

TOOLKIT

# BRIDGING SPACE ON CAMPUS



# FOREWARD

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SIR WILLAM HENRY BRAGG ATRIUM  
HELIX  
LUU POSTGRADUATE LOUNGE

PART 1:

TOOLKIT  
OVERVIEW



## Background

Students' overall campus experience is linked to belonging, which impacts students' academic achievement, well-being, and mental health. For example, a sense of belonging is an important mediator that can attenuate pressure on many aspects such as financial worries, also, can promote student academic performance and retention.

Practical and positive interactions and relationships established to gain a sense of belonging can make students feel cared for and noticed. This is excellent mental support and can effectively improve factors such as attendance.

In addition, a **sense of belonging can effectively improve students' help-seeking behaviours, thereby improving students' living and learning experiences on campus.** A sense of belonging is also helpful to increase students' sense of safety.

There are many different patterns to understand belonging in Higher Education Institutions (HEIs).

For example, the factors in four relatively independent domains affect students' sense of belonging on campus: **academic, social engagement, surroundings and personal space.** Social capital, ethnic groups fit and cohesion, social exclusion, and on/off faculty/campus connections are other four factors strong correlated to each other. Understanding the complexity of their relationships is central to influencing feelings of belonging.

**Identity** is also crucial to a sense of belonging in a university setting. Students can gain a sense of belonging through expressing themselves authentically or inauthentically, depends on the context, hence some certain identities would become more prominent than others.

**Spatial belonging is multidimensional and complex,** which is another perspective to understand students' sense of belonging in HEIs. Four spatial dimensions can be used to explain belonging on campus: physical, digital, relational, and structural.

Among them, the physical dimension is considered to be the most fundamental dimension.

**For example, campus design helps promote a sense of familiarity, which is conducive to building students' sense of belonging.**

The physical elements in the campus space, such as building materials, decorations, and furniture, become channels for expressing intangibility such as emotions, when they entangle with students' activities.

**In reality, some of the physical space design cannot meet students' diverse needs, and sometimes even makes some groups feel a sense of not belonging.**

# This toolkit answers...

**...how the design of the constantly refurbished indoor informal educational spaces on the university campus contribute to students' sense of belonging.**

Indoor spaces on campus can be divided into educational and non-educational spaces based on their functions.

The former include but are not limited to classrooms, studios, and libraries; the latter include but are not limited to administrative offices, canteens, cafes, and accommodations.

**These educational spaces belong to the traditional formal educational space, which differ from the informal educational space we discuss. Some learning-related activities and exchanges often occur in non-educational space such as canteens and cafes.**



However, these spaces also differ from informal educational spaces we considered, because they do not aim to provide education for students.

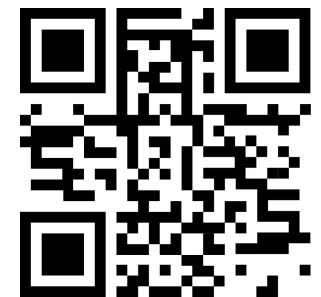
The informal educational space we concerned functionally aims to facilitate learning activities.

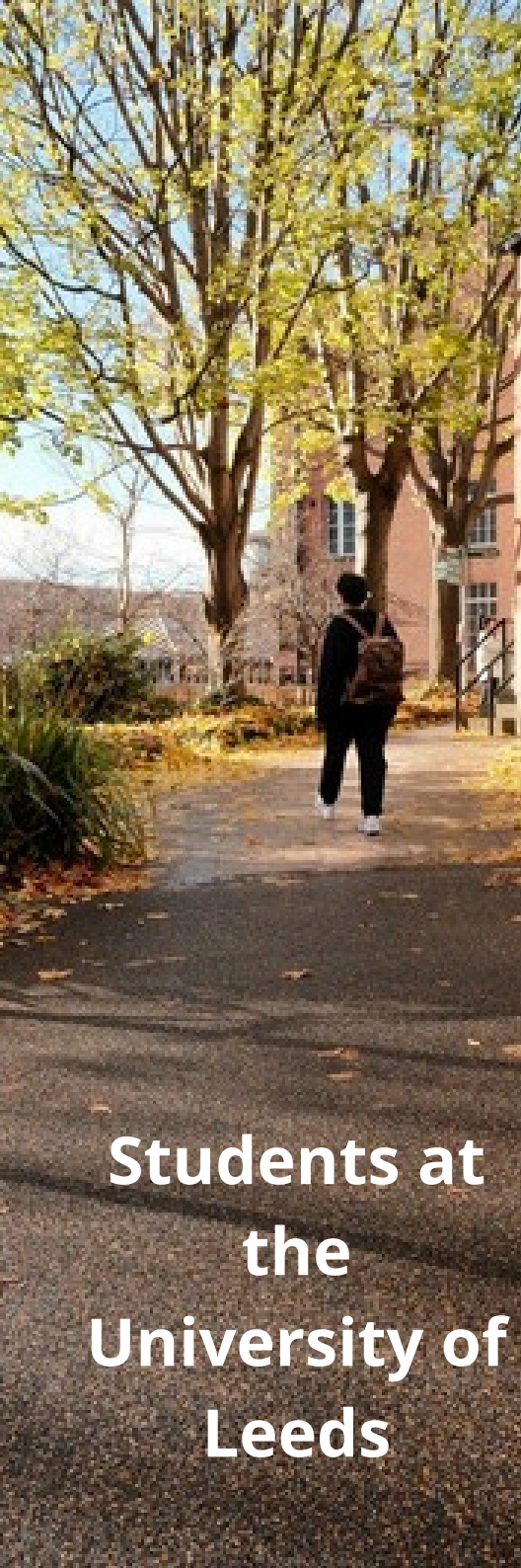
However, it has also developed characteristics that formal educational spaces do not have.

**At the end of this toolkit, we propose a name for this type of space: bridging space.**

- Ahn, M. Y., & Davis, H. H. (2020). Four Domains of Students' Sense of Belonging to University. *Studies in Higher Education*, 45(3), 622–634. <https://doi.org/10.1080/03075079.2018.1564902>.
- Alawadhi, A., Chandrasekera, T., & Yang, C. (2011). The effect of spatial knowledge on sense of belonging in university/academic environments. *Considering Research: Reflecting Upon Current Themes in Architectural Research*, 337.
- Arzate Quintanilla, K., Selim, G., & Birtill, P. (2023). The Intra-action between Educational Space and Student's Belonging within University City School of Architecture in Mexico. *New Design Ideas*, 7 (Special Issue: ICCAUA2023), 409–33.
- Bryant, A., Cook, A., Egan, H., Wood, J., & Mantzios, M. (2022). Help-Seeking Behaviours for Mental Health in Higher Education. *Journal of Further and Higher Education*, 46(4), 522–34. <https://doi.org/10.1080/0309877X.2021.1985983>.
- Dost, G., & Smith, L. M. (2023). Understanding Higher Education Students' Sense of Belonging: A Qualitative Meta-Ethnographic Analysis. *Journal of Further and Higher Education*, 47(6), 822–49. <https://doi.org/10.1080/0309877X.2023.2191176>.
- Fernández, D. P., Ryan, M. K., & Begeny, C. T. (2023). Recognizing the Diversity in How Students Define Belonging: Evidence of Differing Conceptualizations, Including as a Function of Students' Gender and Socioeconomic Background. *Social Psychology of Education*, 26. <https://doi.org/10.1007/s11218-023-09761-7>.
- Oldfield, J., Rodwell, J., Curry, L., & Marks, G. (2019). A Face in a Sea of Faces: Exploring University Students' Reasons for Non-Attendance to Teaching Sessions. *Journal of Further and Higher Education*, 43(4), 443–52. <https://doi.org/10.1080/0309877X.2017.1363387>.
- Reid, M., Jessop, D. C., & Miles, E. (2020). Explaining the Negative Impact of Financial Concern on Undergraduates' Academic Outcomes: Evidence for Stress and Belonging as Mediators. *Journal of Further and Higher Education*, 44(9), 1157–87. <https://doi.org/10.1080/0309877X.2019.1664732>.
- Robinson, S., & Notara, D., (2015). Building belonging and connection for children with disability and their families: A co-designed research and community development project in a regional community. *Community Development Journal*, 50. <https://doi.org/10.1093/cdj/bsv001>.
- Wong, B. (2023). Exploring the Spatial Belonging of Students in Higher Education. *Studies in Higher Education*. <https://doi.org/10.1080/03075079.2023.2243285>.

## Take a look at these articles

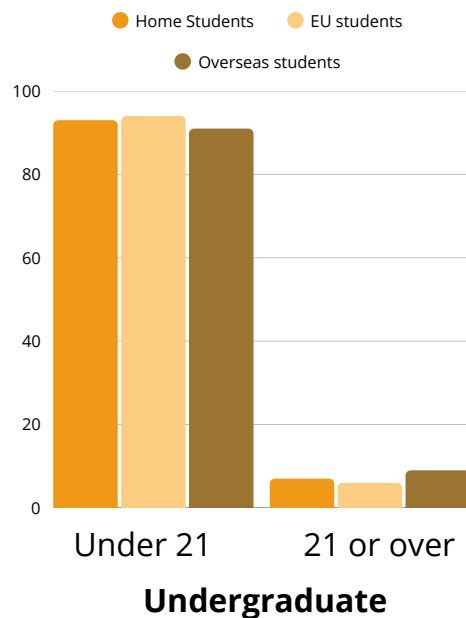




# Students at the University of Leeds

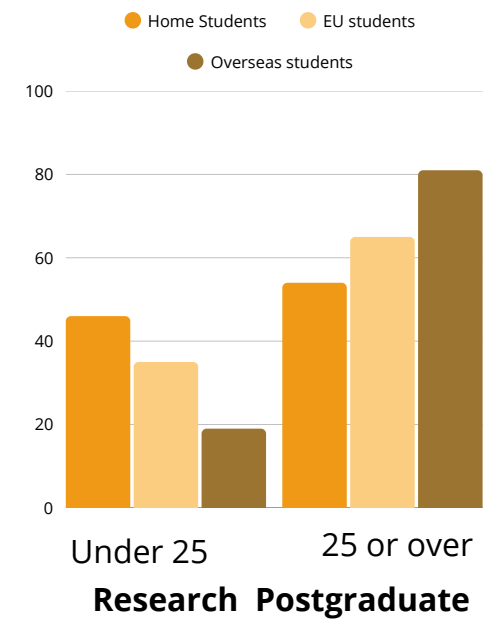
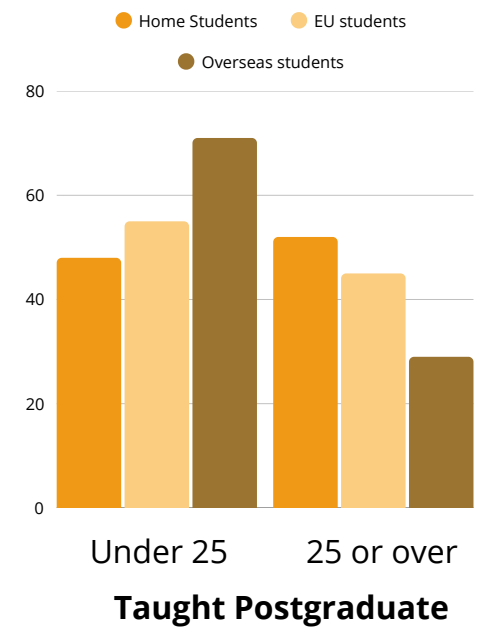
## Students by Age

The latest official general data in 2024 shows **38,265** students registered at the University of Leeds for the 2023-2024 academic year, which was **38,627** during the 2022-2023 academic year.



