialogue, collective action, and active engagement in the curricular, expanded curricular and extra curricular opportunities offered by their universities. Students could advocate for student partnership initiatives to extend and enrich the learning experience of self and others at and beyond the curricular boundaries. Most importantly, we invite students to enjoy and care for C-Space.

5 Estates professionals could champion the process of social learning in action for C-Space stewardship.

Estates professionals are well placed to develop internal institutional evidence around the provision of different types of C-Space through continuous appraisal of existing provisions and incremental building programmes for improvement. To develop the evidence, we encourage spending time to observe and feel the sensory experience of the campus, complemented by questioning and authentic conversations. We also encourage to hold metrics lightly and complement quantitative data with qualitative insights from real-life experiences. Measurement needs to be accompanied by judgment. Estates professionals could advocate for a space champion scheme within their institutions to build capabilities to become boundary spanners, hold dialogue with different groups, and develop initiatives to activate space in alignment with curricular aspirations. Focusing on students' agency, estates professionals could advocate for developing initiatives in collaboration with student experience teams to challenge prevailing perceptions of needing permission, which might inhibit the activation of C-Space. Lastly and most importantly, given the financial and environmental constraints that universities are facing, embedding discovery and access to existing spaces in induction activities and on an ongoing basis is an essential first step. Examples of such initiatives include intentional timetabling to encourage campus discovery, good wayfinding, online tools and facilitating a roving approach to host student-led activities in different areas of the campus.

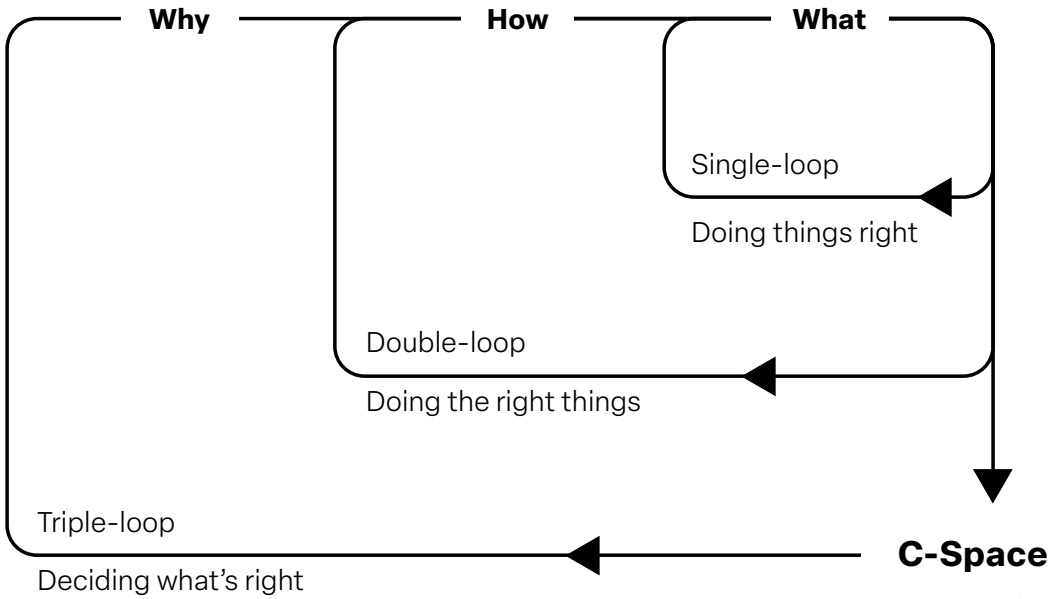
6 Design professionals could champion an integrated design approach to C-Space.

Design thinking, not just at the project level but also at the processes and policies levels, is at the heart of C-Space stewardship. The Public Sector Design Ladder[84] proposed by the Design Council is the most relevant framework in this regard. One of the key contributions design professionals could make is to question long-held assumptions and help make the familiar strange for the institutions that they work with. Questioning what we can do differently in terms of space, policies, and processes could enable the provision of a coherent social learning experience. The design process could encourage laddering questions to elicit the essence of desired social learning experiences that institutions aim to create; for example, why is it essential, what does it mean in reality, and what does it actually mean? Moving to a wider context, design professional communities could champion the sharing of best practices and lessons learnt and encourage co-production capabilities for all stakeholders throughout all stages of C-Space stewardship, which include design, management and use.

7. Introducing C-Space triple-loop learning process

Triple-loop learning process

The campus stories that emerged from our fieldwork revealed that the design, management and use of C-Space is a process of continuous learning. Based on the idea of triple-loop learning,[85] C-Space stewardship encourages us all to learn from ongoing processes, articulate and challenge our assumptions, and experiment and try new things. Continuous triple-loop learning focuses on what's known (are we doing things right?), to what's knowable (are we doing the right things?), and what's unknown (how do we decide what's right?). For instance, this research project was a collective journey of continuous social learning in action to challenge our assumptions with care and attention. Looking back, we can now see that this experience was informed by curiosity (the willingness to see with fresh eyes), caring (the willingness to appreciate diverse viewpoints), and courage (the willingness to let go of long-held assumptions and explore new possibilities).



> **"We shall not cease from exploration**
> **And the end of all our exploring**
> **Will be to arrive where we started**
> **And know the place for the first time."**
>
> T S Eliot

Closing the feedback loops

Based on our fieldwork, we discovered that a continuous feedback loop is needed between institutional commitment and learning experience.

Institutional commitment

Institutional commitment to social learning is an essential condition. From our fieldwork, we observed that institutions could prioritise social learning in their education strategy (**Campus Story 3**), student partnerships (**Campus Story 4**) and curriculum (**Campus Story 6**). Institutional commitment ensures resources and recognition of social learning in the holistic student experience on campus. Social learning resonates with pedagogical aspirations that are learner-centred, involve active participation of learners and include learning from real-life experiences. For example, the Active Learning approach involves the active participation of learners in shaping and taking ownership of learning and moving away from didactic learning.[86] The University of Northampton's Waterside Campus embraced active blended learning at an institutional level.[87] This pedagogical vision shaped the creation of Learning Commons, blurring the boundaries of formal teaching space, library, student centre and social space, with the strong presence of academic, library and student services staff.[88]

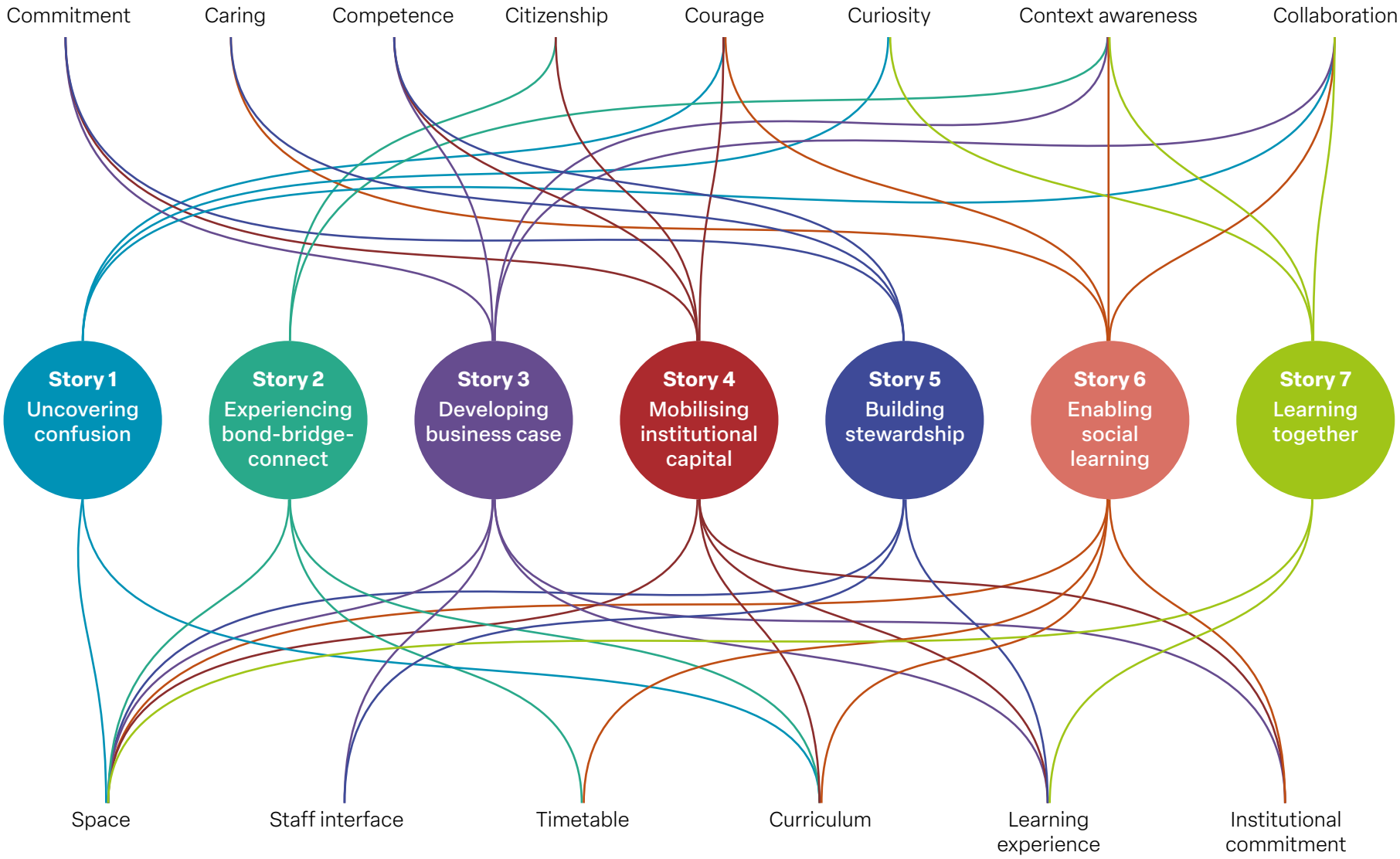
Learning experience

Through **Campus Stories 5, 6 and 7**, we learnt that spaces could be managed in a myriad of ways to accommodate changes in use throughout the academic year. Space use includes how spaces are made available or appropriated in terms of who uses them for how long and creating and communicating a protocol for expected behaviour, particularly around noise. Managing user demand and user behaviour is of particular importance in libraries, and our campus stories of the Hive and Kingston University Town House demonstrate the need for dedicated staff to maintain noise levels. Space use is also about nurturing user agency. We also learnt that specialist spaces might be effectively shared with all students through implementing appropriate user protocols, user training and support. The iForge at the University of Sheffield is UK's first student-led makerspace and exemplifies the agency of staff and students. The space is run by student volunteers supported by an academic lead. Users are required to take online training to ensure safety, and some equipment needs a mix of online and in-person training. This initiative is built upon peer-to-peer mentoring and, in turn, nurtures a community of makers.

8. Introducing C-Space values

C-Space values are brought to life through the practices highlighted in the campus stories. These values reflect social learning in everything we do, including the creation of environments conducive to social learning.

1. **Collaboration**
   Learning with and through each other.
2. **Caring**
   Appreciating diverse viewpoints.
3. **Citizenship**
   Participating in societal initiatives.
4. **Curiosity**
   Being willing to see with fresh eyes.
5. **Courage**
   Being open to new possibilities.
6. **Competence**
   Having the knowledge and skills required.
7. **Commitment**
   Promising to act with integrity.
8. **Context awareness**
   Understanding the learning landscape involved.


C-Space values
Commitment
Caring
Competence
Citizenship
Courage
Curiosity
Context awareness
Collaboration
Story 1
Uncovering confusion
Story 2
Experiencing bond-bridge-connect
Story 3
Developing business case
Story 4
Mobilising institutional capital
Story 5
Building stewardship
Story 6
Enabling social learning
Story 7
Learning together
Space
Staff interface
Timetable
Curriculum
Learning experience
Institutional commitment
C-Space conditions

Getting started

9. Introducing C-Space tool gauge

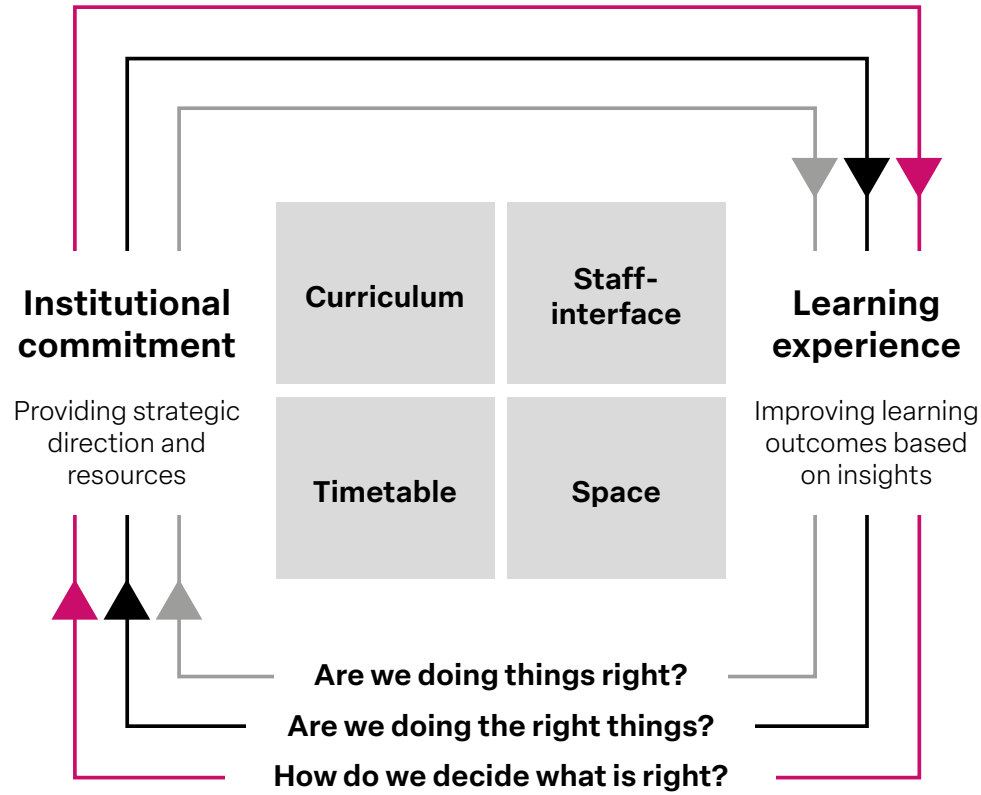
The C-Space tool guage is a briefing and evaluation tool to enable social learning on campus and integrate the social learning landscape. The components of the tool guage are described below.

1 Institutional commitment

One of the key catalysts for enabling social learning and enhancing the provision of C-Space is institutional commitment. The initial aspect to consider could be the extent of interventions needed: whether to introduce, enhance, or transform the place, whether it is at the scale of a room, building or campus. Another dimension to consider is the timescale of the intervention: here & now, near & soon or far & better. A range of projects might then be scoped to deliver the vision. At each stage of the project, the nature of involvement, whether consultation, engagement or co-production, with staff, students, and relevant internal and external stakeholders, must be considered.

2 Learning experience

Aspects to consider include to whom the space is available: whether the space and resources are available for everyone to use, shared by different courses with similar needs, or assigned to particular courses with specific needs. At the fitout level, the space use could be promoted for working alone, in pairs or groups by changing the space use protocols. The duration of use might also be adapted or informed by space-types provision. Duration considers whether the space-type provision needed is for drop-in use of facilities during opening hours, short-stay use of facilities that are bookable for up to a day, and long-stay use of facilities that are bookable for up to a week or longer depending on specific situations. Alternatively, there could be ways to flex space from short-stay to long-stay, depending on the nature of the activity. Facilities might also include teaching spaces being made available when not booked for timetabled use. The use of space is dependent on generic oversight, which could be student volunteers, academic staff, technicians, security staff or virtual support. It is essential to consider the nature of the oversight required and the costs associated with it. A key dimension identified from fieldwork during this research is the importance of acoustic ambience and its dependency on actively managing the space. The ambience of C-Space might include a quiet, relaxed or busy atmosphere.



3 Curriculum

Curriculum involves defining what to learn (content), how to learn (pedagogy), and how to assess (assessment). These elements depend on discipline type, as different disciplines may choose to prioritise different social learning activities. Moreover, students at various learning stages may prioritise their needs differently as their education progresses. Social learning at university might involve activities that are part of the core, expanded or extracurricular. Social learning activities may also require specific learning resources, such as a workshop or lab, based on curricular needs. (**Condition 1 curriculum**)

4 Staff-interface

Staff, including academic tutors and third space professionals, have a critical role in enabling students to progress from directed to self-directed learners. The interface type will vary according to the learning objectives involved, as well as general study guidance and pastoral support. Covering guide, facilitate and support characteristics, this attribute includes staff being available to guide student discussions after a lecture or skills practice after a demonstration, facilitate student-led projects as equals, and support students looking for information and/or advice. Common to all interactions, whether in-person or virtual, is the understanding of students as active learners engaged in self-directed learning. (**Condition 2 staff-interface**)

5 Timetable

New course delivery models require specific approaches to timetabling and the need to incorporate non-timetabled activities for a seamless social learning experience. Timetable types could include part-time courses, block courses and full-time courses. For all timetable types, stacking in-person learning sessions into a few days a week is suggested to assist with the cost of commuting as well as those in paid employment. Moreover, social learning outside timetabled activities is also dependent on the medium of course delivery, whether it is online, hybrid or in-person. (**Condition 3 timetable**)

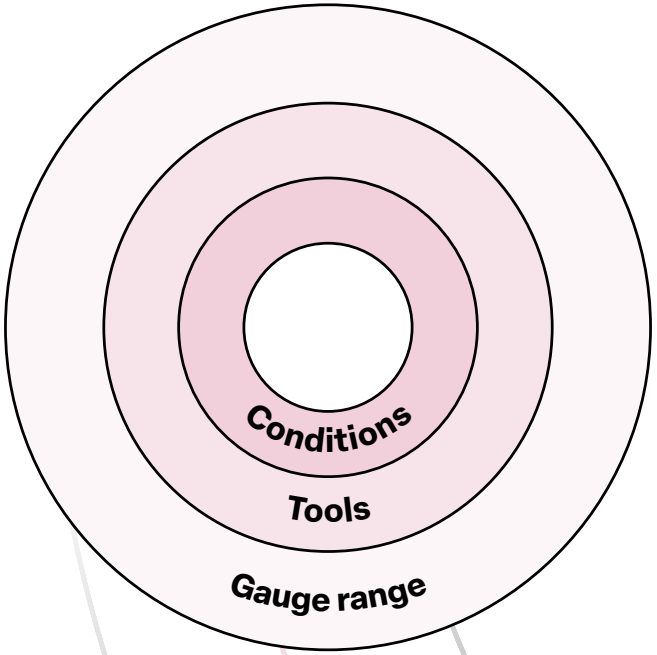
6 Space

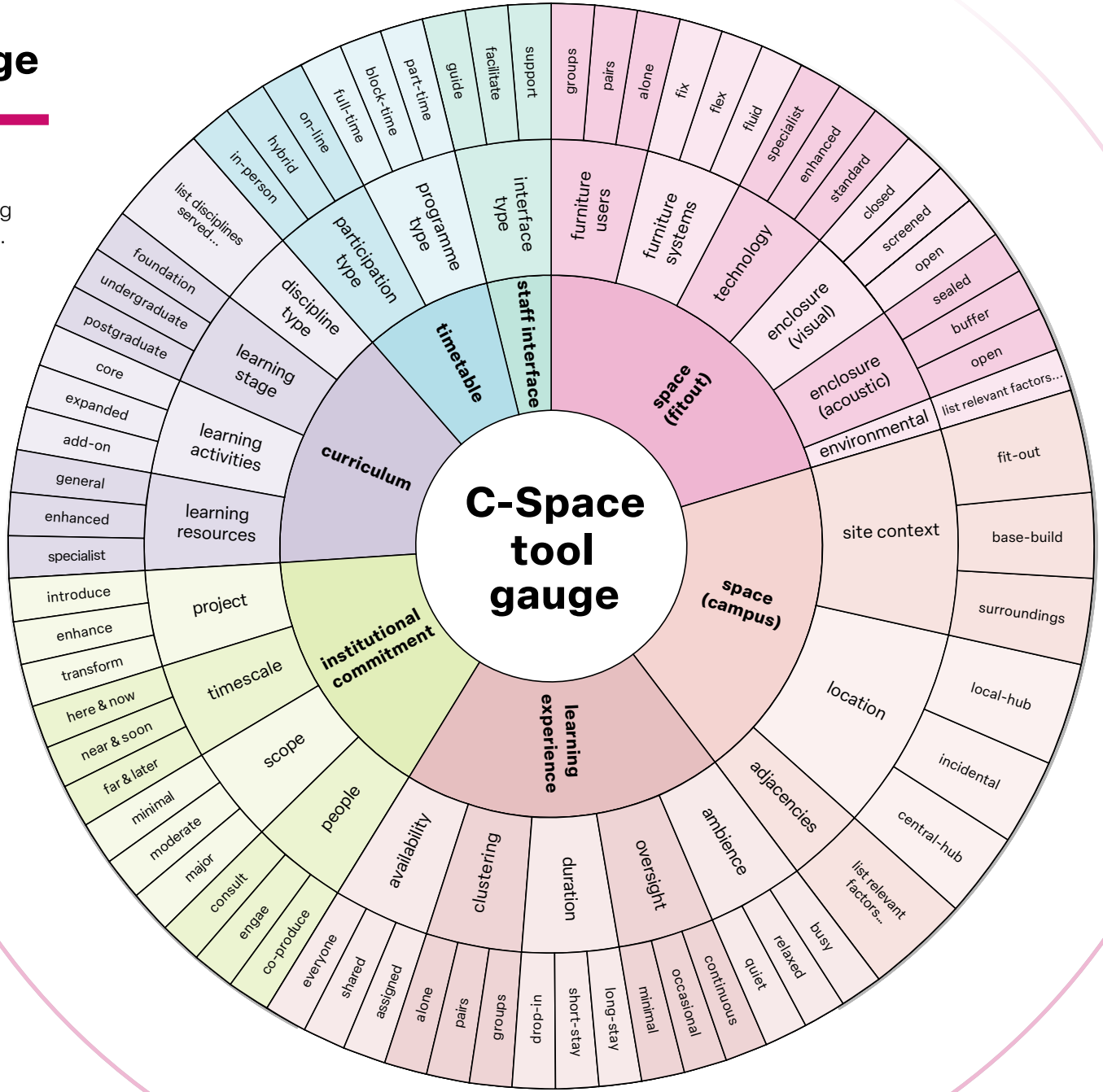
This tool gauge considers the condition of space at two scales: campus and fitout. Both scales interact with each other: the fitout of study spaces provided within each space-type will depend on the campus context. The campus scale includes location, site context and adjacencies to amenities such as outdoor space, catering, toilets, lockers and storage.

The fitout scale includes environmental aspects such as natural light, views, sightlines, colours, and textures. Enclosures might include acoustic enclosures (open, buffer, sealed) and visual enclosures (open, screened, closed). Covering standard, enhanced and specialist characteristics, technology includes general use wifi-enabled study spaces that wrap around teaching facilities such as lecture theatres and labs, enhanced spaces with upgraded technology to suit specific learning needs such as libraries providing certain audio-visual equipment, and specialist spaces with bespoke technology. Furniture systems might be fixed, could be flexed to suit particular configurations, and fluid to be organised in any configuration needed. The furniture will also consider affordances to work alone, in pairs or in groups of various sizes. (**Condition 4 space and Part 3**)

Using the C-Space tool gauge

The above attributes could be used to evaluate existing spaces or define new interventions. For existing spaces, the positioning of the attributes could be flexed depending on the context, resources available and desired outcomes. For new interventions, the positioning of the attributes could be used as a briefing tool to understand needs.





C-Space tool kit

	tool	guage range			factors to consider
1	project-type	*introduce*	*enhance*	*transform*	all projects can benefit from triple-loop learning in action
	timescale	*here & now*	*near & soon*	*far & later*	interventions should consider current, next and future users
	scope	*minimal*	*moderate*	*major*	assess social learning benefits within budget available
	people	*consult*	*engage*	*co-produce*	types of involvement possible should be clear to everyone
2	availability	*everyone*	*shared*	*assigned*	range of disciplines served influence who has access to what
	clustering	*alone*	*pairs*	*groups*	users are likely to engage in a variety of learning relationships
	duration	*drop-in*	*short-stay*	*long-stay*	use patterns may vary depending on location and resources
	oversight	*minimal*	*occasional*	*continuous*	type of staff presence will inform the activities taking place
	ambience	*quiet*	*relaxed*	*busy*	character depends on location, adjacencies, oversight, design
3	discipline-type	*non-specific*	*part-specific*	*specific*	disciplines may prioritise different social learning activities
	learning stage	*foundation*	*undergrad*	*postgrad*	student priorities change as their education progresses
	learning activities	*core*	*expanded*	*add-on*	learning activities often extend beyond core programme
	learning resources	*general*	*enhanced*	*specialist*	some social learning activities may require specific resources
4	interface-type	*support*	*facilitate*	*guide*	teacher interactions will vary according to learning objectives
5	programme-type	*part-time*	*block-time*	*full-time*	programme delivery options are increasing
	participation type	*on-line*	*hybrid*	*in-person*	participation options are increasing
6	location	*central-hub*	*local-hub*	*incidental*	position on campus will influence the user brief
	site context	*surroundings*	*base-build*	*fit-out*	building and surroundings will influence what's possible
	adjacencies	*outdoor space, catering, retail, toilets, lockers*			nearby amenities will influence use-patterns
	environmental	*natural light, views, sightlines, materials, colours*			work with the givens and enhance where possible
	enclosure acoustics	*open*	*buffered*	*sealed*	options for concentration and on-line participation
	enclosure visual	*open*	*screened*	*closed*	some activities may require privacy
	technology	*standard*	*enhanced*	*specialist*	some activities may require specific technology input
	furniture systems	*fluid*	*flex*	*fix*	options for storing, reconfiguring and incorporating technology
	furniture users	*alone*	*pairs*	*groups*	options for using alone, in pairs and/or in groups

10. Reflecting on social learning in action

Steering group

Creating positive student outcomes through social learning

Drawing on insights from observational Post-Occupancy Evaluation, design practice and personal experience, I've always been fascinated by the diversity of sometimes unexpected university spaces that foster collaboration and social learning. Contributing to research on the 'ingredients' behind these spaces revealed that their success extends far beyond their physical design to include dynamic factors like curriculum integration and timetabling.

In our exploration of the concept of 'C-Space,' we discovered that consciously embedding it within the framework of student and staff experiences—considering its location, connectivity, network of spaces, design, stewardship, and management—is a crucial first step in enhancing social interactions and learning. This creates not only value for self but others and positively impacts overall student outcomes.

The findings from this research offer a valuable framework for all professionals involved in university planning and development. It provides practical insights into cultivating a sense of belonging and creating a feeling of home- essential elements for building, sustaining, and evolving an integrated and, for many students, life-changing campus experience.

Cora Kwiatkowski, Associate Director Architect, Head of Universities, Stride Treglown

Understanding demand

It was a very interesting and rewarding experience for me to be part of the Steering Group for this important piece of research. The first, and perhaps unsurprising thing that I learnt was that there is widespread confusion about what social learning actually is. Directors of Estates at UK universities are being asked to provide space to facilitate social learning in a tactical way, project by project. There is a feeling at the senior level across universities that providing space for social learning is fundamental to enabling new ways of learning, teaching and research, particularly in a post-Covid environment where everyone's expectations of learning space and work space have changed so significantly.

This research group felt that it was important to take a step back to understand what social learning is and how it should work well. It is important to me that we give Directors of Estates guidance on how to analyse colleagues' requests to enable them to provide excellent spaces for social learning.

Sean Woulfe, Architect and Honorary Research Associate at Kingston University (previously Director of Estates and Sustainability)

A cohesive spatial approach

As a steering group member for this research, representing the perspective of a practicing architect with experience in designing social learning spaces, I have been particularly engaged with the spatial dimensions of social learning and how different academic disciplines shape their requirements. The research team has explored how space can facilitate learning beyond formal, didactic teaching settings, responding to the distinct needs of various disciplines.

One of the most profound insights from this research has been the sheer breadth and depth of social learning as an activity. Initially, my focus was on specific spatial typologies that support informal learning. However, it has become increasingly clear that social learning is not confined to designated spaces—it is a fundamental, continuous process that unfolds across the entire university campus, within and beyond timetabled activities. It happens in studios and libraries but equally in corridors, foyers, outdoor spaces, and digital environments, shaping student experiences in ways we are only beginning to fully appreciate. Crucially, social learning is the least curated or structured aspect of student life, yet it has a significant impact on learning outcomes.

This research has deepened my understanding of how universities can take a more intentional and cohesive spatial approach to support social learning. The 'C-Space' concept presents a compelling framework for integrating informal learning moments into the broader campus environment, ensuring that spaces are designed not only for function but also for fostering identity, belonging, and intellectual exchange. In parallel, it highlights the need to actively curate, support, and nurture social learning as an essential component of the student experience.

Looking ahead, there is a clear opportunity for architects and designers to collaborate with estates teams, educators, and students to create social learning environments that are adaptable, inclusive, and responsive to the diverse ways knowledge is generated and shared. The findings of this research challenge us to move beyond static distinctions between formal and informal spaces and instead embrace a holistic, interconnected vision of the university as a dynamic learning landscape.

Rupert Cook, Miltiadou Cook Mitzman Architects

Creating spaces for learning together

A key consideration I have taken from this report is the role of C-Space at universities in positioning the UK as a global leader in research, technology, and entrepreneurship. Providing the right mix of spaces is a catalyst for creative thinking, collaboration, and innovation. For students - the next generation of academics and industry leaders - academic knowledge is essential, and this research highlights the equally important role of campus spaces in supporting learning beyond teaching areas.

Spaces for social learning create opportunities for students to collaborate, learn from peers, and engage in healthy discussion and debate, developing soft skills that will help students to prepare for the challenges of the working world. This highlights the vital role well-designed spaces play in shaping student experiences, something we support through our construction and refurbishment projects, to create environments that foster collaboration, discussion, and real-world skills development.

Nick Preedy, Senior Project Manager,
Willmott Dixon Construction Limited

Student co-researchers

Unconscious choices

When I reflected on the Day in the Life activity, it made me think about the difference between attending spaces you choose to go to and spaces you have to attend as part of your course and how this affected what would make me use the space again. It made me think of how repetitive the equipment, furniture, and setup of the rooms in my academic building are and how much time I've already spent and will continue to spend in these spaces.

For me, I realised that having the opportunity to choose my own study space makes me feel more in control of my learning. Through various exercises we did as part of this research project, I also found that I chose to sit in quieter areas and avoided interacting with other learners. I found that I prefer to learn alone, which means that I avoid busy learning spaces more than my peers. One's home can be preferable to campus learning spaces for convenience and comfort, and I realise that it is difficult to recreate that in learning spaces on campus.

If I were to go back in time to start my course again, I wouldn't change anything. I've reached a point where my spaces are never an issue, as I'm quite deliberate with where I go. I identified spaces that were suitable for me over the years by using different spaces across campus at various times of the day. You get a sense of which ones are the best to go to, which ones tend to be noisy and which ones are better to work depending on what you need to get done.

I think my future use of the spaces will stay the same. But, reflecting on my use has made me more appreciative of the features of campus spaces for social learning and its identified unconscious choices that influenced my searching habits for learning spaces on campus. If there was one thing I wished was considered in the design of learning spaces, it would be natural light.

Overall, I think it's important to know what works and doesn't work for yourself, and also to voice for spaces that can be better for all learners.

Holly Chung, Student, Cardiff University

Learning socially: inside and outside classrooms

The most notable thing I have discovered about my studying habits during this research project is that I largely enjoy working with others around me, particularly in being able to discuss work with my peers. I spend a considerable amount of time doing so when I'm on campus or at home with my housemates alongside me. However, I also appreciate my need for quiet, focused study spaces when I have reading to do, whether at the library or in my bedroom.

In our regular project discussions, I realised that the café in my departmental building is a real hub of social learning for myself and my course friends, and it has been an integral part of my university experience. I also realised that this space facilitates the social aspect of learning for others too. I noticed many other tables where friends came to work alongside each other, met before timetabled activities and took a break in each other's company. I think my friends and I are attracted to this space because of how it is used in this way.

If I were to go back in time, I would have spent a lot more time in the library earlier on, as the quiet atmosphere works best for me when I need to complete focused work or reading. I think I felt intimidated to explore these new spaces alone in the first year, but my confidence has grown since then, and I have been able to find which spaces work best for me. I will use the library as a study space during final examinations when I can't be distracted by the more social aspect of the café.

One thing I wish would be considered in designing learning spaces on campus is the placement of plug sockets. Many campus spaces do not have nearly enough. I also think the layout of seminar rooms should be better designed to ensure group discussion can be easily facilitated. A horseshoe layout of tables works well, but many rooms do not have this. I think proper consideration of what different courses require for their learning activities would be really beneficial when designing campus spaces.