Based on the university's specific data for the 2022-2023 academic year (specific data for the 2023-2024 academic year has not yet been released):

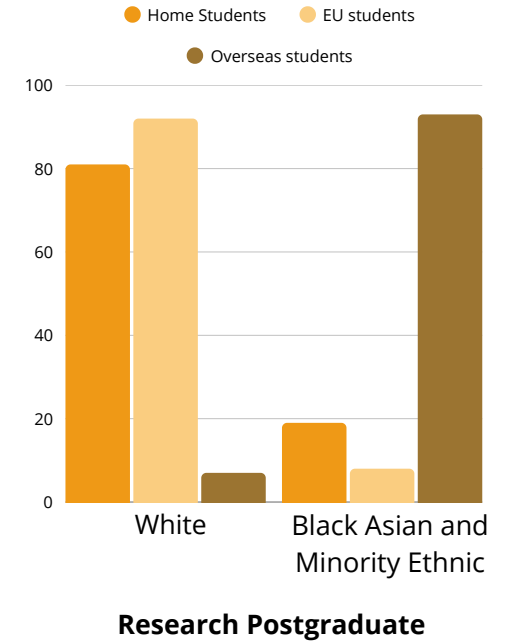
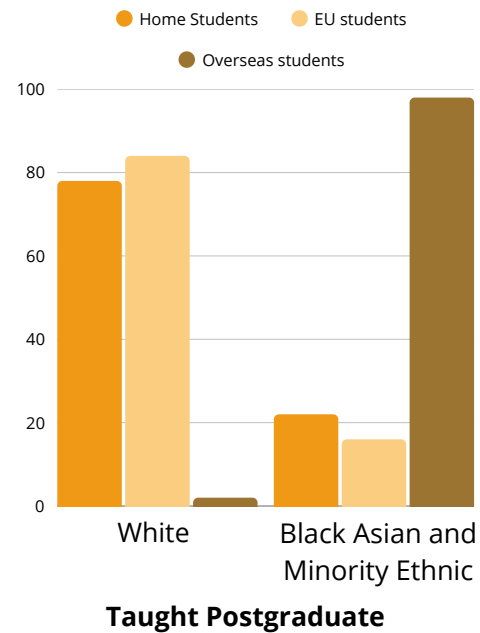
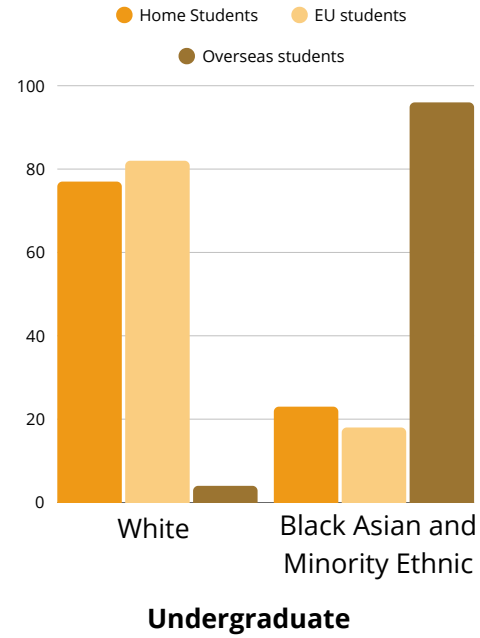
There were **27,681** Undergraduate students (UG; Home **20,921**, EU **835**, Overseas **5,925**), **8,772** Taught Postgraduate students (PGT; Home **2,251**, EU **155**, overseas **6,366**), **2,174** Research Postgraduate students (PGR; Home **1,161**, EU **146**, Overseas **867**).



# Students Ethnicity



**The students' community of the University of Leeds is diverse in terms of age and ethnicity.**



# Approach

To answer the above question in the context of the University of Leeds, from February 2023 to December 2024, some research activities were conducted with students, focusing on UG students and PGR students who spend longer time on campus.

**The research team conducted six rounds of campus mapping exercises with students at all levels on the campus to identify the main spots related to their sense of belonging.**



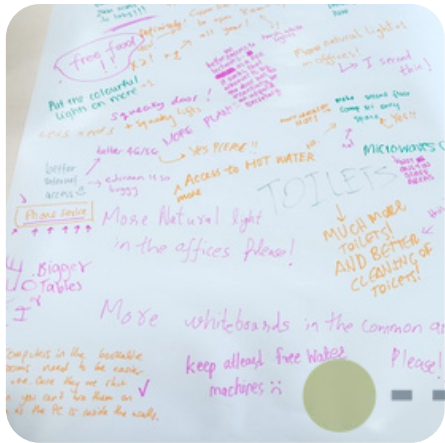
“And I *feel* that that's the kind of building I *relate* to.”

**16 PGR students** with **diverse backgrounds** from all faculties were interviewed in-depth one-on-one. Along with these interviews, three sessions of the Photography Exhibition “**Sense of Belonging: People? or Space?**” were held at the Esther Simpson Building, the Newlyn Building, and the School of Civil Engineering.

The research team also invited groups that provide services to students in the spaces mentioned above to record podcasts and videos.

Eventually, **two sets of tools were proposed** based on the existing literature and the results of the above research activities.

The other set of tools allows users to **create a bridging space** in practice, which can be recognised as a practical outline.



Besides, the **cartography exercises** with undergraduates and PGRs at **Helix, Sir William Henry Bragg Building Atrium,** and **LUU PGR Lounge** (especially for PGRs) were conducted to understand their sense of belonging to those specific informal indoor educational spaces.

These materials provide inspiration for this topic from the perspectives of space design, management, practice and service providing.

One set of tools helps the toolkit users effectively **identify bridging spaces** on campus, which can also be understood as some characteristics of bridging spaces.

To present these tools more concretely, this toolkit provides three case studies at the end. The tools will be shown in the cases as checklists to help users understand them in practice.



## Audience

This toolkit contains resources such as:



narratives

artistic space  
interpretation



podcast



recommended  
readings



videos



The audience includes **scholars** engaged in related research, **practitioners** of campus space planning, **staff** who provide support to others on campus, and users of campus space - **students** and **faculty**.

PART 2:

WHAT WE  
HEARD FROM  
STUDENTS AT  
UOL...

**The University of Leeds comprises 110 buildings designed to meet the diverse needs of its students across campus facilities, including:**

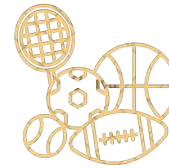
**16 food-related spaces**



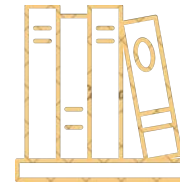
**19 accommodation inside and outside campus**



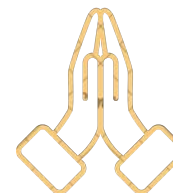
**6 sport facilities**



**4 libraries**



**6 prayer spaces**



**9 cultural facilities**

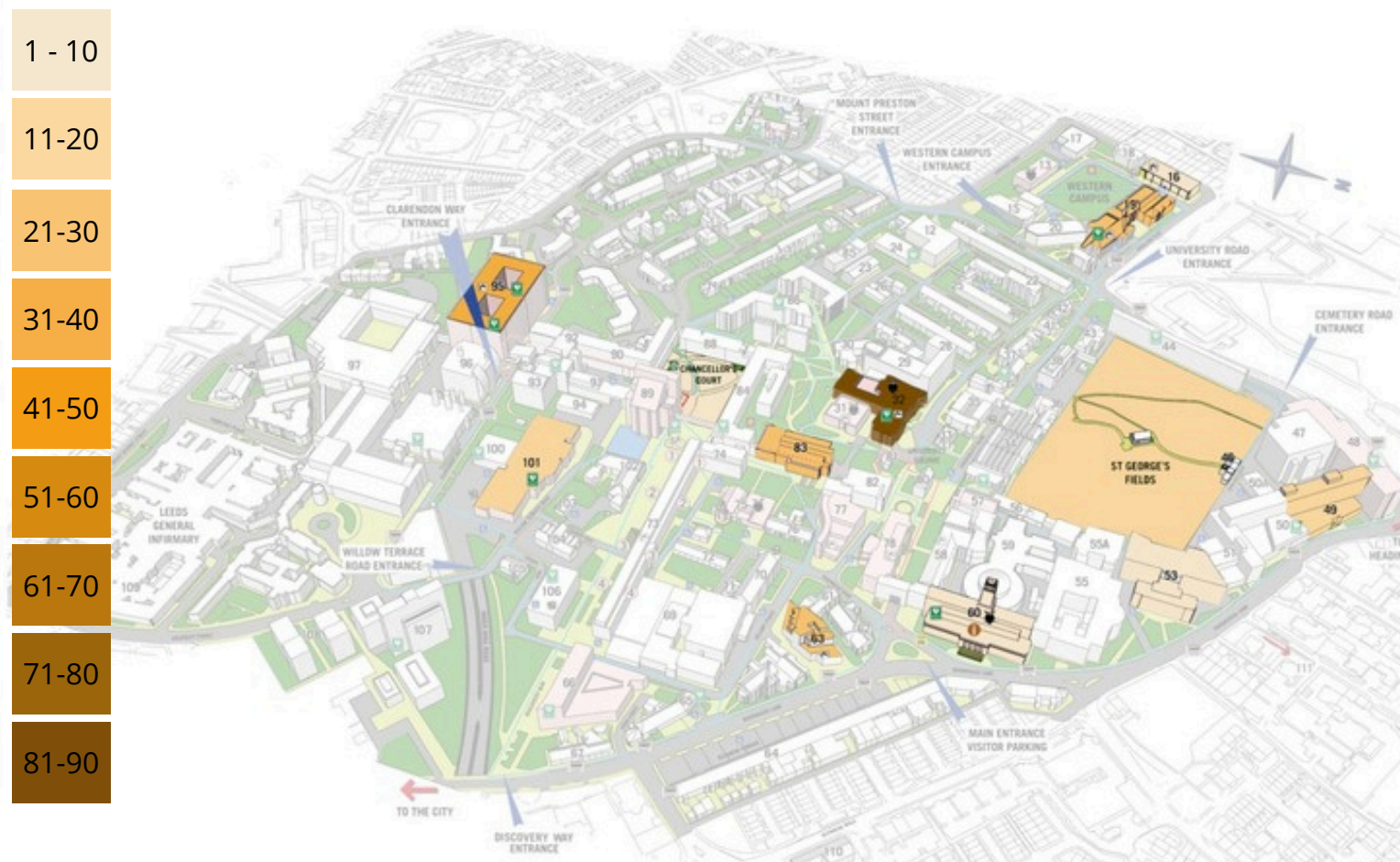
Additionally, the campus features computer clusters, teaching rooms, cash points, a print and copy bureau, an IT service desk, Student Information Services, a Security Office, accessible toilets, disabled access to buildings, baby-changing facilities, and parking spaces.