Eleanor Bickerton, Student, Cardiff University

Research authors

Social relationships matter

The higher education sector in the UK is going through a turbulent time. Institutions, students and staff are facing a range of challenges that are interlinked in complex ways. More alignment is needed between the silos, which are fuelled by structural conditions, and we need collaborative advocacy. This project has been an incredible social learning experience. As an academic, I realised how the social learning framework brings coherence to fragments of academic life, such as teaching, research, and civic mission. As a tutor, I now have a much deeper understanding of students' lives and challenges outside the timetabled hours. As a member of the university campus research community, I learnt that bridging the academia-practice divide is challenging yet essential to address complexities, frame relevant questions, and develop new approaches to make meaningful contributions. Personally, by working together, I learnt the importance of social relationships in shaping a collective purpose for making learning better.

Dr Hiral Patel, Cardiff University

Sensing the future into being

I was reminded, again and again, that nobody knows as much as everybody. Or, put another way, nobody knows everything, and everybody knows something. The new learning for me was the extent to which outcomes are determined by the qualities each person involved brings, in addition to their knowledge and expertise. The qualities most frequently encountered throughout this project included curiosity, competence, creativity, courage, compassion, along with a healthy dose of humour. I learnt in a very real way that learning is social, with collaboration and trust being the key ingredients for successful outcomes.

Fiona Duggan, FiD

Courage to act

The project has aptly illustrated to me the challenge and possibility of social learning across boundaries, and I have immense gratitude to Hiral and Fiona for welcoming me into their world with such care. I have learned that heart, generosity, and humility are essential ingredients to shared meaning-making. For current teaching and future research projects, I will take away lessons on the power of scaffolding and incremental progress, the importance of face-to-face encounters for recognition, and a renewed appreciation for the courage it takes to take those necessary, rewarding risks as students – and staff! – in an ever straitened HE sector.

Dr Katherine Quinn, Cardiff University

Campus stories

Story 1. Uncovering confusion around social learning space

We assumed that we all knew what social learning meant. However, in our observations and conversations with our research participants, we discovered great confusion around social learning from both sides – the users and the providers of spaces for social learning.

We began with defining our research questions...

We started with these questions:

- What are the types of social learning spaces that enhance students' learning experiences?
- What factors influence the design of social learning spaces?
- What factors influence the management and use of social learning spaces?

We understood social learning spaces as those spaces that mainly support peer-to-peer learning and are distinct from formal teaching spaces. Such spaces could be a combination of quiet individual study, group collaborative study, and quiet group study. In that sense, social learning spaces were nothing new. Revisiting the 2009 Resolution Exhibition[93] curated by the University Design Forum, examples of social learning spaces were abound and continue to inspire campus developments 15 years on.

we thought we had the answers...

Within a few weeks of our research project, we came up with a list of attributes for social learning spaces to include:

- Settings: individual, paired settings, small groups
- Enclosures: open, screened, enclosed
- Technology: wireless, portable, hardwired
- Use protocol: quiet, whisper, busy
- Staff presence: minimal, roving, dedicated
- Amenities: toilets, drinking water, catering (self or provided), lockers, storage, printing
- Ambience: natural light, sightlines, connection with nature, colour and texture, cleanliness

until we started testing these answers...

We organised three sounding panels with 23 expert practitioners and academics. We asked them to share what makes a good social learning space based on their personal experience and to identify attributes of those spaces. We hoped that they would match or complement what we had already identified. It turned out to be not quite so easy. We discovered five key themes: functionality, location, ambience, agency, sense of togetherness and encouraging learning.

Functionality

- Furniture or space that supports or enables collaboration
- Power and good wifi
- Accommodate different activities
- Adaptable/flexible for a variety of group sizes
- Combination of individual and project/ group spaces to support different modes of learning aligned with different periods in the academic year

Agency

- Providing choice, allowing for individualisation and customisation
- Agency to control your own space
- Operability – things should be easy for people to self-curate
- Easy to understand (how the spaces can and should be used)
- Sense of belonging (student ownership)
- Common space accessible to all

Location

- Right place on campus, easily accessible, close to services and student destinations
- Near coffee /tea/ refreshments
- Somewhere between lecture, library and refectory
- 'Welcome' spaces that allow students and staff to decompress before heading off onto the main floor of the campus
- Its adjacency and complementarity with respect to teaching and/ or other learning spaces
- Supported by clear and obvious wayfinding
- Location that regards the identity of cohort, department, faculty or institution while balancing distribution across the campus

Sense of togetherness

- Everyone is on the journey of discovery at the same time
- A place to meet and work together (and alone)
- Convivial, collaborative and inclusive
- Connection and cohesion – 'water-hole' space
- A feeling of shared values
- Working/learning alongside others provides a sense of community and aids motivation

Ambience

- Comfortable, welcoming, inclusive, functional, cosy, relaxed, bright, spacious
- Relaxed and safe environment
- Good acoustics
- Use of natural materials
- A balance between openness and privacy
- Engagement with the emotional senses
- Spatial identity
- Good mix of functionality and comfort
- Good environmental conditions, including natural light and facility for nourishment
- Variety and choice across a range of criteria: acoustics, spatial dynamics, privacy, sensory load, movement and rest
- Inspiring – aesthetically pleasing, uses colour and branding well, relates to place
- Places to recharge that offer a sanctuary away from the social/lively collab spaces
- Good views of greenery/ biophilic design
- Access to outdoor spaces

Encourage learning

- Unexpected experiences
- Anticipation and challenge
- Collaboration with people you don't know
- Regular exhibitions and events to bring people together and share ideas
- Learning together

and we found new questions

The rich and diverse inputs received from our Sounding Panels told us that the word ‘social’ is conflated with several interpretations. These insights prompted further questions from our Steering Group:

- Is social learning only about group work assignments?
- Does social learning only happen in informal spaces?
- Does social learning only happen outside timetabled activities?
- Is social learning only about students and staff involvement not required?
- Do we just provide social learning spaces to students?
- Are social learning spaces only about atriums, booths, pods, carrels and beanbags?

> **Before we could define social learning space, we realised we needed to come to a shared understanding of what social learning means.**

So, what is social learning?

We asked students what social learning is...

We found that it was not always clear to the students what social learning might entail. The confusion around the term social learning was echoed in a broader student survey conducted by the University Design Forum in 2025.[13]

"I first understood this as a form of learning which involves interaction with others during studies, such as working on a group project together or merely discussing work with each other. Therefore, I thought that as a learning approach, this would allow you to both teach and learn from others - a collaborative experience. Upon researching this, I found social learning to be a theory which suggests we can learn by observing and imitating the behaviour of others, and this approach encourages communication amongst students. I took this to mean that we can learn processes of studying when surrounded by others doing the same, but also when working alongside one another so discussions would count too." – **Student**.

"As a learning approach, 'social learning' sounds like learning with others. This would apply to learning within a group setting, such as lectures and workshops, and in smaller groups of friends. After a quick Google, I have found that the social learning theory is that people learn by observing and imitating others." – **Student**.

"By definition, social learning is limited to the observations and imitations made. I believe that rather than imitating, someone should use the best approach that suits them. For example, I'm currently learning about care plans which detail the best course of action for a patient, and where everyone would have a different process on how they work on this, social learning may not be appropriate. However, it is much harder to teach knowledge from working, so observations would be more appropriate here. I would say that social learning is not that important in my course as I am often told to find the method that best suits me, and there aren't many cases where we would rely on observation and imitation. On placement, however, social learning is much more important." – **Student**.

we asked staff what social learning is...

We posed a similar question to estate professionals. Below are some responses that we got, which indicate a conflation about what social learning is. Moreover, in responding to the question about social learning, the responses slipped into social learning space, indicating a strong deterministic connection between 'social learning' and 'social learning space'.

Collaborative or individual learning in a collective space.

Collaborative learning.

Informal learning in a relaxed, comfortable environment.

It's where students find they're working when they think they're chatting with friends.

Learning in a collaborative environment, face-to-face.

People learn via their observations and assumptions.

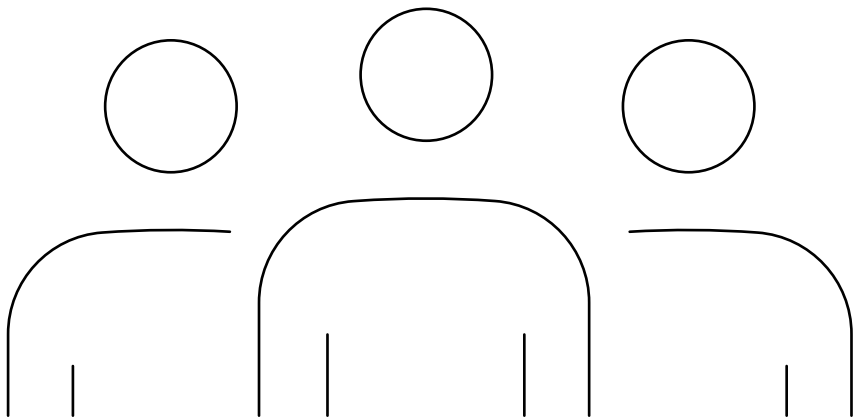
Learning from others in creative, innovative and vibrant spaces.

Learning via informal spaces with or without others.

Informal and purposeful.

Leftover space for students to work.

Learning everywhere in an informal environment.

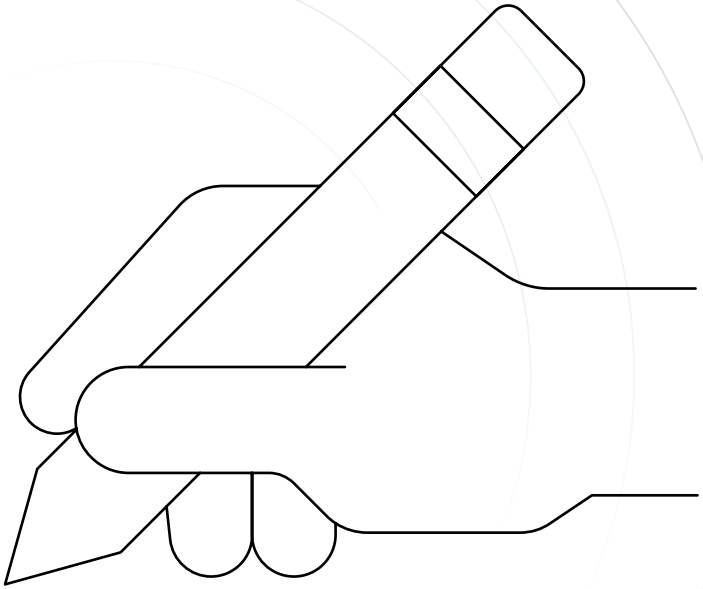


Informal space for all/everyone to enable and facilitate interaction.

Inspiring spaces.

we observed what students do in social learning spaces

We went to a few social learning spaces on a university campus to observe the vibe, pace, rhythms, movements, sounds, activities, and layout. We found that students were engaged in a range of activities, from socialising to focused learning, in those spaces.



Sit comfortably.

People come and go.

Gaze and watch people.

Eat whatever/whenever you want.

Don't have to know those around you.

Clarify or ask a question to your peers.

Can be alone or together with your friends.

Check your study progress with your peers.

Take phone calls or attend virtual meetings.

Leave your stuff and go for a stretch or a drink or to the loo.

Share a joke or a meme on the phone in the middle of your studies.

Extremely focused or highly relaxed, or anywhere in between.

Go and occupy a vacant space if it's not being marked/parked by someone.

Spread out your materials and occupy more desk or floor space than allocated to one seat.

Play table tennis if you want without worrying about the noise disturbing those around you.

Order a pizza and have a gaming session with your friends using the big screens provided.

Find a space for study near a prayer room so that you don't have to travel long distances to pray.

Study in a space tucked away on the side as you prefer not to be in a central open atrium study space.

Participate in a Kimchi-making event organised by the library in collaboration with the local Korean community.

Attend a Maths Café, run by a student society, where you learn from an academic tutor from another discipline.

Try to get through studies while listening to music on your headphones, checking Instagram or talking about the other gender.

Free to sit however you want and put your feet up on the table/sofa. You can remove your shoes and sit on the sofa with folded legs.

Announce to the students that they should collect the tickets for the student society's summer ball from the commons space in your departmental building.

Sit down between lectures with a cup of coffee and your laptop, with or without a friend, to digest what you are discovering in your lectures.

Bring as many or as few devices as you want. You can work with a tablet or create an extensive work setting by bringing a laptop, wireless keyboard and mouse.

we explored interpretations of the word ‘social’

The term ‘social learning’ was seen as a spectrum whose one end is ‘learning’ and the other end is ‘social’.

“I think it’s really interesting because if I go back even to our old library, if you left a table or a chair somewhere, you know, so you’re just moving stuff around, you know, and you turned your back for 5 minutes, and you would suddenly find a student sitting there working at it. And it’s that sort of in a way that immediately becomes a social learning space, doesn’t it? I sometimes think the word social is perhaps the wrong word because I know that there are times when people hate the phrase social learning space because that implies it’s time to party, and that’s not what we all mean, of course. But it’s very hard to find an alternative, isn’t it? Social learning space can mean something completely different to people, but I think for me, it actually means the space that you know is for students and that they can make their own. I don’t mean, you know, sort of pulling in the cushions or bringing the pizza or whatever it might be, but it’s that they feel comfortable enough to sit down, either on their own or with their peers to study, and that’s what it is for me. And I don’t think there is any one shape to that space. There are spaces where students feel they can just sit down and that no one’s going to turn them out because that’s what you may find around universities where space has always been at a premium. Then there’s quite a long tradition of, you know, a small group will go and study in a room somewhere thinking it’s free. Along comes a class. Ten minutes later, they get chucked out or told they can’t use the computer at the back or whatever. That isn’t, you know, student-friendly space.” – **A university staff member.**

Moreover, social learning is interchangeably used with informal learning. Socialisation within university settings could include a ‘party with friends’, which in turn could help build strong relationships with peers. Alternatively, socialisation might also include how students might conform to unwritten norms and rules of learning at university.[38] This might take the form of disciplinary settings such as art studios or participating in student societies, which might not be formally connected to the degree credits, such as learning media production, sport or language. What remains constant across these settings is the active role that the learners play in creating these settings.[94] In this context, spaces for social learning should not be seen as fixed physical entities but spaces for social learning emerging in complex socio-material practices[58], which entangle physical space, people, technology, policies, curriculum, metrics, and much more…

we began to understand the importance of pedagogical awareness

Based on responses from students and professionals, we can see some understanding of what social learning is. However, more clarity is needed. David Block has proposed the concept of meta-pedagogical awareness[95], which could be usefully built upon in creating a deeper understanding of social learning for both the users and providers of campus spaces. Block explains the concept as learners being able to describe, analyse or evaluate the methods and theory of teaching practice based on a cognitive or physical teaching/learning experience that they might have had.

The sector needs a shared definition of social learning, and the bond-bridge-connect framework is our response to this need.

Story 2. Experiencing bond-bridge-connect framework in action

This story describes how Ellie, a student, engages in bonding, bridging and connecting activities as part of her campus experience. The interplay of curriculum and campus spaces is evident in her social learning experience.

Meet Ellie

Ellie is passionate about studying for her undergraduate degree in English Literature. She loved studying English at A-levels, and when she attended the talks on the university open day, she knew it was the degree that she wanted to pursue. The university was also not very far from her home, so she decided to choose that university. She is now in her final year of the degree course and thoroughly enjoyed the quality of lecturers and the wide range of modules that were offered. She particularly loved studying the degree course because her lecturers were deeply passionate about their research and delivered insightful and engaging modules.

Studying English Literature

One would have thought English Literature might mainly involve reading and writing individually and does not need much specialist space. Tables and chairs, physical and digital book resources and access to basic computer facilities are adequate. It, thus, is a discipline that is not confined to specialist spaces, as one would have thought.

An integral part of studying English Literature is to critique and debate about literary theories and texts. Literary study is all about the multiplicity of textual interpretation. It is an aspect that Ellie very much enjoys; being able to discuss work with others is vital to her and her coursemates. One of her modules explicitly encouraged students to meet up and discuss set texts, questions and secondary readings. She also had assessments in the form of a group presentation, which required her to meet up with her group to prepare, create and practice their presentation together.

She also enjoys working independently whilst surrounded by her coursemates, with whom she can run ideas by or get support through proofreading her work. She often feels motivated to work when others are around her – which she thinks is the idea of imitation or mirroring others within the concept of social learning.

Ellie first understood social learning as a form of learning which involves interaction with others during studies, such as working on a group project together or merely discussing work with each other. Hence, she thought that as a learning approach, this would include both teaching and learning from others - a collaborative experience. Upon investigating this term further, she found that social learning also suggests we can learn by observing and imitating the behaviour of others and that this approach encourages communication amongst students. She took this to mean that we can learn processes of studying when surrounded by others doing similar activities, which also opens opportunities for discussions when working alongside each other.