Also, there are electric car charging points, sustainable gardens, wildflower meadows, water fountains, defibrillators, bus stops, and a bike hub.

**See the map at the University website**



The following visual representation was developed based on a series of mapping exercises conducted at the University of Leeds, in which **students** (mainly undergraduates) **identified spaces** they consider central to their sense of **belonging on campus**.



A chromatic scale was applied to represent these responses, with **darker colours assigned to areas where students reported the strongest sense of belonging (81-90)**. As the scale lightens, it indicates spaces perceived as having a lower sense of belonging.

The map shows that **Leeds University Union (LUU)** ranks where students feel the **strongest sense of community**.

Other key buildings and areas contributing significantly to students' sense of belonging include the Worsley Building, Maurice Keyworth Building, Edward Boyle Library, Laidlaw Library, Parkinson Building, Bragg Building, Civil Engineering Building, The Edge, Chancellor Court, and St George's Field that serves as a prominent open space.

# Space-related Challenges of Students' Belonging on Campus – Voices from Undergraduates



For undergraduates, the main factors in building a sense of belonging include learning experiences, extracurricular activities, and social networks.

**Physical elements do affect the above factors that related to creating a sense of belonging. Most of the elements are related to the functions of spaces.**

Equipment for studying in the educational space is essential to students; furniture and amenities that facilitate students' learning experience and activities cannot be ignored; space that provides enough capacity, and spatial types that meets both interactive and private requirements are also considered.

Wilson, R., Murray, G., & Clarke, B. (2018, 2-5 July). The RMIT belonging strategy: Fostering student engagement in higher education. In D. Wache & D. Houston (Eds.), *Research and development in Higher Education: (Re)valuing Higher Education* (41, pp. 257-266). Adelaide, Australia.



We asked:

## What would you change in the space?

Students said:

FEW MORE WIDESCREEN MONITORS (DOCKING STATIONS)

MORE COMPUTERS

GET RID OF THE WEIRD BENCHES. V.S., I LIKE THE BENCHES; YOU CAN LOUNGE ON THEM :)

MORE SEATING

HEATING IN MEETING ROOMS FOR THE WINTER PERIOD!

BETTER SOUND INSULATION BETWEEN MEETING ROOMS

EXPAND THE SPACE?

CLEAR OUT SOME OF THE CLUTTER IF IT IS IMPORTANT IT SHOULD BE ON A WALL NOT A TEMPORARY PULL-UP BANNER.



Multiple accessibility requirements affect the sense of belonging. The diverse requirements for spatial accessibility include physical space, time, and virtual online factors. **An essential premise of access is visibility, meaning space needs to be seen and known before use.** This is a systematic process.

**From a physical perspective, it involves designing a spatial planning and signage system for the entire campus to provide students with accurate navigation.**

**From a non-physical perspective, it involves "promoting" spaces on campus through multiple channels.**

**The navigation system** within spaces cannot be ignored and is directly manifested as clear signs. The signs not only point the way but also guide the use of space and facilities, realising the functionality of the space.

Another relevant element is available time. The duration of use or occupation of a space is strongly related to establishing a sense of belonging.

A potential cyclical pattern is that the longer the time spent in a space, the easier it is to develop a sense of belonging; and the more belonging one feels, the more time one tends to spend in the space.

Therefore, in addition to considering the opening hours of different spaces on campus, the means of regulating the usage time have also become necessary, such as the online reservation system.

## Students say:

NOT MANY STUDENTS ARE AWARE OF WHAT GOES ON HERE. MORE EMPHASIS ON EVENTS, MADE MORE ACCESSIBLE

TELL MORE PEOPLE ABOUT IT WHEN THEY JOIN UNI - MAYBE AN EVENT DURING FRESHERS' WEEK. I DIDN'T KNOW IT EXISTED!!

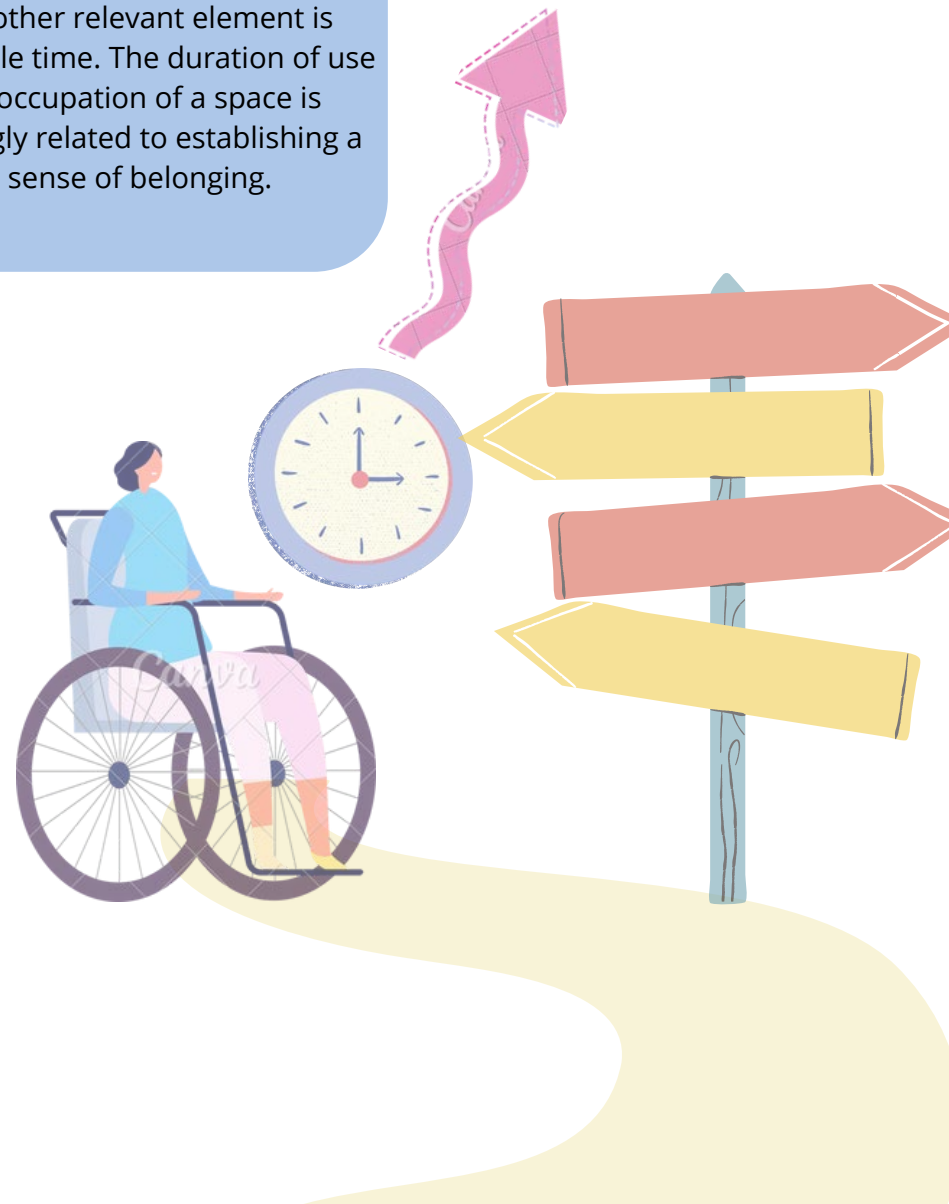
SIGNS TO BE CLEARER AS IT IS EASY TO GET LOST.

LARGER ROOM NAME/NUMBER SIGNAGE TO HELP EVERYONE FIND THEIR WAY AROUND INDEPENDENTLY.

ALLOW US TO STAY LONGER

OPEN ON WEEKENDS?

IF SOMEONE DOESN'T CONFIRM BOOKING IN 30 MINS, CANCEL IT (LIKE THE LIBRARY BOOKING SYSTEM)



**Immaterial social and emotional elements** are ubiquitous in physical spaces. The atmosphere in a space can summarise those complex intangible elements.

The function design of the space can reflect the groups it is targeting, and **students also define themselves through the function of a space they are using.**

## We asked: **What would you change in the space?**



Students say:

CAN FEEL LIKE IT'S NOT AIMED AT STUDENTS SOMETIMES

FEELS A BIT CLOSED OFF/NOT INVITING IF YOU WERE JUST TO WALK IN/ SEEMS LIKE ONLY TECH PEOPLE ARE ALLOWED.