According to Ellie, social learning space means spaces that enable work to be carried out with others as a collaboration or just alongside other students where all are working in a shared space such as the library or other campus study spaces. Any environment which fosters academic collaboration could be referred to as a social learning space. On reflection, Ellie believes the social learning space could also include her taught seminars as this is where she was most encouraged and able to discuss literature and, therefore, learn alongside and from her peers.

Bond

Over the years, Ellie has gradually built up her group with other students who have taken modules similar to hers. Now, in her final year, she has a group of about eight friends with whom she often studies. She typically walks into the university an hour before her first seminar so that she has plenty of time to get there and do some pre-seminar preparation work too. She often spends that time in a café on the ground floor of her school's building. Here, she might bump into her peers, friends or staff. There are good direct views into a well-planted open courtyard that brings in ample natural light. However, the bright white strip lights in the café can be too harsh. The café can get very loud during peak hours, and music is often played in the background, which can make noise levels worse for concentration. However, during early morning or late evening, the café has a good background buzz, which Ellie finds conducive to working in while in-between her scheduled teaching sessions. In fact, at certain times the background noise made her group, who were working on a joint presentation, feel less intimidated when practising their presentation skills.

When the café is busy and Ellie needs to find a space for group work, she uses a room booking system, which helps her find a vacant room within her building. The café has tables to accommodate a group of students, but finding a table for a group of six or more students is challenging. When finding a suitable room, Ellie and her study group often try to find a space where they could sit around a table so that they can discuss the texts. In one instance, Ellie could not find such room for her group of six. The only room available was a lecture theatre. It was not conducive to the task at hand as they had to sit alongside each other and then turn towards each other to discuss. While English Literature might seem like a subject that might have simplistic space needs, the importance of dialogue and debate seems fundamental to the learning outcomes of the students.

Having said that, individual reading and engagement are still essential parts of learning. Ellie reads in the evening to process dense texts in the silence and comfort of her home.

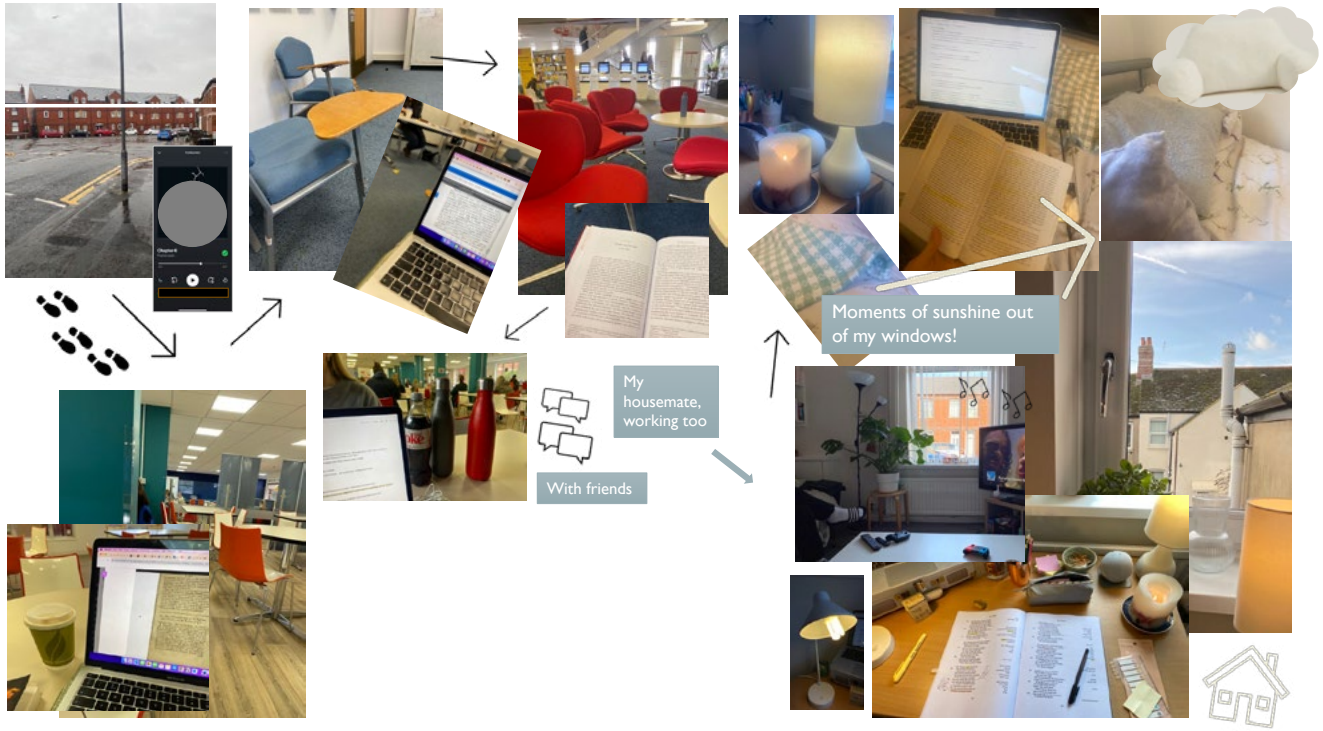
Bridge

Ellie always enjoys listening to an audiobook when she walks to and from university alone. During her second year, she felt overwhelmed with the reading and needed to find a different way to engage with the texts. She discovered audiobooks, which keep her company on her walk to and back from the university campus and make the walk feel shorter. She also feels productive, using this time to complete university work in an enjoyable form, and this eases her into a working headspace for the rest of the day on campus. Listening instead of reading her set texts also helps to break up the intense reading required by her course. Having another format makes the work feel more digestible, and the variety means that she is less likely to lose concentration or feel fed up with reading. She often uses Spotify to find her books. However, when she shared this study skill that she had developed with her housemate, they discovered that the university library does have a range of audiobooks that they could access as well. Her housemate, too, picked up on this study skill and incorporated it into his routine.

Ellie also mentioned a café halfway en route to the campus, which seems to be a hub for university students who want to meet and study in a relaxed atmosphere. Compared to the café in her school's building, this café in her neighbourhood has a unique external architecture that attracts the interest of passers-by. While this café has ample natural light, there is dim mood lighting, which Ellie finds comforting. The background noise in the cafe is often just at the right levels, and in fact, Ellie often uses café background noise on YouTube when working at home, as this helps her to concentrate. Once, Ellie was in this neighbourhood café discussing with her friend which modules to choose for her third/final year. Coincidently, a group of students from a senior cohort of her course was seating next to them. They overheard Ellie's conversation, which led to them advising Ellie, based on their experiences, about which modules might be a better option. Ellie found this spontaneous interaction very influential in her choice of modules for her final year.

Connect

Ellie is on the committee for a student book club. At the start of the year, the book club makes an application to reserve suitable spaces on campus for the book club activities based on how many members they are expecting and how they might use the space to run their activities. However, it is not easy to know how many members might turn up, and as a result, one meeting might be where everyone is crammed together, and the other might not. The preferred layout is to arrange the chairs in a big circle of 30 to 40 people. Not many buildings on campus can accommodate that layout for that capacity. Facilitating conversations in a lecture theatre is challenging as it requires turning around or looking at the back. The book club experience is about having a discussion within this big group such that everyone bounces off one another. When Ellie and the committee tried to facilitate the conversation in a lecture theatre, they found it hard to go around the group properly. Ellie suggests that seminar rooms with a horseshoe layout might work well, and she will continue to search for such spaces on campus.



A collage of a student's learning experiences, activities, places

Story 3. Developing a business case for C-Space

The University of Nottingham is making C-Space happen through trust and collaboration. This is a story of their process so far and lessons we can learn.

Each institution has a specific context when it comes to education strategy, financial resources, and its estate. The provision of C-Space will thus vary from one institution to another. Here, we share the story of one institution's approach to providing common spaces for a consistent student experience outside timetabled sessions. We hope that the insights from this story might spark questions or ideas in different institutional contexts.

Strategy as a starting point

The story at the University of Nottingham begins with its Education and Student Experience Strategic Delivery Plan[96]. Two priorities that propelled the importance of common spaces were:

Student experience: *"We will put student experience and student wellbeing at the heart of all we do, ensuring that all students, irrespective of how and where they study, quickly feel part of, and jointly create, our inclusive and global community and are enabled to build meaningful and lifelong relationships. This will include facilitating opportunities to engage locally and internationally through volunteering, work experience, placements and mobility."* [96]

Infrastructure: *"We will create an empowering physical and virtual estate that meets the needs of our students and staff now and in the future. This will include the progression of major data-driven initiatives to improve our core student record management systems, welfare and engagement processes."* [96]

Key principles to achieve these priorities included a dialogue-based approach to drive change, putting the student and educator at the centre of the learning and teaching experience and having the right governance structure to support collaboration. One of the groups formed to support the delivery of the strategic priorities is the Learning Spaces Operations Group (LSOG), offering a joined-up approach that brings together various stakeholders, including academics, timetabling, examinations, estates, digital services and libraries. The group organically emerged from these different stakeholders coming together to support, enable and inform strategy, share knowledge and resolve immediate or long-term problems by finding ways to act collectively.

Understanding the campus experience

In order to support Education and Student Experience, the group is ensuring evidence is gathered to understand how the existing physical learning environment on campus contributes to the overall experience of students' learning journeys. Three different approaches adapted by the university are shared here.

One approach saw the University of Nottingham User Experience (UX) team gather qualitative evidence on the end-to-end student journey. LSOG recognises that while having occupancy heat maps and utilisation data for spaces is good, qualitative insights are as critical in understanding how those spaces become places for social learning. Efficiency-based measures must be balanced with user-centred measures that highlight the effectiveness and experience of the learning spaces. This key evidence-gathering activity involved understanding and mapping learning journeys for different student profiles as they progressed through their course. They discovered that:

- A first-year undergraduate student wants to establish a solid foundation in the subject, learn new skills, organise themselves, and find the best ways to learn. One of their priorities is to secure their group of friends and understand the university as a physical space and community so that they can feel connected and settled before they explore who they want to be at this stage of their lives.
- A mid-year or final-year undergraduate wants a safe environment to learn. Students want to have control of their education and flexibility in how they learn.

Similar to the end-to-end student journey across the years, LSOG appointed external consultants Pragma and Benoy to work with students and map capabilities that students want their common spaces to have:

- Facilities should allow students to find and make their own place to satisfy their individual or group needs.
- The timetabled teaching space becomes less critical than those spaces they have negotiated for themselves in support of their study, work and life habits.
- The learner will negotiate their own space effectively if given the chance.

A third approach used by the university involves machine learning analysis to study free text comments from the NSS and NSES surveys. The group learnt that students needed more learning spaces for activities outside the timetabled sessions to build a sense of community and more private study spaces, particularly during the exam revision periods.

The University of Nottingham campuses combine cutting-edge teaching and research facilities with historic buildings and outdoor spaces. The large estate serving five faculties meant the provision of learning spaces varied between faculties and schools. A consistent, but not necessarily uniform, approach was needed to provide common areas for learning outside timetabled sessions.

Developing a design guide for common areas

As part of the need for additional spaces for learning outside timetabled sessions, LSOG supported University of Nottingham Estates with the creation of guidance to promote consistency in student common areas within school-owned spaces. The guidelines identified a user journey in the common area that resonated with all disciplines and followed key aspects for creating spaces that students will use and make their own:

- Location – close to timetabled teaching spaces, easy to find, access to services, café, toilets, lockers
- Language – be clear about what that space is for
- Layout – seating that suits individual needs and group study, and is accessible and flexible.
- Led by student needs – getting student input early in space planning and throughout the creation and use of the spaces and not being afraid to change the space when students start to use it. The students and staff members of the Education and Student Experience Team play an essential role in managing the space, and this role is not just limited to estates or security teams.

Building upon insights gained from user experience evidence, the guide proposed an indicative space model for common areas. This space model is not fixed but offers a starting point for discussion and consultation with each school. The model includes three functional zones: space for socialising with movable and flexible furniture (40%), space for ergonomic study settings that facilitate collaboration (50%), and space for dedicated storage and kitchenette to address the cost of living challenges faced by students (10%). Including all three functional zones provides consistency in student experience across the institution.

Small budget, big impact

In most cases, the group identified underutilised offices and other areas near bookable classrooms to develop pilot common areas. Feedback received from students includes:

- It's a space we can chat and work, a different offer to the library study spaces
- Further opportunities to personalise the space and add the School's unique identity
- Kitchenette offers alternative options to address the cost of living
- Study pods are good to work in alone
- It would have been useful to offer an accessible study booth

The business cases for refurbishing the common areas were not just about furniture upgrades. They took into account staff resources. Each school is supported by its Education and Student Experience Team, which regularly organises staff/student meetings and events, facilitates student societies' activities, and acts upon student voice to continually develop the learning community within the school[97].

Each school requires different capabilities from a common area. For example, the School of Physics needed more socialisation areas, the School of English needed more group study spaces, and the School of Education needed a variety of both. What creates consistency across these different common areas is the clearly defined functional zones allowing engagement of Education and Student Experience Teams with staff and students.

Continuous learning

The process of developing common areas across the campus evolved organically through continuous learning and dialogue with different stakeholders. In the process, it became clear that the design of common areas must understand learners' experience. While the common areas design guide focused on undergraduate students, another exercise was conducted to focus on postgraduate research students. The findings from the latter exercise revealed that those students have slightly different needs than the undergraduate students.

Another key lesson learnt from the process is that upgrading the furniture alone will not make a successful student learning experience. Staff resources are required to promote the space, manage demand for the space, host students to use the space, and make the space familiar to students through the ongoing organisation of events and activities. Students are more likely to engage in the design and use of common areas if the process is facilitated by the staff they meet regularly, which in this case were the Education and Student Experience officers. These staff teams act as a link between the estates team and students, enabling student voices to be heard and acted upon. Collaboration and trust are key to enabling effective learning experiences.

Story 4. Mobilising institutional capital for C-Space stewardship

The University of Westminster exemplifies institutional commitment to authentic staff-student partnerships. Through engaging in the co-production of learning spaces, students develop competence and become active citizens within their institution.

In 2022, the University of Westminster launched its Student Partnership Framework[98]. This framework aimed to bring student voices to the forefront of the university's work and build relationships between staff and students to reimagine and shape their learning environments. The desired outcome of this institutional policy was to challenge and move away from extractive and hierarchical power structures within higher education and create partnerships based on love, trust and a shared desire to co-produce positive change. The values of the partnership framework include rehumanised and restorative spaces, bringing joy, inspiring creativity, recognising our lived experiences and bringing learning-unlearning together. Through this students-as-partners framework, a group of student ambassadors from across the university has been funded to engage in a range of co-production projects, which could involve designing and implementing curricular and student support initiatives.

This institutional context enabled the initiation of the Dreaming Allowed design-research project. This project aimed to reimagine one classroom at the university's Regent Street Campus. Through this one classroom, the intention was to question existing power structures around the design, management and use of teaching spaces and propose a physical manifestation of the Student Partnership Framework. There were three objectives for this project. The first objective was to develop a co-production process that enables collective learning between students and staff, and build capabilities in students from non-design backgrounds to participate in the architectural co-production process confidently. Secondly, a set of design principles based on students' experiences was created through an iterative process of proposing and testing. Thirdly, co-producing the classroom through creative methods that reinforce students' voices and propose a new vision for a student-centred learning environment.

The gap in alignment between learning and space is well recognised in the higher education sector. This gap is due to the lack of shared language between different stakeholders and the absence of a structured process to nurture spatial capabilities in staff and students. Within an institution, various stakeholders must communicate, collaborate and co-produce interventions. In particular, it is assumed that students have the capabilities to engage in co-production processes of physical learning spaces. The Learning-Space Aligner Framework, developed at Cardiff University, aims to provide a structured process for co-production with staff and students.[99]

The Dreaming Allowed project provided a synergetic opportunity to pilot the Learning-Space Aligner Framework. The first phase of the Dreaming Allowed project suspended this assumption and focused on building confidence and skills within student ambassadors by inviting them to reflect, evaluate and propose ideas for campus spaces iteratively. The second phase involved creating three aspirational prototypes for the classroom to radically rethink existing structures and student experiences. The first prototype proposed decentering the classroom by removing the lectern and introducing a cabinet of curiosity which will hold materials for creative pedagogies such as Play-Doh and Lego. The cabinet of curiosity would provide a space to curate objects from a range of disciplines to stimulate object-based learning. The second prototype focused on nurturing human-nature relationships and proposed the idea of the Knowledge Garden. A poetic expression developed by one of the student ambassadors inspired the team to rename the classroom Room 214 to the Knowledge Garden, giving it a unique identity. The third prototype focused on the well-being of students with concepts for calming interiors, an acoustic design for psychological safety to support a variety of speech communication scenarios, and a selfie wall providing a background to express their identities.

During the third phase, Stride Treglown Architects were invited to contribute to the design process by interpreting the student prototypes and translating them into the spatial design of the classroom. The result is an inspirational classroom with a range of settings to offer different learning experiences. A session could begin with a briefing and introductions at the long table. Then, students could split into pairs or groups and engage in learning activities by drawing materials from the cabinet of curiosity. The session could end with installations and short student presentations using the peg board 'selfie' wall.

The re-conceptualisation of a typical teaching classroom enables social learning to be seamlessly embedded within and outside timetabled activities, thus challenging the conventional separation between formal and informal learning spaces. The education strategy of the University of Westminster aims to enable learning experiences that are authentic (learning from real-life experiences), personalised (enact agency and collectively express creativity) and transformative (become a change agent and participate in democratic structures in the society).[100] The process and final output of the Dreaming Allowed project embodies authentic, personalised, and transformative learning that the academic staff, students, estate team, researchers, and architects experienced during this project.

The importance of stewardship was well recognised during the design process. As a result, the responsibility of curating the room was included in the role of education development staff. There could have been no better coincidence when a student ambassador involved in the Dreaming Allowed project was appointed for that job role. The use of the classroom is yet to be evaluated. There has been positive feedback from the Democratic Enterprise Network, which now regularly uses this room for its meetings. These early adopters could inspire others. The affordances of this one classroom enable the institution to step up to experiment further and embed authentic, transformative and personalised learning within its learning experiences.

Story 5. Building stewardship

The Hive at Worcester shows that C-Space stewardship requires building competence. On the other hand, built materiality steers and demands stewardship.

The Hive opened in 2012 as Europe's first fully integrated university and public library. As you approach the building, glass double doors slide open. The building opens a palm; welcome, hushed, warm. Overhead is a silver sculpture called the "kaleidoscope" by the artist Robert Orchardson[101], specifically commissioned for The Hive. The piece hangs from the top floor ceiling and dangles through holes built into the floors above. Its caption, which is on the wall next to all the numerous award plaques, resonates strongly with the ethos and values that underwrite and supercede all perfunctory behavioural expectations of the space:

"Orchardson was particularly struck by the library's guiding inspiration that 'learning' and attendant cultural processes of exploration, finding out, thinking, imagining, inventing and knowing are the province of all citizens – and to be nurtured and celebrated accordingly. The Hive, in these terms, he saw as a declaration of hope and possibility, and a rare project of enlightenment at a time of national difficulty."[101]

Any time of day, early morning to late night, on entering The Hive, you are met, intermittently, with eye contact, a smile and a recognition that, whichever community demographic you have come from, you're in the right place. Lanyards and badges beam 'Here to help', and clipboards denote proactive preparation. The staff members' mobility and uprightness lower barriers to interaction. As well as welcoming interaction, it seems to say: we are not policing you, we are busy doing other things, too. We become witnesses to one another. The library staff at The Hive are inviting you into their space, communicating the orders and expectations quietly, but do not anticipate negative experience. As Steph, Library Manager, puts it, staff are like the "host at a party". She says, *"You know, if somebody breaks the glass at the party, the host will go over, make sure everyone's okay, sweep the glass up, and everything will carry on. And I think that wherever that equilibrium does sort of tilt, it's our responsibility to recalibrate it. But what we will not do is pre-empt their behaviour to be sort of distracting or disruptive."*

This physical and social welcome says: We're in a social relationship now; we owe each other something, but decency will cover it.

Stewardship is skilful work

No spatial design determines behaviour; interpersonal stewardship means that C-Space can be flexed, softened, or gently stiffened. All members of staff engage in these high standards of purposive stewardship, from managers to security staff, from 'customer' service assistants to liaison librarians. If students (and, in The Hive's case, members of the public) are understood as in need of supported social connection, staff are expected to take their own social risk and rise to the occasion. This is skilled, lightly extroverted work, and it requires training and practice.

The Hive's Library Services manager has a strong, proactive, and purposive approach to stewardship in the library, which she refers to as 'hosting'. It connects to deeply held values that extend beyond the instrumental needs of library users. She describes her approach to empowering behaviours as being about:

"You know, if somebody breaks the glass at the party, the host will go over, make sure everyone's okay, sweep the glass up, and everything will carry on. And I think that wherever that equilibrium does sort of tilt, it's our responsibility to recalibrate it. But what we will not do is pre-empt their behaviour to be sort of distracting or disruptive."

Central to operationalising this maxim – which Steph herself concedes can be seen as 'idealistic' – is a series of actions and commitments that are repeated throughout the day, everyday, by all: nobody comes into The Hive without being acknowledged and approached by staff, on some level: whether through eye contact and smiles, to check whether they need assistance, to actively helping facilitate the realisation of the 'customer's' goal for being there. This is skilled work that takes training, support, and recognition. Steph says that 'customer service' should be better recognised as a:

"...profession, as something that is a skill that has to be learned and taught, and that there are professionals in that discipline. So, when [my team members are] meeting and greeting, or when they're helping a customer, or when they're just walking the floor, the idea is that they are hosting the building. They are the hosts. They're not bothering customers. They're not policing customers. They're not even - a term I very much dislike in terms of using with humans - managing the customers."

We might think about the terminology of students, customers, patrons or citizens here. What does each term imply? Which engenders your space's values? If the three demands on university architecture are civic, iconic, and social,[102] if we want students to self-organise and self-manage (learn socially), might citizens make sense?

These questions go to the heart of what we might describe as a paradox of strong stewardship. While greeting every person entering a space and actively asking whether they are OK may strike some as forceful, we also know that spaces of higher education (like libraries, but also other spaces) are intimidating and daunting to many. Having to guess at the rules, orders, opportunities, or boundaries of what a space can offer can put people off using it. Getting an immediate sense of the atmosphere and potentialities of space through human-to-human recognition is brief but powerful for overcoming the hidden curriculum some feel is inscribed in our educational institutions. These interactional acts of recognition are key to how space is socially produced and will happen with or without active stewardship. But, having a proactive and values-led approach to shaping and guiding the space will help to ensure the space – as a lived experience – aligns with the intentions of democratic, convivial, self-confident social learning.

Thinking with sociologist Erving Goffman, this stewardship move is active 'mutual monitoring'.[103] I see you, I acknowledge you, we are social beings in a social relationship. Mutual monitoring does not have to be done to intimidate or impress, but rather can be to acknowledge one another and each other's right to be there, each other's acceptability in the building, and each other's welcome.

These specifics speak to a need for adaptability, reflection, and humility. Ultimately, stewardship must speak to a strong set of values as much as to a checklist of desired behaviour. To end with Steph's words, this work is ambitious, taught, shared and practised:

"[We are very clear about] what our role is in the world at large as well as within the university or within the county council is. Our job is to provide these services to these people, not because we're directly teaching them, not because we're directly educating them, but because we're facilitating that education, we're facilitating that growth, that development of learning, as well as what is termed as sort of the softer qualities in terms of socialisation, you know, reducing isolation for people, making things affordable. Those sort of places, that perhaps the private sector for sure think of as being sort of quite idealistic, but actually are really rooted in humanity."

Built design as soft stewardship: art and upkeep

The Hive supports multiple social interactions and activity levels, which are mediated through devices, design, and socially supported designations. The physical environment is moulded to support or foreclose particular activities and atmospheres. Tactile, malleable, arm's length bookshelves become edges to be negotiated into soft enclosures by individuals or groups. Circular desks imply chat and exchange; rectangular ones edged by adjustable lamps and power supply support lone study. Natural light, high-quality quality sustainably sourced wood, passive temperature control, bucolic scenes out of windows hold and disperse individualised stress. The material make-up of the multifaceted space is also used to subtly nod towards function. A gradual move towards silence is a typical trope that is applied in many libraries. The dignified silence of The Hive's top-floor silent study is supported by wood panelling, higher bookshelves, and individual desks facing walls and windows.

Art is valorised, and art, in turn, valorises the space and those in it. You deserve inspiration and quality; what we're all doing here matters. At The Hive, artwork like The Kaleidoscope has been specifically commissioned to reflect the locality and to embody the values and confidence of The Hive. While the architectural demand of the 'iconic' can be reduced to the desire for – or antipathy towards – 'more shiny buildings' to hook in ever more students, iconic can be thought of more diffusely. Iconicism must come with generosity, values, and connection to matter. It also comes with upkeep and mundane maintenance. At The Hive, fortnightly snag sweeps ensure stains, rips, and wear are caught and repaired; this is a proud building that invites the feeling to be shared.

Design and soft stewardship converge for convivial space

Elsewhere, and surely as a result of having already been welcomed and accommodated into the building at large, conviviality – a sense of belonging among difference - blossoms among users of diverse space without strong stewardship. Conviviality focuses on the possibilities of living with others and how this can help create and reassure feelings of belonging.[104] It does not flatten conflict or structural inequality[105] or necessarily imply cultural or incultural exchange[106]. As Bates[107] argues, built places can generate 'mixing and mingling, which in turn generates exposure to difference and a recognition of the lives of others'. Places – spatially, materially and intersubjectively fostered – are thus opened to the possibility of conviviality. The following example demonstrates the dance between the materiality, stewardship, and self-actualisation required to be comfortable amid differences.

The Hive's sunseat

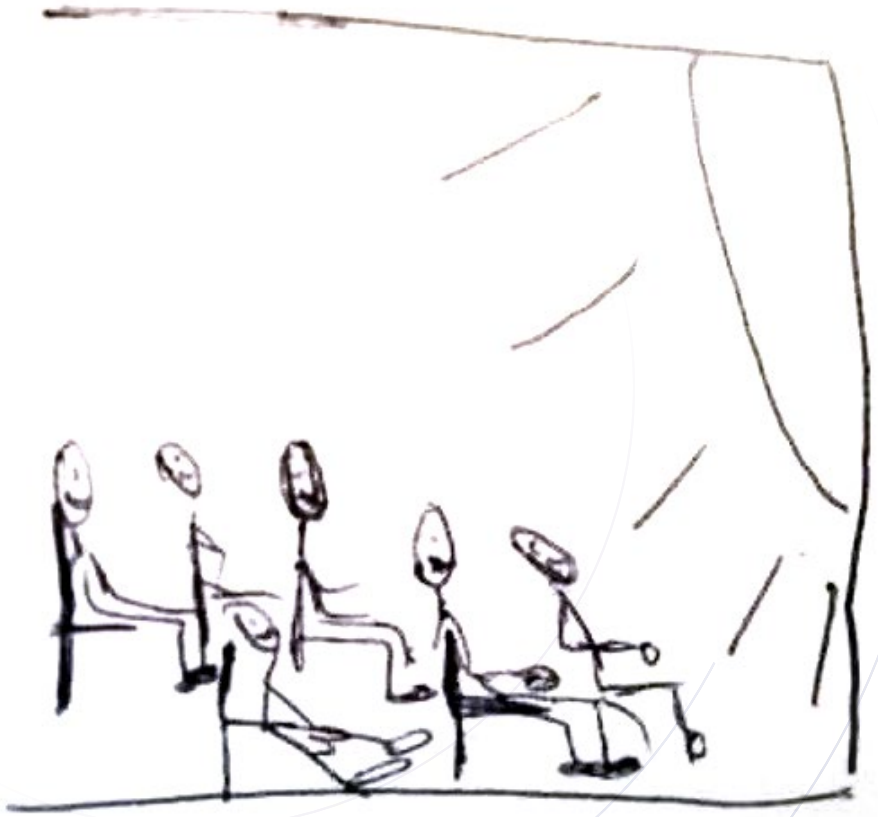
I [Katherine Quinn] begin coming to a seating area on the third floor of the library every lunchtime quite early in my fieldwork. The space acts as a bridging place: between the fiction and non-fiction sequence, inside and outside, study and leisure, university and public, belonging and not belonging. In this bridging, the 'sunseat' optimises the messy integration of systems of knowledge and social life brought about in The Hive. Few encounters bubble into meetings of huge note, but bodies and feelings are immersed and contingent; they invite and refuse one another in sometimes poignant ways. A floor-to-ceiling window of about ten metres wide provides a soft and permeable gate between the library and the scene beyond. I begin to call the area the 'sunseat' in shorthand because of the relationship people drawn to this area have towards this window. People arrive and sometimes join each other there, physically turning their bodies, the incline of their faces, towards a soft and non-dominating light. When I doodle the area, I accentuate the processes: bodies homogenise into stick men uniformly smiling to the sun, postures are easy, slouchy, and the sun itself is large and has come within the building. The simplicity of the doodle reflects the simplicity of the pleasure found in the scene, held between the books inside and the hills beyond. The built stewardship experienced here is that of care and attention for enabling and sustaining human relationships.[108]

The 'sunseat's' inbetweenness extends to its relationship with the city of Worcester. It acts as a soft gateway between the inside and outside and captures motion and contrast in its view. The view and its fluency have a contagious quality and hold people, like a prop to their comfort. In the seated area itself, the gathered individuals and groups often pick up and repurpose the furniture to bring their own sense of comfort when possible, angling the seat towards the window. People bring in their own items – laptops, books, phones – and mix them with the library's. They take up temporary ownership of the space and make themselves comfortable – at home?

I see an old lady who visits the space on her mobility scooter and brings her lunch – old margarine tubs filled with sandwiches and yoghurt pots with grapes. She scoots in, unpacks in front of the window, eats, and scoots off again. We share occasional smiles, but she's on a mission, daily. There's a sense both of routine and of occasion, something again in-between. Students often break from the more traditionally disciplined and disciplining spaces of the library to join the sunseat for lunch before returning to their desks. For them, this is a break. For others, the 'sunseat' is the whole event. The space of the 'sunseat' and its bridging position encourages encounters between strangers and makes private moments feel shared for many who are open to them. It is in this space that striking up ethnographic interviews often feels effortless. The 'sunseat' isn't immune to social risk, to conviviality failing. Still, there's somehow a tacit agreement, encouraged by many shared, tiny decisions, that conversation between strangers is (more, usually) welcome here.

The example of The Hive is an interesting foil to consider more typical academic spaces with. The

Hive acts as a case for analysing social learning in the vein of what pedagogical theorist Ellsworth calls a 'non-example'.[109] As Ellsworth describes in reference to engagement with anomalous sites of learning (in her case, museums, monuments and civic art), 'non-examples' are useful because they are "*genotypes embodying the essence of an idea*" (p.10). These genotypes accentuate patterns found elsewhere but can then speak back to the 'norm' or more common frameworks. The ethos and policies towards stewardship found at The Hive may be 'stronger' than elsewhere. However, versions of the need (and desire) to accommodate the diversity of people, groups, and uses are inherent to all university spaces.



Story 6. Enabling social learning

Kingston University Town House is a C-Space that has led institutional transformation. The success of Town House is reliant on a strong stewardship approach in providing, managing and using this space.

Kingston University Town House opened on 6 January 2020. With the ability to accommodate more than 1,000 users at any one time, the building enables students, staff and external learners to come together to participate in shared learning experiences, access a wide range of physical and virtual learning resources, seek hands-on support, take advantage of collaborative settings to develop, present and discuss their projects, find a place for quiet and reflective study, showcase their learning through presentations, lectures, exhibitions and performances, generate business links and career opportunities. Town House is also a place to relax and socialise. From the beginning, there has been recognition that a new understanding was needed of how staff, services, technologies and resources would work together to encourage and support a self-directed approach to learning.

Care, enjoyment and charm

One of the student groups anticipated to benefit from Town House was commuter students, who might be commuting from different boroughs of London. The commuter students might not have access to good study areas in their homes. Trying to juggle the worries of commuting, caring responsibilities, and financial pressures, students could experience stress. It is vital to have a good welcoming space where one can arrive slightly earlier for a lecture or a place where one can sit and listen to a lecture with headphones during a free hour before a timetabled session. Being able to use a loan laptop because one might be sharing personal IT kit at home or to avoid carrying kit on the commute, having a locker to store personal belongings while moving between sessions, having a desk to spread out all the learning materials, having a lovely view to look out and chill – all of these provisions enable a sense of physical and psychological comfort to facilitate engagement in learning.

Social learning is about people coming together and learning with and from each other. Social learning is also about experiencing the enjoyment and charm of learning as a collective enterprise, whether as part of a formalised group work with fellow students or doing individual work while being in a space with other people where one does not feel isolated but instead relaxed and being able to get on with the study. Walking through the Town House spaces, perhaps going up to the silent floor, spreading study materials on a desk; this movement through the space almost becomes a process of building a gradual focus on the learning task at hand.

Assessments play a crucial role in the learning process. An inclusive curriculum intends to address attainment gaps, particularly within Black Asian and Minority Ethnic (BAME) groups. Having spaces that enable students from different backgrounds to come together and have some fun during the learning process was a strong pedagogical commitment. The group study rooms, which could be booked for up to two hours via the university app, are extremely popular in this regard.