I WONDER IF THAT WAS A CONSIDERATION IN THE DESIGN, BECAUSE I FEEL THAT IT EXCLUDES PEOPLE. THE SPACE DOES NOT ALLOW FOR A LARGE NUMBER OF INDIVIDUALS. MANY PEOPLE WILL NOT BE ABLE TO EXPERIENCE THE AMBIENCE AT A TIME.

HOW DO YOU PICK THE MUSIC PLAYLIST? LET'S JOIN IN :)

WHO USES THE LOCKERS? SHOULD BE ACCESSIBLE/AVAILABLE TO PGRS...

The social atmosphere is related to the user groups in the space—**who will be active there?** Thus, this is an extension of the physical function.

The atmosphere individuals perceived is challenging to be unified, but there are universal aesthetic principles or likes and dislikes.

**To allow students to participate in space design is the way of enhancing the diverse and inclusive characteristics of atmosphere in spaces.**

# Space-related Challenges of Students' Belonging on Campus –

## Voices from PGR Students



For **PGR students**, their learning and lifestyle are different from undergraduates. Therefore, private spaces including offices and laboratories, and interactions facilitated professional academic development are important for building a sense of belonging.

PGR students have a different expectation and voices for belonging in campus spaces. Their opinions reminded us of the highly subjective nature of belonging, and it likes a system composed of many different variables, and small changes can impact their sense of belonging. In addition to those mentioned by undergraduates, their requirements for space design place particular emphasis on functionality and privacy, extending from campus to accommodation.

Carvalho, L., & Freeman, C. G. (2022). Materials and Places for Learning: Experiences of Doctoral Students in and around University Spaces. *Postdigital Science and Education*, 5, 730–53. <https://doi.org/10.1007/s42438-022-00328-x>.



Their international identity, mature age, and the blurred boundary between students' and research staff's identities all lead to various needs for belonging. For many, campus life is no longer a student life but a workplace experience; thus, they feel they do not belong in some popular campus spaces, for instance, the LUU.

Instead, they tend to develop a stronger attachment and ownership to a private workplace, such as offices or laboratories. The challenge is that, on the one hand, they have high requirements for the above personal space. However, on the other hand, they are troubled by the fact that this requirement, which is isolated in nature, limits their integration with the university campus space and life.

Carvalho, L., Freeman, C. G., Kearney, A., Mentis, M., & Martinez-Maldonado, R. (2018). Spaces of Inclusion and Belonging: The Learning Imaginaries of Doctoral Students in a Multi-Campus and Distance University. *Australasian Journal of Educational Technology*, 34(6), 41–52. <https://doi.org/10.14742/ajet.4483>.



# Space-related Challenges of Students' Belonging on Campus –

## Voices from PGR Students



We asked:

### What would you change in the space?

Students said:

WE WERE THINKING OF A DEDICATED SPACE FOR OLDER PGR, BUT I DON'T THINK THAT WORKS. YOU KNOW, THAT'S NOT NICE. YOU WON'T. YOU KNOW WHAT I MEAN? SO MANY OF MY FRIENDS ARE MUCH LIKE MY OWN PEERS IN THE SCHOOL OF HISTORY ARE VERY YOUNG.

AND I GUESS YOU KNOW AT LEAST WITHIN MY GROUP; WE ALL HAVE A CENTRAL KIND OF OFFICE WHERE WE ALL WORK. SO, THERE'S THAT KIND OF LIKE FRIENDSHIP THAT BEGINS TO DEVELOP ROUTINES, WHETHER PEOPLE END UP GOING FOR LUNCH TOGETHER AND THAT THAT LUNCH TURNS INTO, YOU KNOW, FRIENDSHIPS OUTSIDE OF THE UNIVERSITY.

WHEN YOU THINK ABOUT THE UNIVERSITY AS A WHOLE INSTITUTION, YOU'RE KIND OF A REALLY SMALL PERCENTAGE OF THE STUDENTS HERE ANYWAY. SO, A LOT OF THE THINGS OUTSIDE OF YOUR SCHOOL OR YOUR FACULTY AREN'T REALLY CATERED TO YOU. THEY'RE ALL CATERED TO UNDERGRADUATE STUDENTS, MASTER STUDENTS. SO, YOU FEEL LIKE, YES, YOU, YOU CAN PARTICIPATE IN DIFFERENT ACTIVITIES AND STUFF ACROSS THE UNIVERSITY, BUT YOU KIND OF FEEL SEPARATED TO SOME EXTENT WHERE YOU'RE THERE, BUT YOU'RE NOT REALLY LIKE.

I DON'T LIKE MY OFFICE, AND I RARELY GO THERE. IT'S A KIND OF HOT DESK SYSTEM, LACKING STABILITY AND OWNERSHIP. OF COURSE, THIS MAY BE GOOD FOR IMPROVING RESOURCE UTILISATION, BUT I DON'T FEEL A SENSE OF BELONGING TO THE OFFICE.



PART 3:

WHAT WE  
THOUGHT  
ABOUT...

# Spatial Design Matters

The social and emotional aspect is usually the main focus of the sense of belonging. While there has not been a deep focus on physical spaces' influence on a sense of belonging.

However, educational spaces should be physically perceived and lived, and they influence students' experiences of belonging.

## Appearance

### Learning Experience - Architectural space design based on educational functions

Buildings and spaces, as physical constructions, impact the way students perceive the environment, their cognition, experiences and behaviours.

The purpose of buildings is not only to house activities but to provide of a learning experience. Observing a building or a space on campus is educational by itself because our relationship with a building initiates with the first glance towards it. Buildings and built environment have a deep relationship with human feelings and behaviour.

Therefore, the transactions of individuals and physical settings is one of the focuses of environmental psychology.

Gifford, R., Kormos, C., & McIntyre, A. (2011). Behavioural dimensions of climate change: drivers, responses, barriers, and interventions, *WIREs Clim Change*, 2(6):801-827. <https://doi.org/10.1002/wcc.143>.



Goldberger, P. (2012). *Por qué importa la arquitectura*. Madrid: Ivory Press.



Salama, A.M. (2015). *Spatial Design Education: New Directions for Pedagogy in Architecture and Beyond*. Education: new directions for pedagogy in architecture and beyond (new edition by Routledge). Ashgate Publishing Ltd, Surrey.



# Interior

Measurements in space are everywhere and determined by diverse circumstances, needs of users, and functionalities of spaces.

**The concept of built pedagogy is associated with the physical settings, for instance, buildings, interior spaces such as lecture halls, furniture, level of illumination and noise, which have a deeper relation with educational matters.**

Also, spaces may be the setting that allows individuals to proceed into action, which can be divided into different categories such as discursive, cognitive, existential and material.

Therefore, it is essential to consider questions: who the space is designed for?

What activities the users will use the facilities to complete in the space?  
What the size of those facilities is?

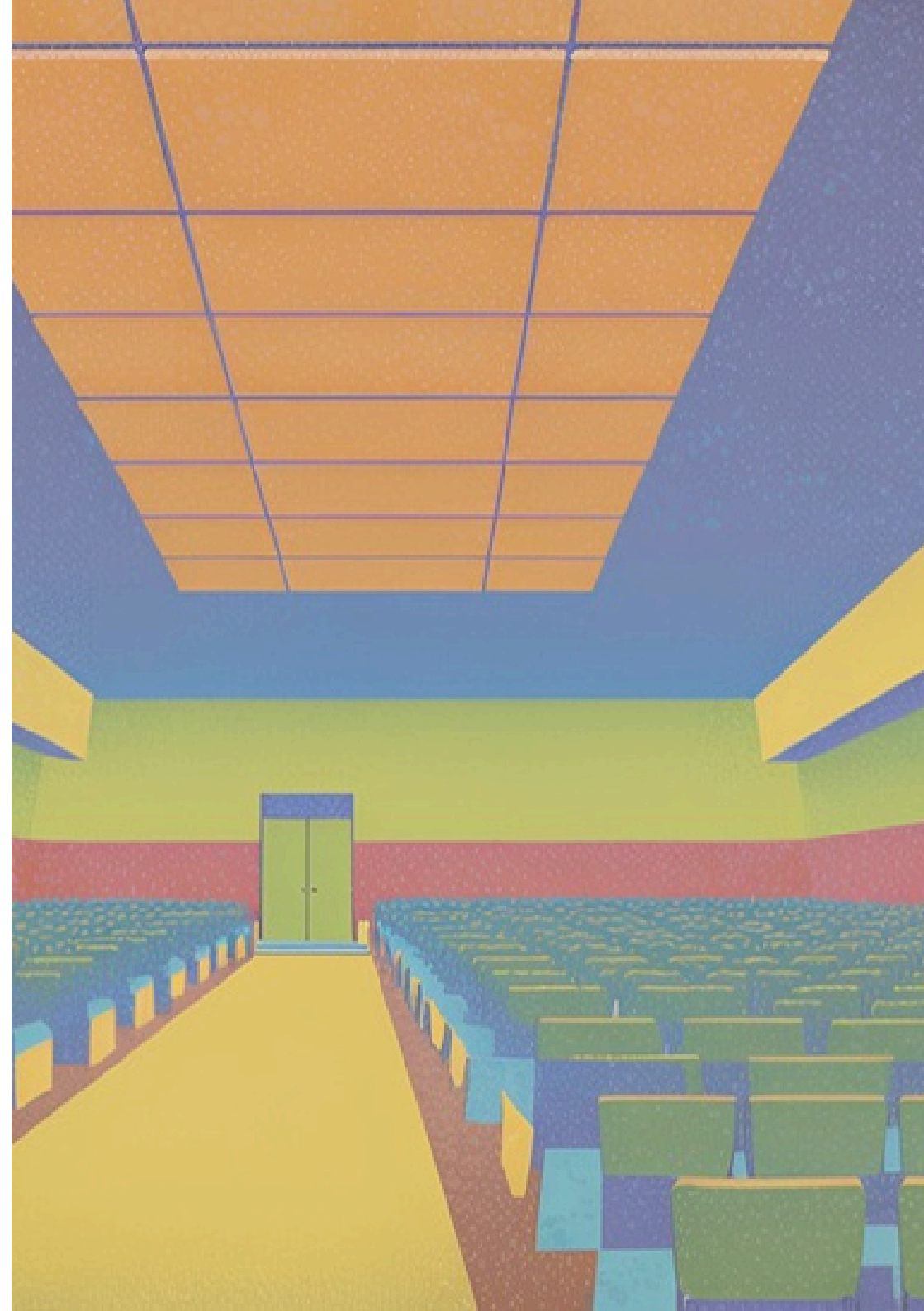
Monahan, T. (2002). Flexible space & built pedagogy: emerging IT embodiments. *Inventio* 4(1). [https://publicsurveillance.com/papers/built\\_pedagogy.pdf](https://publicsurveillance.com/papers/built_pedagogy.pdf).



Kister, J., & David, S. (2012). *Architects' data* (4th ed.). Blackwell Publishing Ltd, West Sussex.



Painter, S., Fournier, J., Grape, C., Grummon, P., Morelli, J., Whitmer, S., & Cevetello, J. (2013). *Research On Learning Space design: Present state, Future Directions*. Society for College and University Planning. *Research On Learning Space design: Present state, Future Directions*.





# Aesthetics

## Atmospheres - The connection between materiality and emotion

Space is a collection of substances. Material is inanimate but it can stimulate animate emotions. The interaction between physical space, architecture and its users are in an emotive way.

The term "atmosphere" can be used to connect the tangibility of space with the intangibility of human emotions. The atmosphere consists of nine main factors and three additional factors.

These factors involve all elements that are concerned with spatial design facilitation on creating sense of belonging.

On the one hand, spatial design needs to use material as a carrier to mobilise the human perceptual system, generating emotions including a sense of belonging.

The design process should consider the physical materials, form, layout of the building or space and furniture placed in its, temperature control, sound effects, and light systems.

These can stimulate users' touch, sight, hearing and smell. On the other hand, the user's personal emotional needs and social emotional needs have to be met through the design and layout of the physical structure and materials in a space.

Zumthor, P. (2006). Atmospheres: Architectural Environments. Surrounding Objects. Birkhäuser.

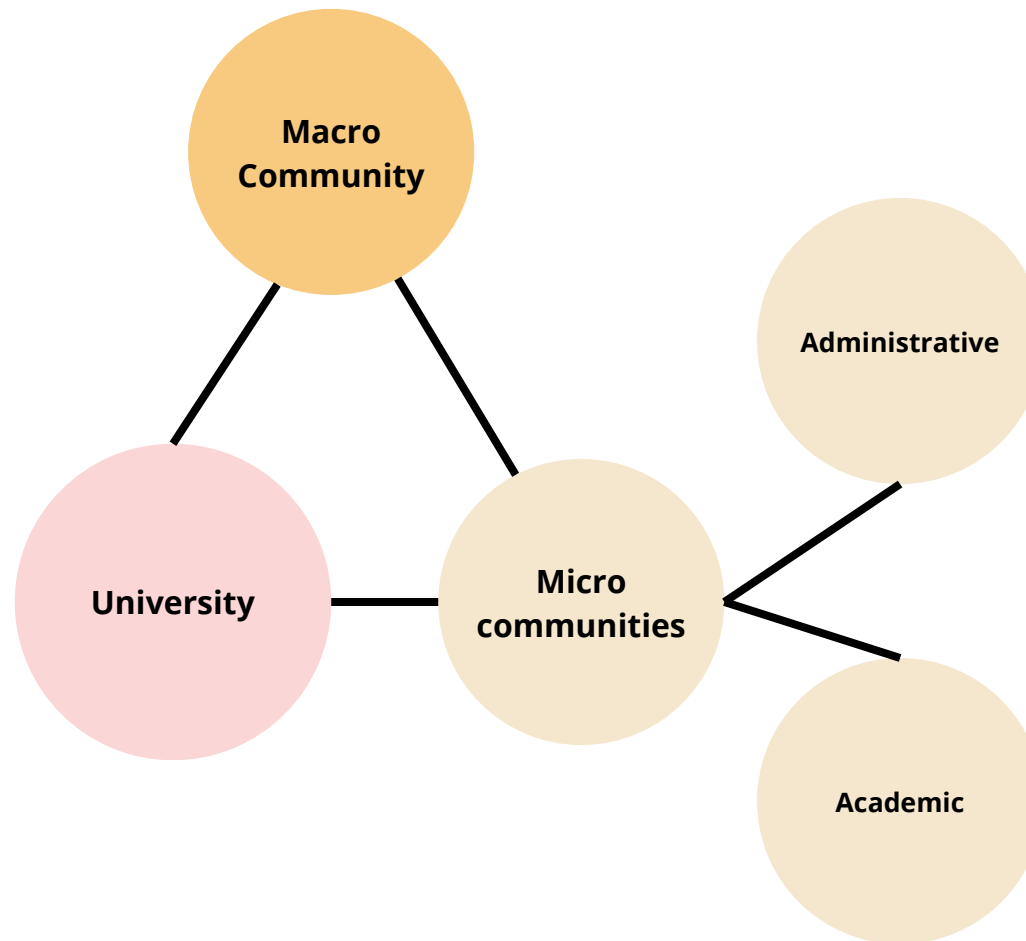


# Multiple Dimensions of Sense of Belonging

A sense of belonging is never a single level, but **multi-dimensional**, because of the multiplicity of individual identities and the multiplicity of the communities in which the individual lives. In the context of HEIs, this multidimensionality can be explained as follows.

The **university is the macro-community**, under which there are many sub-communities or micro-communities. They may be based on administrative or academic levels and divisions, such as undergraduates, postgraduates and PGRs, or students from different faculties, schools, subjects/programmes, and modules. They may also be based on other factors, such as different student associations.

In a macro sense, they are all major members of the university community. Based on the above macro-community and micro-communities the following questions are raised:



**1. How can we make them feel a sense of belonging to the macro-community of the university?**

**2. How can we make them feel a sense of belonging to the micro-communities they are in?**

**3. What is the difference between their sense of belonging to the macro-community and the micro-communities?**

**4. How can we promote their sense of belonging to both the macro-community and the micro-communities?**

Brodsky, A.E., & Marx, C.M. (2001). Layers of identity: Multiple psychological senses of community within a community setting. *Journal of Community Psychology*, 29: 161-178. [https://doi.org/10.1002/1520-6629\(200103\)29:2<161::AID-JCOP1011>3.0.CO;2-1](https://doi.org/10.1002/1520-6629(200103)29:2<161::AID-JCOP1011>3.0.CO;2-1).



Ideally, students can recognise the differences between their university community identity and those who are outside the university. Therefore, they can develop a sense of belonging to the university, while also being able to maintain a sense of belonging to diverse sub-communities within the university in their daily practice.

Maintaining this ideal balanced relationship involves factors such as values, needs, and emotional or spiritual bonds. This is a process of mutual support and interdependent development among the university, departments and associations.

Consistency of values means that even if sub-communities within a university have their own values and interests, their core values must be consistent with the core values of the university.

Meeting students' needs means that on the basis of shared values, sub-communities must be able to meet students' actual needs. Otherwise, the value of the university as a macro-community will become unconvincing. In other words, any core values from the macro level need to be implemented in daily campus life.

Through this to create macro-shared emotional and spiritual bonds, establishing the boundary between the university community and the outside.

**Sharing emotional and spiritual bonds means that the university should provide the possibility/bridge for communications between members in sub-communities, respecting their values.**



# Architectural Scales Impact on Multiple dimensions of Sense of Belonging

The architectural scale helps people to understand their surroundings and how they feel the environment. The scale could influence the sense of belonging but not necessarily. Imagine...

## Airport

Airports can often feel overwhelming due to their vast scale, which may leave visitors feeling disoriented or lost. To counter this, most airports are equipped with comprehensive signage systems, as effective wayfinding is essential in such complex environments. The monumental scale of airports reflects the immense volume of passengers they serve and the wide range of activities that take place within them.



## Football Stadium

If you are in a football stadium (big scale) you might not know others around you.

However, you might feel connection with them because of the ongoing matches through the "atmosphere", and it is not the intimacy generated by the scale.



## Home

Now you are in a building that is designed for four to five people in average (human scale) and held in private, where you might call it "home".

This concept might develop into more intimate space in your daily life.



Throughout these examples, we understand the relevance and involvement between scales, distance, proximity, environment and atmospheres.

**Intimacy is a crucial idea that has been mentioned a lot. It is related to dimensions and scales of buildings and spaces, leading them to communicate with themselves and environments around them. Intimacy is a transaction between architecture and users.**

Users sense this transaction by experiencing components of buildings, such as structure, materials, layout and decorations.

Therefore, "scale", "size", "looking" and "feeling" of buildings can influence human perception, making users feel like intimate or non-intimate to spaces.

## Middle Scale

Some spaces or collections of spaces constitute the middle scale/dimension includes, for example, faculties, schools, and even libraries.



University has a particular scale that houses different types of dimensions.

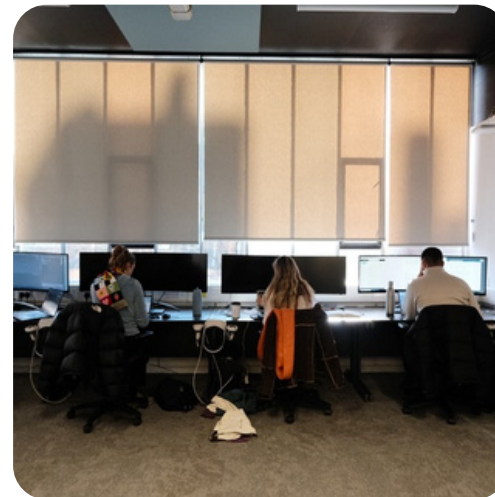
## Institutional Scale

University or institutional scale/dimension includes every space that conforms the entire campus.



## Small Scale

Many individual spaces such as classrooms, lecture theatres, design studios, and laboratories represent the smaller scale/dimension.



In the above three dimensions, students feel different senses of spatial intimacy, thus their sense of belonging in each dimension is also different.

Because space scale acts on the multi-dimensional sense of belonging in addition to the interpersonal bonds brought by social activities mentioned before.

# PART 4:

# NOW WE PROPOSE...

Spaces within universities are designed differently to accommodate the initial intentions of multiple functions. These spaces are spatially connected but conceptually working individually.

**While students feel a high sense of belonging in classrooms or design studios, perhaps their sense of belonging would start to decrease its levels when they go to other faculties or schools.**

This is a breakdown in social emotional bonds, as well as the decrease in spatial intimacy as the scale or dimension increases: the bigger the spatial scale, the lower the sense of belonging. Therefore, Bridging Spaces are necessary to communicate multiple dimensions.