Integrating student services

One of the areas of student support is the help function, which resolves student queries. A substantial proportion of these queries might be answering straightforward questions about printing facilities, transport links, locating amenities on campus, and accommodation. On the first floor of the Town House, there is a shared information desk staffed by student support services and the library, where staff can support students either by answering the query or by signposting them to relevant contacts or resources.

A different kind of student support unfolds when it comes to the Dance Studios. The staff involved here are academic tutors. Like students, teaching staff might want to arrive early before a tutorial or spend quiet time between sessions – a green room is available to prepare for teaching. While the design intention of the building is to be completely student-facing, the role of staff is critical in supporting students to learn. From our own experiences of teaching, a 'backstage' where one can take respite from the performance of being a tutor before and after a session is vital.

The role of staff in designing and managing campus spaces also needs to be acknowledged and resourced. Senior leadership has a crucial voice in ensuring design development is aligned with the pedagogical aspirations of the institution. A lot of listening and talking is required to collaborate with and understand people whose worlds are very different from each other and who use different and often specialised terminologies.

Success brings unexpected challenges

KU Townhouse is a destination for students and staff of Kingston University as well as the public. The open-access policy initially led to an influx of students from local schools and further education colleges using the building to study and socialise. A study space protocol was introduced that managed visitors and provided access to study spaces for Kingston University students only during the exam period in April and May. The building, including the cafe, remains open and accessible to all, but in a more managed way than was initially the case.

The visual connections to the dance studios were intended to bring performance 'on display'. Staff and students sometimes thwarted this by lowering blinds during taught sessions. This is understandable as not all students want to be 'on display' while still learning to perform. At other times, Town House offers new opportunities for the Department of Performing Arts to connect with communities through events and exhibitions. Before Town House, the space conditions for dance particularly were really poor. This adversity enabled strong relationships between staff and students. They 'owned' their old building and expressed artistic identity by subverting it, creating a sense of shared purpose. Town House offers a new avenue to create a shared purpose by looking outward to the community and inviting more people in. It provides new opportunities for civic partnerships.

The majority of the Town House is the campus library. The role of libraries is changing, and managing the book stock is no longer the core issue. In the life of the building, managing the book stock is just part of what's going on as there are lots of other activities happening, such as large academic events as well as commercial and civic use. For example, recently, a Kimchi-making event was hosted in the Town House to celebrate the Korean community of the New Malden area, sometimes described as Koreatown. Town House is a civic university building with a great central location that affords commercial use as well. Scenes of the series The Crown were filmed at the Town House, and the building continues to be a sought-after venue for filming because of its spectacular spaces. Town House offers these fantastic opportunities to the University, and managing the space effectively becomes critical to fulfilling the expectations of different user groups.

Managing Town House spaces

With such intense use, ensuring the building is clean becomes a vital operation. The cleaning costs turned out to be much higher than estimated. Moreover, cleaning now involves big carts with all the paraphernalia of materials and equipment. The back-of-house storage spaces need to respond to these new practices.

Moderating the noise levels for the Town House to perform as a conducive study space is a significant issue. There are dedicated staff roving the building to deal with inappropriate behaviours. For example, students talking on the fourth floor, which is a silent study space, are encouraged to go to the lower floors. Initially, rovers coming on shift at 5 pm found it increasingly complex to moderate noise levels. The problem was resolved by changing the start time of their shift to 2 pm, and they can now stop noise levels ramping up in the first place.

For the Town House to perform as a civic building, it needs somebody walking the space, knowing what's going on, joining the dots, and talking to everyone. Skills in this role include being very present, being an enabler, making connections, and building relationships. More than anything, there is a need for a willingness to be open, adapt and change. Being confident about not having all the answers and about where something might lead to or how it might evolve - a person on the ground, making the building work for all stakeholders (whose numbers keep growing). This person knows what's happening with everyone – library, dance, filming, events, café, and how the university works. A fixer who can get everyone in the room to find a solution and invite people to walk the space to explore what they want to do and how. Learning from the experience of managing the building, Town House now has that person. There is now the confidence to try things out and step up. When resourcing buildings like Town House, it is essential not to miss the requirement to resource active management.

Inspiring the future

Kingston University launched its Town House strategy in October 2022, which provides the foundation for its Future Skills programme. The strategy was named after the award-winning Town House. Town House provided a step-change for the institution in terms of its ambition for curricular and campus development. Kingston University's TEF 2023 submission elaborates that its sector-leading Future Skills programme aims to prepare graduates for the challenges of life and work in the 21st century. To do so, all students, along with the subject-specific knowledge they gain through studying their degree course, also enrol in the Future Skills programme. Industry, governmental, and community partnerships will be engaged in delivering the Future Skills programme and furthering the mission of future skills across the higher education sector. Unlike a typical lecture or seminar offered by academic staff, the Future Skills programme champions the role of 'third space professionals'[43] as its workshops are delivered by Careers and Employability Services and the individual student learning is supported by academic personal tutoring.

Beyond Town House

Kingston University's Main Building, adjoining the Town House, is being refurbished to create dedicated spaces for Future Skills programme delivery and Students' Union activities. Once the Main Building and other campus development projects are completed, Town House use will change and evolve. The task of refurbishing the Main Building is nuanced and needs to refrain from making spaces too institutional. Participating in student societies alongside one's course is all part of learning at university:

"The learning I did by being active as a student in other ways than just being part of the course was huge. Spaces that allow people to develop in lots of different ways are what we are making. Our Future Skills programme is feeding into that. You cannot separate these things: your education, career and social activities. All these aspects go on at the same time, and it's all learning. When you go out to work, you will not just talk about the fact that you got the first class in your course. You will talk about the fact that you organised this student society group and made that event happen. It is really encouraging to have all of those wider skills and actually embed their development into the curriculum." **– Staff member**

The journey of integrating curriculum, culture and campus to enable social learning continues at Kingston University.

Story 7. Learning together from existing precedents

The complexions of C-Space stewardship vary across different settings. However, what remains constant is that stewardship is a collective act. It involves providers, managers and users of C-Space and their interactions with the built materiality.

We studied the design, use, and stewardship of three campus settings of Cardiff University as relevant examples for C-Space: a library space, a café, and a departmental commons. Using a collective drawing approach with our student co-researchers, we sought out specific aspects that might be said to culminate in the atmosphere and experience of a space. We observed the types of boundaries, rhythms and orders within the three settings. We adapted Lefebvre's approach of Rhythmanalysis[110] to understand the ebb and flow of space in use. Drawing from the work of Erving Goffman[111], we observed what the 'rules' of space were and how users organised themselves.

Experiencing stewardship

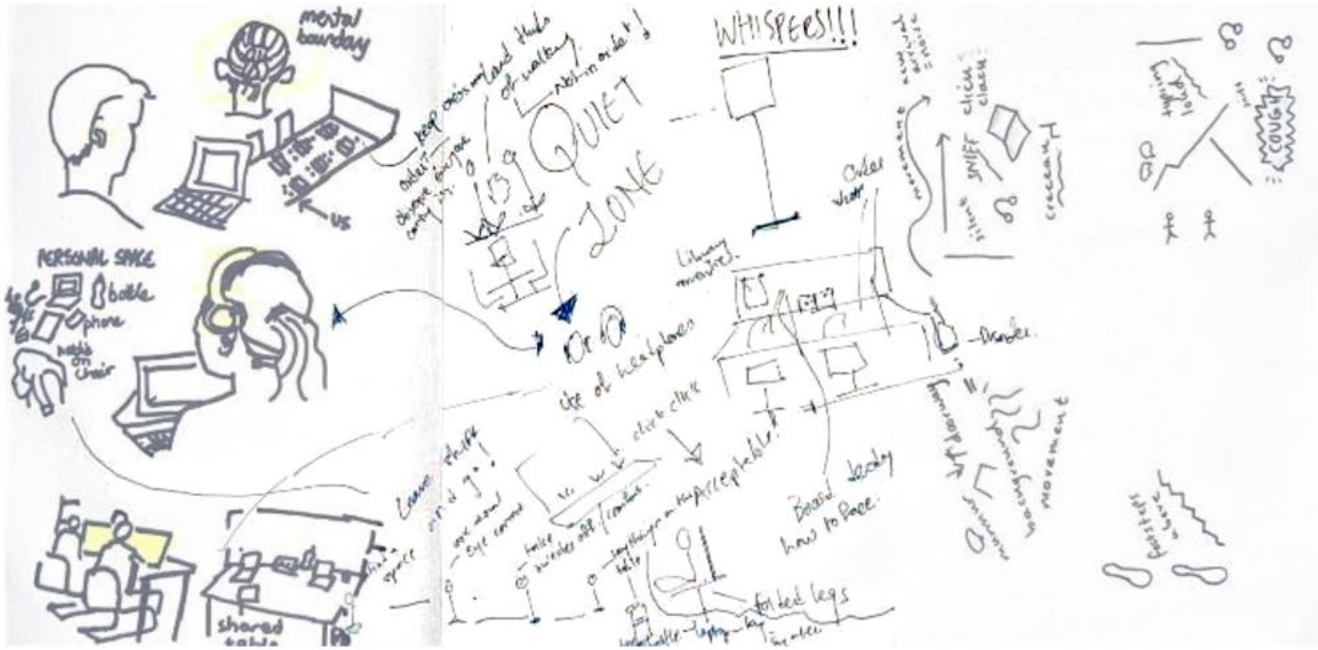
The **library** space is concerned with maintaining itself as a quiet zone, and there is prominent signage for this upon arrival. Although the nature of furniture is the same throughout, there is a hierarchy of seats in terms of privacy afforded and where one feels like an observer rather than being observed. The sounds of keyboard clicks and whispers are considered acceptable, unlike the sounds of loud footsteps. The use of headphones has been typically observed as either to block ambient sounds and/or to create a personalised acoustic space. The order in which one inhabits the space is to scan for available space on arrival, while walking towards the chosen space, look around and make eye contact with anyone gazing at you as the newcomer, minimise noise as you settle in, take off bag and coat, lay things out and settle down. There were instances of individuals working alone, pairs or groups working alone together, pairs or groups working collaboratively, and individuals or groups working with others virtually. Moreover, users subverted the furniture boundaries that signalled use by a single person by laying out coats and bags on adjoining chairs, bringing those spaces too within one's personal space. Leaving an empty chair or desk in-between, when furniture was closely laid out, acknowledged the personal space of others and an intention to respect or not infringe. In some instances, the furniture was subverted to create a shared space between two or more users.

In the **café**, while most of the furniture settings are designed for pairs or groups, there are instances where a single person is comfortably inhabiting a table with two or more seats. There is signage on the tables promoting users to use the space to consume food and drinks. One hears music being played, sounds of laughter, and constant chatter. This affordance around sound encourages different types of uses, such as attending a virtual meeting or experiencing the wider social life of the university. The café staff are actively involved in serving the guests and maintaining the cleanliness of the space. The order in which one inhabits the space is to come in, either go to buy food or drink and then find a space to sit (or park a space with personal belongings or someone accompanying before going to buy food or drink), eat and talk or do individual work, clear the tables by putting one's plates away or leave them on the table which will be cleaned up by a café staff.

While the **departmental commons** include a café, there is no obligation to buy food or drink there. Food brought from outside or home is allowed to be consumed in the space. The space is university-branded through large graphics on the walls (in the vein of "You said, we did") and TV screens. The mix of furniture ranges from relaxed soft seatings to desks and study furniture, suggesting blurred lines between studying and social life.

Reflections on stewardship

The coming and goings around the quiet area of the library typically constituted students and a few library staff, while at the café, it constituted students and staff equally. The departmental commons movements constituted departmental staff and students, creating familiarity, scheduled or impromptu interactions with tutors and a sense of general oversight by staff. The boundaries, orders and rhythms are constituted by a range of actors interactively, including clients and designers who create the settings, staff who create management protocols and maintain those spaces, and staff and students who reaffirm or subvert the boundaries, orders and rhythms. Stewardship is, thus, a collective act.



Collective drawing – Library quiet zone

Methodology

“Ethnographish”

We adopted a qualitative research approach that combined an ethnographic sensibility with engaged, collaborative and creative methods.[112] Conceptions of ethnography have varied over time and across different academic disciplines. For example, some approaches are more directly applied than others. Some might involve spending a long duration in the field of study, while others might involve more episodic immersion. Some might include studying a completely different culture than one has experienced so far, and others might involve developing a critical understanding of one’s own milieu. However, at root, several aspects of ethnography helped orientate this – interdisciplinary and applied – research project through data collection, data analysis and data reporting. These include patchwork, embedded, co-productive and reflective.

Patchwork

We have broadly taken an approach of ‘patchwork ethnography’[113] which is multi-site, multi-modal, and flexible. This methodological approach is innovative and draws on the strengths and experiences of the research team: combining an ethnographic sensibility developed over previous research projects along with briefing and architectural design expertise, understanding of tutoring students and working in higher education institutions, and professional librarian experience. Overall, the ethnographic work combines observations (what people do), accounts (what people say about the things they do) and ‘artefacts’ (what is involved in the doing).

During this project, we revisted previously done ethnographic research that Katherine Quinn had carried out at The Hive Worcester[114] and evaluative work done at Kingston University’s Town House by Fiona Duggan. We returned to the sites for purposive ‘top-ups’ and used their insights as a background for formulating new in-depth research at Cardiff University. The three sites offered a variation in the physical scale (from a building to a campus scale), as well as different types of involvements of the researchers (ranging from being a staff member or being a member of the project team). This diversity of perspectives added richness to our understanding through similarities and contrasts.. We drew additionally on the notion of ‘facets’[115] to pull appostite qualities together in analysis, which explains why we didn’t do the same thing at every site.

Below is a summary of the fieldwork we undertook as part of this research project:

1. Cardiff University: We undertook episodic observations over four months. We engaged with four student co-researchers for four months through support of Cardiff University’s Student Champions Scheme. The student co-researchers completed reflective workbooks and diaries and participated in creative exercises with four Student Champions over four months. We also drew upon the reflections of Patel and Quinn on their own experiences of teaching and using campus spaces on an everyday basis. Through different exercises, we studied various aspects of different campus spaces, including vibe, activities, interactions, behaviours, boundaries, orders, rhythms, equipment, digital technology, design features, and staff presence. Further details of the research tools we used for Cardiff University fieldwork are discussed later in this section.
2. Kingston University Town House: We carried out 13 online interviews with Kingston University Staff and Project Team members. During the interviews, we gathered descriptions and reflections on the design, management and use of Town House as well as future campus developments.
3. The Hive, Worcester: We revisited this site to observe staff training and reconsider descriptions and fieldnotes from past ethnographic fieldwork.
4. Sounding panels: We organised three online sounding panels, which were attended by 23 experts involved in the design and management of campus spaces, as well as academic experts and students. Each participant prepared a slide based on prompts provided to gather descriptions, types and attributes of spaces for social learning. We tested our emerging concepts at these panels, which provided further insights into opportunities and challenges for the design and management of spaces for social learning.
5. Expert interviews: To delve deeper into selected themes and to gather stories from other sites, we undertook five expert interviews. During the interviews, we discussed current approaches towards providing spaces for learning outside timetabled sessions, particularly focusing on developing an estate strategy, considering inclusivity in the design of learning spaces and the role of timetabling in the design and management of campus spaces.

Embedded

The ethnographic approach involves the active engagement of researchers. We, the researchers, are participant observers, and we cannot be objectively disengaged from the phenomena studied. Our presence, motivations, and interactions shape the data gathered. We make observations of and interact with the phenomena we are seeking to learn from: the social settings, groups and their worlds as they unfold in everyday life. In doing this, we make the familiar unfamiliar by making practices and assumptions explicit about the phenomena studied.

Data collection is embedded within data analysis, and vice versa. The gathering of observations and other fieldwork data is analytical, and analysis unfolds over time through thematic coding, synthesis with previously written literature, and continuous reflection. The presentation of ethnographic analysis ('findings') is also important and constitutes more than a 'reporting' of 'findings'. Presentation and representational choices tell us things about the phenomena encountered by the researchers, which for us was social learning in action.

The picture painted is not claimed to be definitive. What matters is that authentic descriptions of the phenomena are presented that are recognisable to the members embedded in the phenomena. The conceptual understandings created from the descriptions could be relevant and resonant in other sites than the one studied - in the particular is found the universal - or equally bring out the difference between the sites by demonstrating the limits of the concepts proposed. For us, the fieldwork from different sites is co-constituted and is thus embedded in the concepts proposed, which, in turn, offers avenues to test those concepts in various contexts.