# Tools for Identifying and creating the Bridging Space on Campus

## TI Set: How to identify the bridging space?

Bridging space is a channel that attempts to go through scales and dimensions. It continuously provides students with a sense of belonging as the scale is upgraded and the social bonds is interrupted, bridging the gaps between dimensions.

## The following characteristics of the bridging space can be used as a tool for identify it (TI Set):

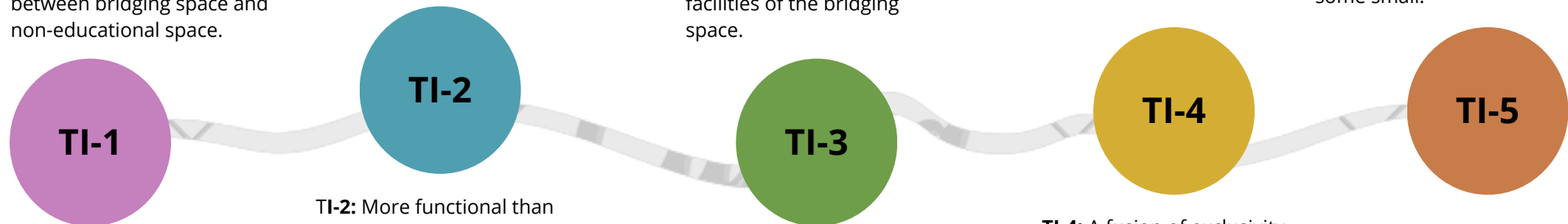
**TI-1:** Indoor spaces with the function and fundamental purpose of providing learning activities. This strictly distinguishes the difference between bridging space and non-educational space.

**TI-2:** More functional than traditional formal educational spaces. This distinguishes the bridging space from the traditional formal educational space. The bridging space would reserve the maximum possibility to encourage different learning activities.

**TI-3:** A delicate balance between seriousness and relaxed atmosphere. This is directly related to the spatial layout, spatial design and facilities of the bridging space.

**TI-4:** A fusion of exclusivity and inclusivity. Some potential boundaries are created by factors, for example, the identity of the primary user of a space. It seems hard to create an absolute inclusive and borderless space. However, the bridging space means not denying boundaries but integrating exclusivity and inclusivity.

**TI-5:** Bridging spaces also have scale. Any space must have a scale (monumental, big or human scale). Thus, there are also different scales in the bridging space, some large and some small.



# TIPS for TI-SET



## TI-1

Tips: Even though informal learning activities often occur in spaces such as canteens and cafes, their fundamental purpose is not to provide education, which cannot be identified as the bridging space.



## TI-2

Tips: We have a fixed functional understanding of lecture theatres, ordinary classrooms, laboratories, studios, and libraries. This understanding defines what activities are suitable or unsuitable for in these spaces, and also potentially defines the identity of the users of the space. Therefore, there is an invisible barrier, and it cannot be identified as the bridging space.



## TI-3

Tips: From a seriousness perspective, teaching and learning facilities are necessary as a space based on providing educational functions. The elements in its spatial design, such as layout, colour and lighting, has to meet the requirements of teaching and learning activities. However, this does not mean directly copying the spatial design of classrooms or libraries into bridging spaces. The relaxed atmosphere is the key to its difference from formal educational spaces. Therefore, other facilities, for instance, tea break facilities, are essential excepting teaching facilities; or the background music in the space can delicately balance absolute silence and moderate noise, similar to a cosy cafe.



## TI-4

Tips: Bridging space will metaphorically imply its primary target users. For instance, the activities often held in the space are with certain interest tendencies, or the space often used by a specific community. Nevertheless, its strong integration lies in the fact that all other groups are welcome to join or watch. For example, we cannot casually enter a laboratory or studio, but we can observe or even randomly join the activities are taking place in the bridging space.



## TI-5

Tips: Regardless of the scale, a bridging space should strive to meet TI-1 to TI-4, or have the potential to meet them all.

# TC Set: If you want to create a bridging space...

If you want to have a bridging space through new construction or renovation, then you need this tool for **creating** a bridging space (**TC Set**).

It consists of three components: **Component Spatial Types (TC-S)**, **Component Equipment and Atmosphere (TC-E)**, and **Component Accessibility (TC-A)**.

## Component TC-S:

### TC-S1: Plenty of flexible space

Regardless of scale, most space in a bridging space should be allowed for flexible arrangements and use rather than being permanently fixed to a particular purpose.

### TC-S2: A certain number of separate quiet spaces

The capacity of independent, quiet areas needs to be controlled in a bridging space. Its goal is not to build more very quiet study rooms but to reserve some private spaces in the wide connection.

## Component TC-E:

### TC-E1: Diverse teaching and learning equipment

Movable tables and chairs, movable large-size display screen, movable whiteboard, multimedia equipment... In a bridging space, teaching and learning implementation mobility is more important.

### TC-E2: Catering equipment

An area with drinking water, hot water, a microwave and a Coffee machine can keep users longer.

### TC-E3: Different types of furniture

The furniture in a bridging space needs to be consistent with its spatial design and versatility. This means that we may see various furniture types and designs here, highlighting the difference between the bridging space and other educational and non-educational spaces on campus.

### TC-E4: Colour scheme

A vibrant colour scheme should be the first choice for a bridging space. However, vibrant does not mean strong impact and stimulation, and cosy is one of the most mentioned appeals we heard.

### TC-E5: Green plants

Another element related to cosiness is green plants, which extend the outdoor natural environment into the interior.

### TC-E6: Adequate natural lighting

Almost all participants who contributed ideas mentioned that they needed plenty of natural lighting. This means that a bridging space needs a sufficient number and size of windows to introduce the natural lighting.

### TC-E7: Appropriate background music

A very special discovery is that appropriate background music in a bridging space can strike a good balance between moderate noise and excessive silence. Imagine sitting in a cosy cafe, with the background music and people coming and going; you can just concentrate, but you will not feel nervous or depressed because of excessive silence. However, on the other hand, the sound insulation performance of separate quiet spaces need to be guaranteed.

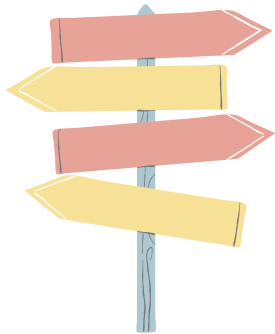
### TC-E8: Equipment for temporary ownership

It cannot be ignored that ownership directly affects the sense of belonging. Some equipment, such as lockers, can provide users with temporary ownership.

## Component TC-A:

### TC-A1: Clear signage

Clear signage needs to be provided at two levels: on campus to provide directions to the bridging space and within the bridging space to provide navigation to each area and facility.



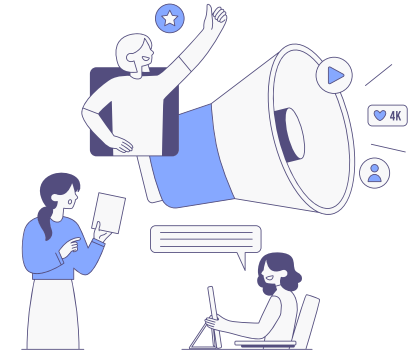
### TC-A2: Opening hours

The longer users use a space, the easier it is for them to feel a sense of belonging. Considering the practicality, it is difficult to provide a 24/7 accessible bridging space. Nevertheless, extending the opening hours as much as possible is helpful.



### TC-A4: Online reservation system

An easy-to-use online booking platform and information system combined with the QR code in the space can improve its usability.

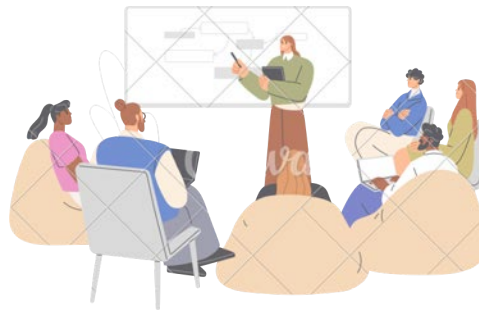
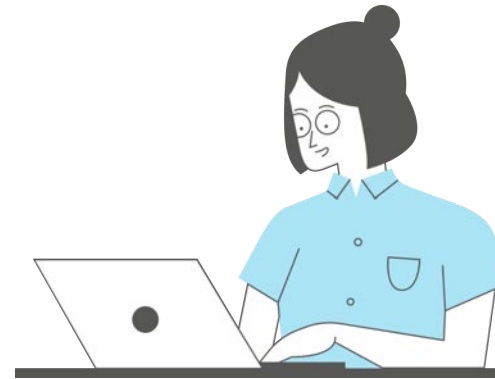


### TC-A5: Publicity strategies

This is a considerable challenge identified by this toolkit. There are already some almost mature or developing bridging spaces on campus, but only a few people know about their existence. This is one of the biggest dilemmas in bridging spaces at present: they are less well-known than libraries and classrooms in schools. Therefore, publicity strategies are needed to be included in the plan of having a bridging space. For example, bridging spaces should be introduced at the new student induction of each school. Also, bridging spaces should have more opportunities to be used as venues for various academic activities. On the other hand, it reveals that to sustainably manage and operate bridging space, more collaborations with other departments within the university are essential.