Co-productive

Our approach has been to cultivate a collage of data and analysis drawn – and often co-produced - with diverse stakeholder groups implicated in the social learning conversation, including our four student co-researchers. Moreover, the co-production process included multi-media 'data'. Ethnographic fieldwork consists of the recording of in-situ observations, which are referred to as fieldnotes and constitute both the 'foundations of ethnography' and its 'raw data'. While notes imply the written word, fieldnotes can also go beyond text into diagrams of the fieldsite[116], drawings[117, 118], collage/scrapbook with ephemera from the fieldsite[113, 119] The collage/bricolage effect that comes from the multi-media fieldnotes, gathered over time and from different sites, can appear 'messy' compared to the linearity of structured interview coding, but, as John Law argues, the world is heterogeneous and 'messy',[120] so why wouldn't research need to reflect and engage with that?

When conducting short-term fieldwork, comprehensive note-taking and analysis are especially important. Since we are also working collaboratively and on multiple sites, some parameters and replicability became of heightened importance compared with solo, single-site, and immersive ethnography. Sociological approaches to ethnography argue that the writing and re-writing (in stages, adding theory and literature along the way along with 'thick description') of fieldnotes, reflections, and their reworking with literature and theory constitutes an essential stage of analysis and is ultimately what ends up resulting in the ethnographic text. As such, we must do these things during the fieldwork period. Fieldnotes need to allow this to happen by being methodical while at the same time allowing for creativity, fluidity, intuition, and resonance. As Atkinson and Delamont argue: "*ideas do not 'emerge' simply from the collection and inspection of large amounts of data. They are the product of hard work of thought and reflection, involving repeated interrogation not just of the 'data' but also of one's ideas and their implications*".[121]

Given the complexity of this project, some additional structures were helpful. Atkinson and Delamont advise delineating fieldnotes into different spaces for observations (in situ or near after), reflections (position in field, thoughts about process, reflection on the themes of the research), and 'notes to self' (prompt to look up a particular thing in the literature, prompt to ask someone something, specific point towards the research theme/question).[121] In our case, we added more structure by using prompts that could be replicated (see notes on Cardiff University Fieldwork later in the section). While we were tied to these sheets, having a shared sense of what we were looking for helped group discussions and meaning-making at the analysis stage.

Reflective

Throughout the project, the research team members have actively reflected on their process. We held weekly meetings which moved between free-flowing and structured conversations. As Puwar has argued, we all 'carry' things as researchers: "*We are embodied beings as knowledge makers. encounters, connections and relationships influence and impact on the research we undertake*." [122] Our relationships as a group have evolved, and so have our personal reflections on social learning. We have also been reflecting on our work through engaging with the steering group, the wider sounding panels and expert interviews to supplement what we have drawn from other sources, such as stage one of UDF's Space and Places research project[123], our additional desk research, and our fieldwork.

Engaged

We adopted the Engaged Scholarship[124] approach to have a fruitful interaction between research and practice. The steering group played a key role in formulating the research agenda and research questions, building a conceptual framework, informing research design, and presenting research outcomes for non-academic audiences. Four steering group meetings were held, which were fertile opportunities for the collective sensemaking of the fieldwork data and the development of conceptual ideas.

Throughout the research process, we engaged with a wide range of stakeholder groups to obtain feedback and suggestions on research questions, concepts, methods, existing data sets and case studies. Below is the list of presentations, feedback from which we found extremely useful:

1. Panel discussion held at the AUDE conference in Newcastle in April 2024.
2. Research methods presentation at Student Champions Conference held in Cardiff Univeristy in April 2024.
3. Presentation at UDF Annual Conference in Glasgow in June 2024.
4. Review of position paper and workshop at AUDE Showcase in Nottingham in September 2024.
5. Review of position paper and presentation at UDF Research Group Meeting in London and online in August 2024
6. Presentation at the Education Estates conference in Manchester in October 2024
7. Virtual presentation on research methods at Cultivate Forum hosted by Warwick University in November 2024
8. Virtual presentation at Research Group on Collaborative Spaces (RGCS) Symposium 2025 hosted by Politecnico di Milano in January 2025

Cardiff University fieldwork activities

A day in life

For the research with Student Champions at Cardiff University, our objective was to get insights into how/where students learn outside their timetabled classes and how/which campus spaces impact their learning experience. This approach allowed us access to a different facet of rich experiential data and dialogue. It was also a learning experience that felt alive and supple to change and one that evolved with time and the increasing confidence and ability to 'see' of the Student Champions. The tasks and exercises that we created and carried out with them, as well as their brief descriptions and pertinent takeaways, are discussed below.

What

- Warm up into ethnographic observations and descriptions through the completion of a heavily scaffolded 'day in the life' observation task.
- A diary for noting down responses to questions regarding their whereabouts, activities, and reasons for being, staying, or moving away from where they are.
- Completed hourly over one day.

Why

- To map the times, spaces, and movements of social learning in a granular way.
- To attune our 'Student Champions' to ways of reflecting on what they were doing and why.
- To use as a benchmark and jumping off point for discussing how things changed or didn't over the course of the project.

How

- Start with a meeting with all participants, share introductions, and break the ice.
- Prepare and share a workbook template with all participants.
- Meet back after the task has been completed and after the research team has had a chance to digest the entries. Record the meeting in order to capture nuances in reflections as the students talk them through.

So what?

One immediately striking feature was the extent to which students struggled with ethnographic observation and description and were inclined to fall into survey responses. The exercise opened with an online meeting whereby the general approach of ethnography was described and discussed in detail. The workbook students were then given heavily scaffolded exercise, and students were given prompts to respond to in every case. Despite this, it was not initially easy for students to run with the ethos or expectations of the exercise when they got going. We realised that the conversations we had - about fieldnotes, thick descriptions, and how we really wanted them to pause, be slow, contemplative, reflective, and questioning of their default behaviours – would need to be reiterated and walked through in practice. This experience was an early reminder that social learning begins in the method and that inculcating a social learning environment within the group would take time and repetition. Perhaps meeting in person would have helped this, and encouraging students to shadow us first.

Mood board

What

- A one-page image and text montage for student champions to share the spaces they work in and what they like about them.
- This built a visual side into the exercise above and began as an hour-to-hour image with a caption.

Why

- Encouraged a different way of seeing compared to a text-based approach above, which prompted sparks of inspiration and the opportunity for reflection at a later stage.

How

- Discuss the task and what kinds of reflections you're looking for in a meeting with the students.
- Create proforma to scaffold their engagement.
- Have a feedback and discussion meeting on the work created.

So what

- Taken together, the text and image tasks give insights into the lesser articulated reasons for student preferences. We started to get a sense of the sensory and ambient factors at play, as well as the significant but more mundane reasons why they ended up where they were: geographic convenience, proximity to time-sensitive spaces and activities (for example, choosing a space near to a space of workshop), availability of refreshments, desire not to be walking home in the dark. The final montage piece – 'mood board' – gave a sense of their growing confidence in articulating preferences, likes and dislikes.

Sensory drawing

What?

- A layered drawing exercise relying on close observation over time in a familiar space (cafe, library, departmental commons) engaging in thinking about how it changes over time (e.g. over an hour or, over several visits). What signals change, and how do members manage them?

Why?

- After the more perfunctory format of the diary, this exercise invited students to be creative, attentive, and re-consider familiar spaces. They also had to translate their perceptions and think about representation: how do we account for rhythm, circulation, and flow?
- Using tracing paper to show differences over time was also valuable not only for the outcome (a useful visual snapshot of layered movement flows) but also for the attunement and engagement it required of the team.

How?

- Prepare sketchbooks and a generous supply of stationery.
- In the meeting – face to face – talk about the rationale for the task, show some examples for inspiration, and do some 'warm up' drawing exercises together, perhaps to music. Continuous line drawings and drawing with the 'wrong' hand can be a nice start.
- Draw a birdseye view of space within the margin, then add lines for movement, sound, light, and activities using a self-developed key of colours, diagrams, icons, etc and layering on with tracing paper every 15-20 minutes.
- Group reflection afterwards.

So what?

The students did seem to get more out of this, for the most part, and the repetition of adopting an ethnographic perspective with different tools was effective. Starting the exercise with an in-person workshop also helped us to foment a social learning group dynamic. As with other exercises, the students needed a good steer to begin with. Those who went on to do the exercise quickly after the workshop tended to be more comfortable than those who left a long gap, so stipulating times might be something to think about in future. This time and also other times, we really struggled to find opportunities to meet at a time that suited everyone. Student timetables and their other commitments, mixed with two commuting lecturers' timetables, proved incredibly difficult to synchronize.

Reflective video diary

What?

- Video reflection on the process.
- Prompts provided were around what students had learned about their studying practices and spatial preferences through this project so far, what they would do differently (knowing what they know now), how they might do things differently now on campus, what one thing they wish they'd known before starting university.

Why?

- Although this exercise was partly undertaken to achieve the specific goals of several conference presentations, it was a really valuable moment for us and the students to consolidate the thoughts and reflections they had had up to this point.

How?

- Set up a workbook to scaffold the student scripts.
- Work through their ideas with them and support the development of their examples and specificity.
- Have them record the clips on their own devices, then edit as desired.

So what?

- Working with their original responses and suggesting further tweaks and deeper interrogations on particular points also had the benefit of a social learning process without becoming contrived or overly controlled by us as researchers.
- The exercise meant our students had a voice in conference presentations on their own terms. We could acknowledge their insights and contributions. The reflections by our student co-researchers presented in this report are based on this exercise.

Collaborative drawing

What?

- Shared drawing exercise while walking the univeristy campus to prompts.
- Using a single concertina sketchbook, students and the research team shared physical and intellectual space in order to attend to and record different aspects of spaces that were familiar to them.
- The result was an interweaving of creatively described data across the campus.

Why?

- A way to capture live, mobile, ephemeral snatches of information to prompts like: boundaries, orders, rhythm
- To share a social learning experience creatively.

How?

- Get a concertina sketchbook.
- Start with a meeting check-in.
- Discuss the prompts and reflect on where we've been so far.
- Prepare lightly – and be prepared to go with the flow!
- Spend a short amount of time on each site to create pace and some urgency – five to ten minutes.
- End with a debrief that can be recorded.

So what?

Although we only did this with half of the student champion group and one of the researchers, this exercise was a good vindication of what had gone before had gradually fermented into the students having a strong mutually supported understanding of the themes at hand. Our group discussions around this exercise were of a much more nuanced and sophisticated nature. It also helped that we began the exercise with a group discussion on previous activities. Being physically proximal to the concertina sketchbook was also an interesting facet of developing social learning. The drawings of each of the three participants were gently interwoven over time with each other, and a shared (drawing) language emerged, as well as close spoken and unspoken reflections. Having the central themes for each participant to individually work with definitely helped to focus the observations, and they were sufficiently elastic for the participants to run within their own ways. The final reflection after the workshop prompted to think about the tension around expertise: the students would occasionally disavow things we thought were quite clear. For example, none of them held the view that the presence of academic staff or support staff in the spaces we visited made any difference. But these are subtle, unintrusive forms of stewardship that are not really supposed to be strongly noticed. The students were also understandably keen to stress their maturity and independence.

References

1 Beard A. *Natural Born Learners : Our Incredible Capacity to Learn and How We Can Harness It*. Weidenfeld & Nicolson; 2018.

2 Holmwood J, Marcuello Servós C. Challenges to Public Universities: Digitalisation, Commodification and Precarity. *Soc Epistemol*. 2019;33(4):309-320. doi:10.1080/02691728.2019.1638986

3 Student Futures Commission. *A Student Futures Manifesto.* UPP Foundation; 2022.

4 Dober RP. *Campus Design*. John Wiley; 1992.

5 Wenger-Trayner B, Wenger E. *Designing for Change: Using Social Learning to Understand Organizational Transformation*. Learning 4 a Small Planet; 2019.

6 Wenger-Trayner E, Wenger-Trayner B. Social Learning Spaces and Other Structures. In: *Learning to Make a Difference*. Cambridge University Press; 2020:34-42. doi:10.1017/9781108677431.007

7 Granovetter MS. The Strength of Weak Ties. *American Journal of Sociology*. 1973;78(6): 1360-1380.

8 Putnam RD. *Bowling Alone : The Collapse and Revival of American Community*. Simon & Schuster; 2000.

9 Woolcock M. The Place of Social Capital in Understanding Social and Economic Outcomes. *Isuma (Saint-Laurent)*. 2001;2(1):11.

10 Poortinga W. Community resilience and health: The role of bonding, bridging, and linking aspects of social capital. *Health Place*. 2012;18(2):286-295. doi:10.1016/j.healthplace.2011.09.017

11 Guild HE, NUS. *Active Citizenship: The Role of Higher Education*.; 2016.

12 Bettencourt GM. "I Belong Because It Wasn't Made for Me": Understanding Working-Class Students' Sense of Belonging on Campus. *J Higher Educ*. 2021;92(5):760-783. doi:10.1080/00221546.2021.1872288

13 Keyse E, Byrne L. *Student Voices: Building a Campus That Reflects Student Priorities*. University Design Forum and Overbury; 2025.

14 Doucet A. Teach ME: The Learner Profile. In: Doucet A, Evers J, Guerra E, Lopez N, Soskil M, Timmers K, eds. *Teaching in the Fourth Industrial Revolution*. Routledge; 2018:58-75.

15 Harari YN. *21 Lessons for the 21st Century*. Vintage; 2019.

16 Loon M. *Flexible Learning: A Literature Review 2016-2021*. Advance HE; 2021.

17 Hill AJ. *Social Learning in Massive Open Online Courses: An Analysis of Pedagogical Implications and Students' Learning Experiences*. Doctoral Thesis. University of California; 2015. **https://escholarship.org/uc/item/6qr7p6rq**

18 Beatson E. *Imagined Futures Workshop -Background Reading*.; 2024. Accessed October 25, 2024. **https://repository.jisc.ac.uk/9707/**

19 Mycock A. *Enhancing the Student Civic Experience*. UPP Foundation, Sheffield Hallam University, Civic University Network; 2024. Accessed October 25, 2024. **https://upp-foundation.org/wp-content/uploads/2024/06/Civic-University-Network-Report-2024-Digital.pdf**

20 Wait R. *Active Citizenship: The Role of Higher Education*. GuildHE and National Union of Students; 2016.

21 Carrascal Incera A, Green A, Kollydas K, Smith A, Taylor A. *Regional Brain Drain and Gain in the UK: Regional Patterns of Graduate Retention and Attraction*. WMREDI, Birmingham; 2021.

22 Office for Students. National Student Survey 2024: Headline results. 2024. Accessed January 26, 2025. **https://www.officeforstudents.org.uk/data-and-analysis/national-student-survey-data/**

23 Leman J. *Postgraduate Taught Experience Survey 2023*. Advance HE; 2023.

24 Vytniorgu R. *Student Belonging and the Wider Context*. Higher Education Policy Institute; 2022.

25 The Quality Assurance Agency for Higher Education. *What Is Credit? A Guide for Students*.; 2021.

[26] The Quality Assurance Agency for Higher Education. *Explaining Student Workload: Guidance about Providing Information for Students*.; 2013.

[27] Neves J, Stephenson R. *Student Academic Experience Survey 2023*. Advance HE and Higher Education Policy Institute; 2023.

[28] Blake S. *Reduced student engagement isn't just about prioritising part-time employment*. WONKHE; 2024. Accessed January 26, 2025. **https://wonkhe.com/blogs/reduced-student-engagement-isnt-just-about-prioritising-part-time-employment/**

[29] Glazzard D. Looking for people like me: The barriers and benefits to SU participation for working class students in an elite institution. *The Journal of Educational Innovation, Partnership and Change*. 2017;3(1):306. doi:10.21100/jeipc.v3i1.643

[30] Lewis J, Stiebahl S. *Student Mental Health in England: Statistics, Policy, And*.; 2024.

[31] Universities UK. *Stepchange: Mentally Healthy Universities*.; 2017. Accessed October 12, 2024. **https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/uuk-stepchange-mhu.pdf**

[32] *Okanagan Charter: An International Charter for Health Promoting Universities and Colleges*.; 2015.

[33] Marris L, Palmer D, Patel P, et al. *Student Mental Health Study 2024*. Cibyl; 2024.

[34] Naughton C, Garden C, Watchman Smith N, eds. *Student Belonging Good Practice Guide*. RAISE Network; 2024.

[35] Blake S, Capper G, Jackson A. *Building Belonging in Higher Education: Recommendations for Developing an Integrated Institutional Approach*. Pearson and WONKHE; 2022.

[36] Wang J. Architecture students' peer learning in informal situations by lens of the community of practice–one case study. *Interactive Learning Environments*. Published online 2025. doi:10.1080/10494820.2025.2462152

[37] Billy Wong Yuan-Li Tiffany Chiu MCB, Nikolopoulou M. A mapping of graduate attributes: what can we expect from UK university students? *Higher Education Research & Development*. 2022;41(4):1340-1355. doi:10.1080/07294360.2021.1882405

[38] Fraser SP, Bosanquet AM. The curriculum? That's just a unit outline, isn't it? *Studies in Higher Education*. 2006;31(3):269-284. doi:10.1080/03075070600680521

[39] Johnson M, Majewska D. *Formal, Non-Formal, and Informal Learning: What Are They, and How Can We Research Them?*; Cambridge University Press & Assessment; 2022.

[40] Andrews C, Wright SE, Raskin H. Library Learning Spaces: Investigating Libraries and Investing in Student Feedback. *J Libr Adm*. 2016;56(6):647-672. doi:10.1080/01930826.2015.1105556

[41] Gravett K, Taylor CA, Fairchild N. Pedagogies of mattering: re-conceptualising relational pedagogies in higher education. *Teaching in Higher Education*. 2024;29(2):388-403. doi:10.1080/13562517.2021.1989580

[42] Grow GO. Teaching Learners to be Self-Directed. *Adult Education Quarterly*. 1991;41(3):125-149.

[43] Whitchurch C. Shifting Identities and Blurring Boundaries: The Emergence of Third Space Professionals in UK Higher Education. *Higher Education Quarterly*. 2008;62(4):377-396.

[44] Cuthbert K, Mcintosh E, Andrews S, Dent S, Hanson J, Stephenson J. *Beyond the Classroom: Institutional Case Studies*. Advance HE; 2024.

[45] Friesen N. *Defining Blended Learning*.; 2012. Accessed February 25, 2025. **https://www.normfriesen.info/papers/Defining_Blended_Learning_NF.pdf**

[46] Margulieux LE, McCracken WM, Catrambone R. A taxonomy to define courses that mix face-to-face and online learning. *Educ Res Rev*. 2016;19:104-118. doi:10.1016/j.edurev.2016.07.001

[47] van Dülmen C, Klärner A. Places That Bond and Bind: On the Interplay of Space, Places, and Social Networks. *Soc Incl*. 2022;10(3):248-261. doi:10.17645/si.v10i3.5309

[48] Small ML, Adler L. The Role of Space in the Formation of Social Ties. *Annu Rev Sociol*. 2019;45:111-132. doi:10.1146/annurev-soc-073018

[49] SODEXO. *Social & Informal Learning Spaces Survey*. AUDE;2022.

[50] Bott H. City and University—An Architect's Notes on an Intriguing Spatial Relationship. In: Peter Meusburger, Michael Heffernan, Laura Suarsana, eds. *Geographies of the University*. Springer Open; 2018.

[51] Dugdale S. Space strategies for the new learning landscape. *EDUCAUSE*. 2009;March/April 2009.

[52] Neary M, Harrison A, Crellin G, et al. Learning *Landscapes in Higher Education*. University of Lincoln; 2010.

[53] McCrone L. Belonging in the ecotone: a case study from a STEM higher education context. In: Kandiko Howson C, Kingsbury M, eds. *Belonging and Identity in STEM Higher Education*. UCL Press; 2024.

[54] Nordquist J, Laing A. Designing spaces for the networked learning landscape. *Med Teach*. 2015;37(4):337-343. doi:10.3109/014215 9X.2014.1001349

[55] Barratt P, Swetnam R. A civic and sustainable 15-minute campus? Universities should embrace the 15-minute city concept to help create vibrant sustainable communities. *Local Econ*. 2022;37(8):734-744. doi:10.1177/02690942231175096

[56] den Heijer AC. *Campus of the Future: Managing a Matter of Solid, Liquid and Gas*. Delft University of Technology; 2021.

[57] Klinenberg E. *Palaces for the People : How to Build a More Equal and United Society*. The Bodley Head; 2018.

[58] Patel H, Tutt D. "This building is never complete": Studying adaptations of a library building over time. In: Sage D, Vitry C, eds. *Societies under Construction*. Palgrave Macmillan; 2018:51-85.

[59] Crook C, Mitchell G. Ambience in social learning: Student engagement with new designs for learning spaces. *Cambridge Journal of Education*. 2012;42(2):121-139. doi:10.1080/030576 4X.2012.676627

[60] Gehl J. *Life between Buildings : Using Public Space*. Island Press; 2011.

[61] Carr A. Inhabited lobbies: The social life of space in the work of Brady Mallalieu Architects. *arq : Architectural Research Quarterly*. 2016;20(2):104-118. doi:10.1017/S1359135516000336

[62] Hertzberger H. *Lessons for Students in Architecture*. Fifth. 010 Publishers; 2005.

[63] Savin-Baden M, Falconer L. Learning at the interstices; locating practical philosophies for understanding physical/virtual inter-spaces. *Interactive learning environments*. 2016;24(5):991-1003. doi:10.1080/10494820.2015.1128212

[64] Stanton A, Zandvliet D, Dhaliwal R, Black T. Understanding Students' Experiences of Well-Being in Learning Environments. *Higher Education Studies*. 2016;6(3):90. doi:10.5539/hes.v6n3p90

[65] Thomas L, May H. *Inclusive Learning and Teaching in Higher Education*. The Higher Education Academy; 2010.

[66] Mostafa M. *The Autism Friendly University Design Guide*.; 2021.

[67] Card P. Compassionate Campus: Commuting and Connections. Student Story: Eleanor Zalick. Nurture-U. Accessed January 26, 2025. **https://www.nurtureuniversity.co.uk/compassionatecampus**

[68] Hughes G. Taking a structured approach to making friends. Student Space. 2022. Accessed January 26, 2025. **https://studentspace.org.uk/wellbeing/taking-a-structured-approach-to-making-friends**

[69] Keast N, Critchlow S, Day R, Szita S, Entwisle M. *University of Exeter: FORUM at TEN*.; 2023.

[70] University of Exeter. Sarah Turvill Multifaith Centre. Accessed January 26, 2025. **https://www.exeter.ac.uk/about/vision/capitalstrategy/featuredprojects/multifaithcentre/**

[71] Lamb J, Carvalho L. Towards Harmonious, Positive, Postdigital Spaces for Learning. In: Lamb J, Carvalho L, eds. *Postdigital Learning Spaces: Towards Convivial, Equitable, and Sustainable Spaces for Learning*. Springer; 2024:225-242.

[72] Frey A. Belonging: A Postdigital Space for Migrant Communities' Voices. In: Lamb J, Carvalho L, eds. *Postdigital Learning Spaces: Towards Convivial, Equitable, and Sustainable Spaces for Learning*. Springer; 2024.

[73] Anderson J, Priest C. Live Projects Network. Accessed January 26, 2025. **https://liveprojectsnetwork.org/**

[74] van Dülmen C, Klärner A. Places That Bond and Bind: On the Interplay of Space, Places, and Social Networks. *Soc Incl*. 2022;10(3):248-261. doi:10.17645/si.v10i3.5309

[75] Meyer JHF, Land R. Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *High Educ (Dordr)*. 2005;49(3):373-388. doi:10.1007/s10734-004-6779-5

[76] Nassauer JI. Care and stewardship: From home to planet. *Landsc Urban Plan*. 2011;100(4):321-323. doi: 10.1016/j.landurbplan.2011.02.022

[77] Martin D. Curating Space, Choreographing Care: The Efficacy of the Everyday. In: Bates C, Imrie R, Kullman K, eds. *Care and Design: Bodies, Buildings, Cities*. John Wiley & Sons, Ltd; 2017:37-55. doi:10.1002/9781119053484.ch3

[78] Nassauer JI. Care and stewardship: From home to planet. *Landsc Urban Plan*. 2011;100(4):321-323. doi:**https://doi.org/10.1016/j.landurbplan.2011.02.022**

[79] Bennett NJ, Whitty TS, Finkbeiner E, et al. Environmental Stewardship: A Conceptual Review and Analytical Framework. *Environ Manage*. 2018;61(4):597-614. doi:10.1007/s00267-017-0993-2

[80] Mol A, Moser I, Pols J, Pols J, Moser I, Mol A. Care: putting practice into theory. In: *Care in Practice*. transcript Verlag; 2015:7-26. doi:10.1515/transcript.9783839414477.7

[81] Peace S. Age-inclusive Design. In: Bates C, Imrie R, Kullman K, eds. *Care and Design: Bodies, Buildings, Cities*. John Wiley & Sons, Ltd; 2017:18-36. doi:10.1002/9781119053484.ch2

[82] Scharmer CO. *The Essentials of Theory U : Core Principles and Applications*. First edition. Berrett-Koehler Publishers, Inc.; 2018.

[83] Mol A. *The Logic of Care: Health and the Problem of Patient Choice*. Routledge; 2008.

[84] McNabola A, Moseley J, Reed B, et al. *Design for Public Good*. Design Council; 2013.

[85] Tosey P, Visser M, Saunders MNK. The origins and conceptualizations of "triple-loop" learning: A critical review. *Manag Learn*. 2012;43(3):291-307. doi:10.1177/1350507611426239

[86] Higher Education Academy. *Active Learning*.; 2008.

[87] Petford N, Griggs R, Neville T. *University of Northampton: Waterside Story*. Higher Education Policy Institute; 2024.

[88] Powis C. The Learning Commons at Northampton. In: Elkington S, Bligh B, eds. *Future Learning Spaces: Space, Technology and Pedagogy*. Advance HE; 2019.

[89] TU Delft | Dream Hall. Facilities. Accessed January 30, 2025. **https://www.tudelft.nl/dreamhall/over-tu-delft-dream-hall/faciliteiten**

[90] TU Delft | Dream Hall. Dream Hall - History. Accessed January 30, 2025. **https://www.tudelft.nl/en/dreamhall/about-tu-delft-dream-hall/history**

[91] TU Delft | Dream Team. *Sign Up a New TU Delft | Dream Team*. Accessed January 30, 2025. **https://www.tudelft.nl/en/dreamhall/sign-up/new-tu-delft-dream-team**

[92] TU Delft | Dream Team. *D:DREAM Values & Standards*. Accessed January 30, 2025. **https://www.tudelft.nl/en/dreamhall/about-tu-delft-dream-hall/ddream-values-standards**

[93] Higher Education Design Quality Forum. *RE SOLUTION*.; 2009.

[94] Elkington S, Bligh B. *Future Learning Spaces: Space, Technology and Pedagogy*. Advance HE; 2019.

[95] Block D. Learners and their meta-pedagogical awareness. *International Journal of Applied Linguistics*. 2000;10(1):97-123.

[96] University of Nottingham. *Strategic Delivery Plan for Education and Student Experience (ESE)*.; 2021. Accessed March 28, 2025. **https://www.nottingham.ac.uk/strategy/documents/ese-strategic-delivery-plan-approved-final-09.04.21.pdf**

[97] University of Nottingham. School of English - Education and Student Experience Team. Accessed December 18, 2024. **https://www.nottingham.ac.uk/english/current/student-voice/education-and-student-experience-team.aspx**

[98] Araneta K, Fraser J, Maatwk F. *University of Westminster Student Partnership Framework*.; 2022. Accessed October 23, 2024. **https://ceti.westminster.ac.uk/wp-content/uploads/sites/61/2023/01/UoW-Student-Partnership-Framework.pdf**

[99] Patel H. *The Co-Evolution of Pedagogy and Learning Spaces for a Better Student Experience: Briefing Paper*. SUMS Consulting; 2022.

[100] *University of Westminster: Education Strategy 2023-2029*.; 2023. Accessed October 23, 2024. **https://www.westminster.ac.uk/sites/default/public-files/general-documents/Education%20Strategy%202023%20-%202029.pdf**

[101] Orchardson R. Kaleidoscope. Accessed January 30, 2025. **https://www.thehiveworcester.org/art-collections.html**

[102] Bradley K. *Education, Architecture, Urbanism : Three University Projects: Feilden Clegg Bradley Studios*. Artifice Books on Architecture; 2012.

[103] Goffman E. *Relations in Public: Microstudies of the Public Order*. Allen Lane; 1971.

[104] Hemer O, Ristilammi PM, Povrzanović Frykman M. Fantasy of Conviviality: Banalities of Multicultural Settings and What We Do (Not) Notice When We Look at Them. In: *Conviviality at the Crossroads*. Springer International Publishing AG; 2019. doi:10.1007/978-3-030-28979-9_2

[105] Gilroy P. *After Empire : Melancholia or Convivial Culture?* Routledge; 2004.

[106] Valentine G. Living with difference: reflections on geographies of encounter. *Prog Hum Geogr*. 2008;32(3):323-337. doi:10.1177/0309133308089372

[107] Bates C. Conviviality, disability and design in the city. *The Sociological review (Keele)*. 2018;66(5):984-999. doi:10.1177/0038026118771291

[108] Imrie R, Kullman K. Designing with Care and Caring with Design. In: Bates C, Imrie R, Kullman K, eds. *Care and Design : Bodies, Buildings, Cities*. John Wiley & Sons, Ltd; 2017:1-17. doi:10.1002/9781119053484.ch1

[109] Ellsworth EAnn. *Places of Learning : Media, Architecture, Pedagogy*. 1st ed. RoutledgeFalmer; 2005. doi:10.4324/9780203020920

[110] Lefebvre H. *Rhythmanalysis : Space, Time, and Everyday Life*. (Elden S, Moore G, eds.). Bloomsbury Academic; 2013.

[111] Goffman E. The territories of the self. In: *Relations in Public: Microstudies of the Public Order*. Allen Lane The Penguin Press; 1971.

[112] Donna Lanclos, Andrew D. Asher. "Ethnographish": The State of the Ethnography in Libraries. *Weave (Ann Arbor, Mich)*. 2016;1(5).

[113] Günel G, Varma S, Watanabe C. A Manifesto for Patchwork Ethnography. *Fieldsights*. Published online 2020. Accessed January 31, 2025. **https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography**

[114] Quinn K. The University Library as Bellwether: Examining the Public Role of Higher Education through Listening to the Library. *Civic Sociology*. 2022;3(1):1-12. doi:10.1525/cs.2022.32635

[115] Fletcher JR. An ontological turn in the sociology of personal life: Tracing facet methodology's connective ontology. *Sociological Review*. 2024;72(3):475-492. doi:10.1177/00380261231212099

[116] Hurdley R, Biddulph M, Backhaus V, Hipwood T, Hossain R. Drawing as Radical Multimodality: Salvaging Patrick Geddes's Material Methodology. *Am Anthropol*. 2017;119(4):748-753. doi:10.1111/aman.12963

[117] Heath S, Chapman L, Centre Sketchers TM. Observational sketching as method. *Int J Soc Res Methodol*. 2018;21(6):713-728. doi:10.1080/13645579.2018.1484990

[118] Quinn K. Taking Live Methods slowly: inhabiting the social world through dwelling, doodling and describing. *Qual Res*. 2023;23(1):3-20. doi:10.1177/14687941211012222

[119] Hall SM. Picturing difference: Juxtaposition, collage and layering of a multi-ethnic street. *Anthropology matters*. 2010;12(1). doi:10.22582/am.v12i1.187

[120] Law J. *After Method: Mess in Social Science Research*. Routledge; 2004.

[121] Delamont S, Atkinson P. *Ethnographic Engagements: Encounters with the Familiar and the Strange*. 1st ed. Routledge; 2021. doi:10.4324/9780429056840-7

[122] Puwar N. Carrying as Method: Listening to Bodies as Archives. *Body Soc*. 2021;27(1):3-26. doi:10.1177/1357034X20946810

[123] Oliveira S, Tahsiri M, Everett G. *Campus Spaces and Places: Impact on Student Outcomes*. University Design Forum, AUDE, Willmott Dixon; 2022.

[124] Van de Ven AH. *Engaged Scholarship: A Guide for Organizational and Social Research*. Oxford University Press USA - OSO; 2007.

Credits

Authors

Dr Hiral Patel, Welsh School of Architecture, Cardiff University

Fiona Duggan, FiD

Dr Katherine Quinn, School of Social Sciences, Cardiff University

Email contact: **patelh18@cardiff.ac.uk**

Citation: Patel, H., Duggan, F., Quinn, K. (2025) *Social learning @ University.* University Design Forum, Association of Univeristy Directors of Estate and Willmot Dixon.

Acknowledgement

We are indebted to our Steering Group for their constant support, continuous feedback and commitment to this research:

Cora Kwiatkowski, Associate Director Architect, Head of Universities, Stride Treglown

Jane Harrison-White, AUDE Executive Director

Nick Preedy, Senior Project Manager, Willmott Dixon Construction Limited

Rupert Cook, Miltiadou Cook Mitzman Architects & UDF

Sean Woulfe, Architect and Honorary Research Associate at Kingston University (previously Director of Estates and Sustainability)

Trevor Wills, UDF Chair and Director of Estates & Facilities, University of Plymouth

We are grateful to students, professionals, academics, and senior leaders in universities who participated in sounding panels, workshops, and discussions. Your contributions helped us to move forward continuously.

We acknowledge the funding from Cardiff University Student Champions scheme for the involvement of our student co-researchers.

Research funded by UDF (universitydesignforum.org), AUDE (aude.ac.uk), Willmott Dixon (willmottdixon.co.uk).