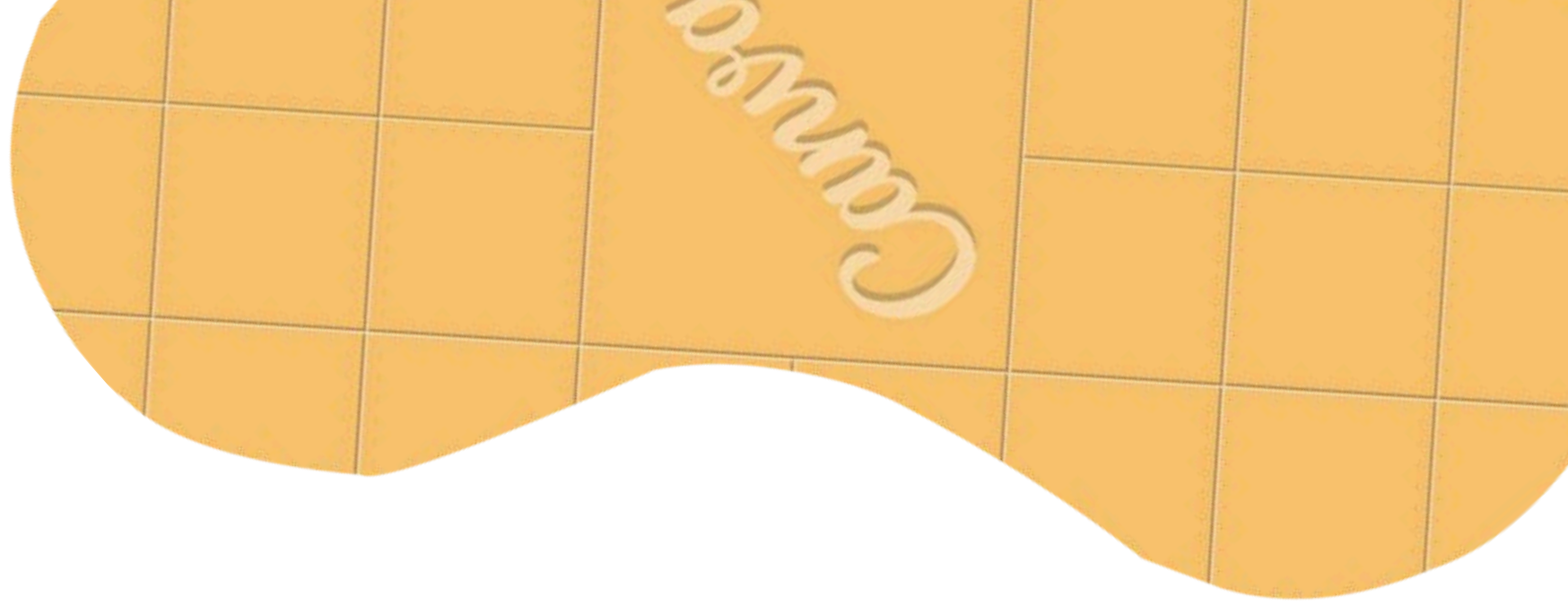
### TC-A3: Staff

Friendly and inclusive staff contribute to the dynamic and welcoming atmosphere of a bridging space. Adding part-time student positions would help connect the student community to the space and could potentially extend opening hours.



PART 5:

WE ALREADY  
HAVE



**Sir William Henry Bragg Atrium is situated within the seven-story Sir William Henry Bragg building.**

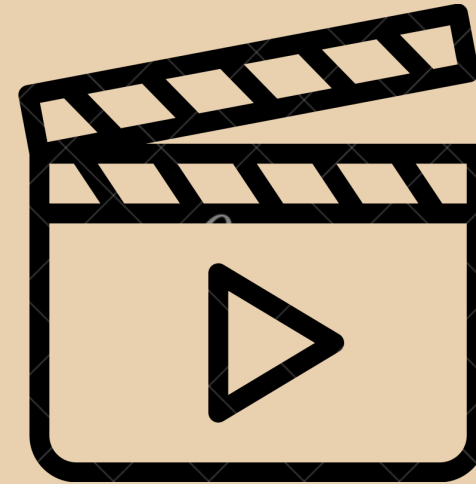
The Sir William Henry Bragg building is located northeast of the well-known open space of St George’s Field, facing Woodhouse Lane. It is part of the Faculty of Engineering and Physical Sciences and opened in 2022. The main façade features carefully designed green areas with benches and lavender plants, creating an inviting and welcoming atmosphere that draws students and staff into the building. The building has several entry points, including access from Civil Engineering through an indoor corridor facing Woodhouse Lane, from the main façade, and via the open corridor leading to the Clothworkers building.

The Atrium is designed to be inclusive and welcoming, featuring wheelchair accessibility and abundant natural light. Its open layout connects seamlessly with various key spaces, allowing it to function as a workspace, meeting area, reception, or conference venue. It houses one of the University’s coffee shops, “The 1915”. This coffee shop integrates seamlessly with the main Atrium space, creating a relaxed and dynamic environment. The area’s natural noise and activity level offer a balance that helps users feel connected to the academic setting, whether they wish to unwind or focus.

**Click here to get more information:**



**People say:**



From every morning, the Atrium welcomes people coming and going. Although it is located in the School of Physics, it is not a space exclusively for students and faculty from Physics. Coffee, green plants, comfortable furniture, a transparent roof, and plenty of natural light—welcome to Bragg Atrium. How many spaces like this are there on the campus, trying to attract a wider university community to meet and converge...

## Rivea Jefferson



**Student Communities Coordinator  
Academic Engagement Team, Leeds University Union**



*"I have seen a whole host of different common rooms and student spaces, and a few stands out most positively...the common room in the English department, where students can go and study and relax between seminars and lectures. One of the first things I noticed when I got it was its style. It's very cosy. Especially this time of year been around about December. It was decorated really well: Christmas trees, lots of lights, tinsel, all the things that you need to make a space feel comfortable... **One of the other things that I think helps that space to foster a sense of belonging for students is that there's a notice board that's got pictures and information about the English Society.** It is a society within the union run by English students. As an academic society it's just really great because then students can start seeing community leaders maybe able to point them out work alongside them for things and know who to go to..."*

*One of the spaces that I'm somewhat familiar with in terms of that I've heard other people talk about it, but I've not actually visited it myself is the Bragg Building. I'm under the impression that is a space for the physics students, however the space is so inviting, it attracts students who don't study physics as well. I think that's great in terms of the it's engaging students. It's a space that students want to be at, but then this the sort of question is does that impact the sense of belonging for the physics students, who would typically want to spend time with the course mates, with peers, with people who are studying the same course as them...? ...and I think the challenge is not only creating a space but how do we make it inviting for particular groups of students."*



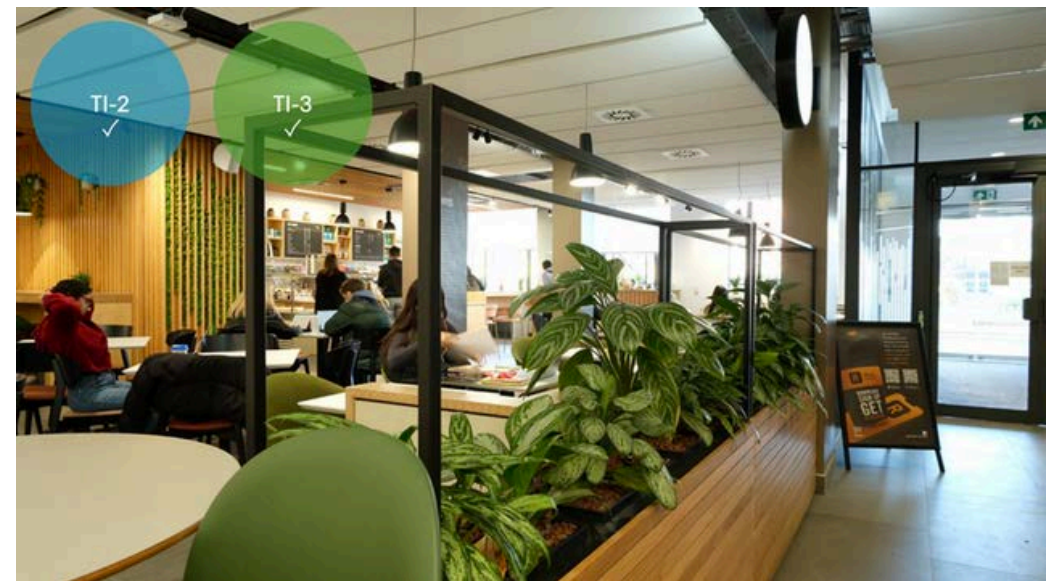
## Bridging Space Tools Checklist

Is Sir Willam Henry Bragg Atrium a bridging space?  
**YES, with potential to be improved.**

	Yes	No
TI-1 Indoor spaces with the function and fundamental purpose of providing learning activities.	✓	
TI-2 More functional than traditional formal educational spaces.	✓	
TI-3 A delicate balance between seriousness and relaxed atmosphere.	✓	
TI-4 A fusion of exclusivity and inclusivity.	✓	
TI-5 Bridging spaces also have scale.	Human	



Bragg Atrium has TI-1: Indoor spaces with the function and fundamental purpose of providing learning activities.



Bragg Atrium has TI-2: More functional than traditional formal educational spaces and TI-3: A delicate balance between seriousness and relaxed atmosphere.

## What does Sir Willam Henry Bragg Atrium have?

	Yes	Partly/Improving	No
<b>Component TC-S</b>			
TC-S1 Plenty of flexible space			✓
TC-S2 A certain number of separate quiet spaces	✓		
<b>Component TC-E</b>			
TC-E1 Diverse teaching and learning equipment		✓	
TC-E2 Catering equipment		✓	
TC-E3 Different types of furniture	✓		
TC-E4 Colour scheme	✓		
TC-E5 Green plants	✓		
TC-E6 Adequate natural lighting	✓		
TC-E7 Appropriate background music			✓
TC-E8 Equipment for temporary ownership			✓

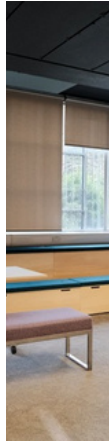


Bragg Atrium has TI-4: A fusion of exclusivity and inclusivity and TI-5: Bridging spaces also have scale.

	Yes	Partly/Improving	No
<b>Component TC-A</b>			
TC-A1 Clear signage		✓	
TC-A2 Opening hours			✓
TC-A3 Staff		✓	
TC-A4 Online reservation system		✓	
TC-A5 Publicity strategies			✓







## **Helix is located on Level 7 of the EC Stoner building.**

The EC Stoner building is a rectangular structure near key campus landmarks such as the Edward Boyle Library (to the northwest), Roger Stevens (to the southwest), and The Edge (to the south), which is home to several schools, including Physics and Astronomy, Food Science and Nutrition, and the School of Computing.

Helix is a multifunctional educational space that opened in 2023. It is designed primarily for teaching and learning, with a strong emphasis on innovation and collaboration. Its flexibility makes it ideal for both independent and collaborative study and for hosting events and conferences. The space follows the linear layout of the EC Stoner building and is entirely wheelchair accessible. The space is organised into the following areas, from west to east, to support various educational and creative activities, fostering innovation, collaboration, and communication.

**Click here to get more information:**

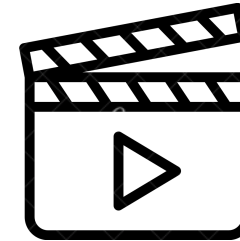


## Chris Thompson



**Head of Digital Media in Innovation, Business Lead for Helix,  
Digital Education Service, University of Leeds**

**People  
say:**



*"Helix is a particularly special place on campus. It exists to offer our staff, students, and connected community access to the technology, creative experiences, and collaborations that they might need to succeed. Whatever their needs might be, we were set up in collaboration with our stakeholders, including our students, right from the outset. We designed together what this facility might offer to ensure we meet the needs of those who will be accessing it..."*



## Peter North & Kerr Hunter



**Innovation Space Manager,  
Helix, Digital Education Service, University of Leeds**

**Senior Community Development Manager,  
Helix, Digital Education Service, University of Leeds**



### **Peter**

*"I'm loving the job. I think it's a very varied role even though it is kind of folks multiple facilitate and helping people use and get in the space. Having what's university for many years, I think bringing a lot of knowledge into the space and how the space can be used and so get out there to the wider communities, I've definitely helped myself.*

*This such wide diverse of users in the space and I think that's what's of planting that seed of creativity amongst sort of students that didn't really have a space to sort of be creative...*

*Our Helix is positioned itself as well with it been a central space for everybody, I think that's helped students have taken a bit of ownership..."*

## **WE FEEL LIKE WE BELONG TO HELIX**

### **Kerr**

*"We want to make sure people know we exist and also know how to access everything we can do so that comes to spaces and equipment. Also think about how Helix can shape new students, so, obviously we have just finished doing open days, we've had new potential students come on campus and not knowing about Helix.*

*We've seen all sorts of the variety of different projects and different people that come into the space has been great...*

*In terms of belonging, I think hopefully what we've just described shows the variety of different people...you do get the chance to meet these people and it's obviously a space of people. You can work independently, but you can work in groups, you can work in big spaces, small spaces... I think it's the opportunity to meet people and to speak to people that is there if you want it. I think that's one of the key things..."*



# Pooja Gopikrishnan & Raul Dena Medecigo



**Master Graduate of the University of Leeds  
Medicine PGR at the University of Leeds**

**Part-time staff members, Helix,  
Digital Education Service, University of Leeds**



## **Raul**

"I remember when I came here and saw the place and I said to myself: I need to work here at one point in my life, I need to have a job here, this is definitely a great place.

For me it's been quite challenging, the creative side of this. Because I'm not that creative or maybe I have a really creative mind, like for many silly things. But I see how people are other interns, colleagues solve problems, also the staff members in healing solve problems, I see that in you... and I'm just like these guys are amazing! They are really creative! Like when it comes to problem solving things and I'm just like I need to keep up. This opportunity has allowed me to continue understanding more about the mission of Helix, that goes beyond the university, goes to the community to open all these kinds of spaces and tools to make them accessible, because they are free for all communities..."

## **Pooja**

"I want people to be more innovative and that's what sort of pushed me to apply for this role.

I think just being here has this collaborative environment wherein we can learn from everyone here. Everyone has such different talents and individual potentials that when you see someone working and just like, oh wow! I really want to learn from them. There is such a potential for growth here and that's amazing!

I think we as innovation partners we act as ambassadors for Helix and as well as for student community. So, I think we represent both sides, and it is easy for students to sort of approach us and have a sense of belonging to Helix; and it's also easy for Helix to use us as a medium to foster creativity and collaboration among students. So, that's a great feeling, it's like a circle..."



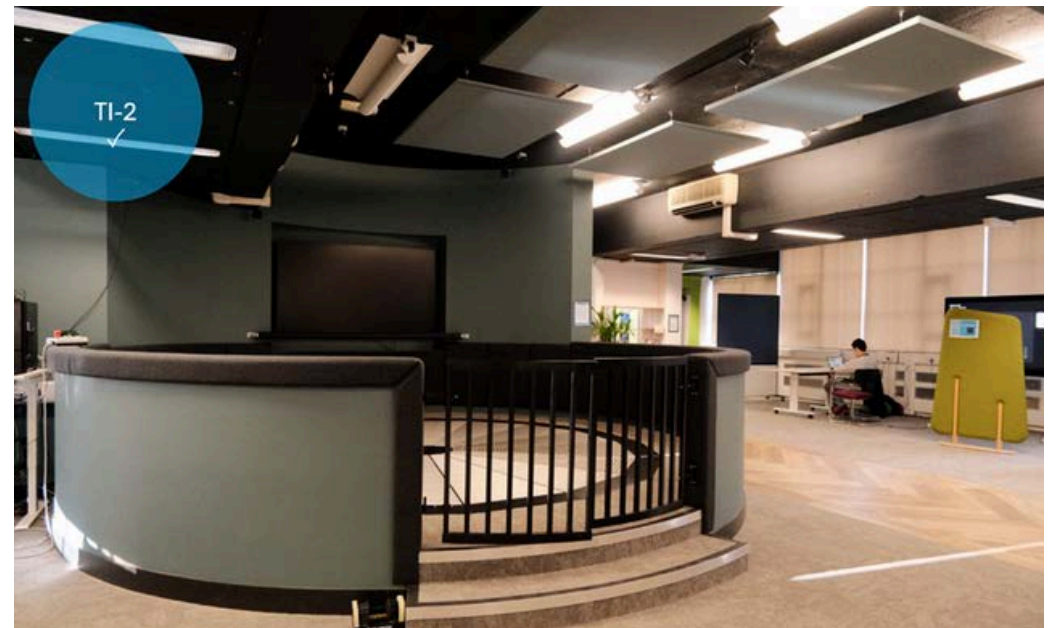
## Bridging Space Tools Checklist

Is Helix a bridging space?  
YES, a good practice.

	Yes	No
TI-1 Indoor spaces with the function and fundamental purpose of providing learning activities.	✓	
TI-2 More functional than traditional formal educational spaces.	✓	
TI-3 A delicate balance between seriousness and relaxed atmosphere.	✓	
TI-4 A fusion of exclusivity and inclusivity.	✓	
TI-5 Bridging spaces also have scale.	Human	



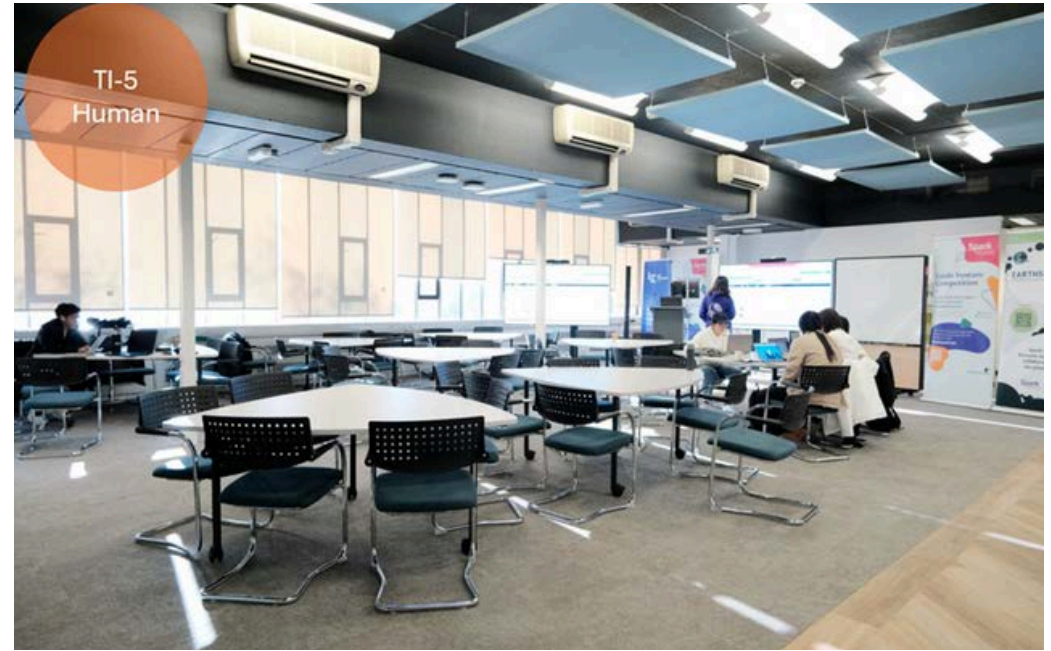
Helix has TI-1: Indoor spaces with the function and fundamental purpose of providing learning activities.



Helix has TI-2: More functional than traditional formal educational spaces.



Helix has TI-3: A delicate balance between seriousness and relaxed atmosphere.

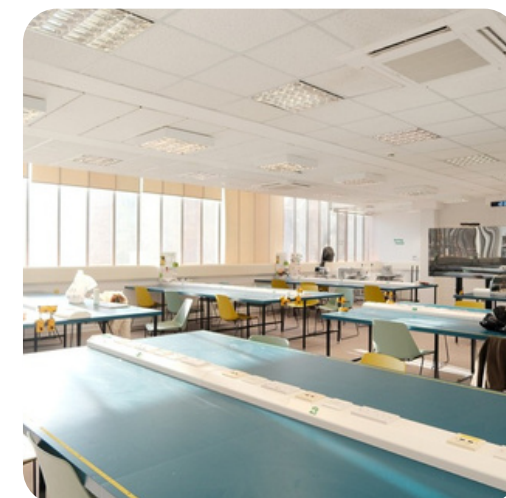
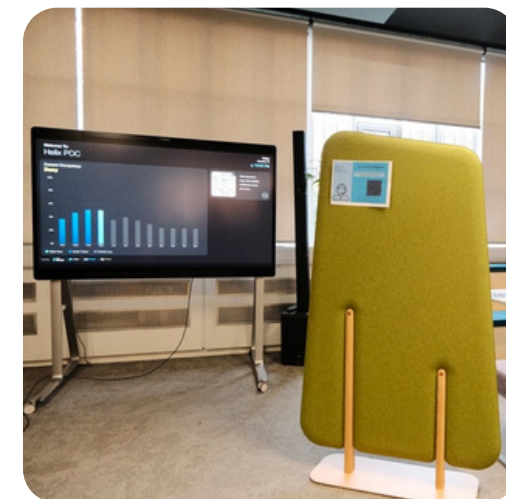


Helix has TI-5: Bridging spaces also have scale.

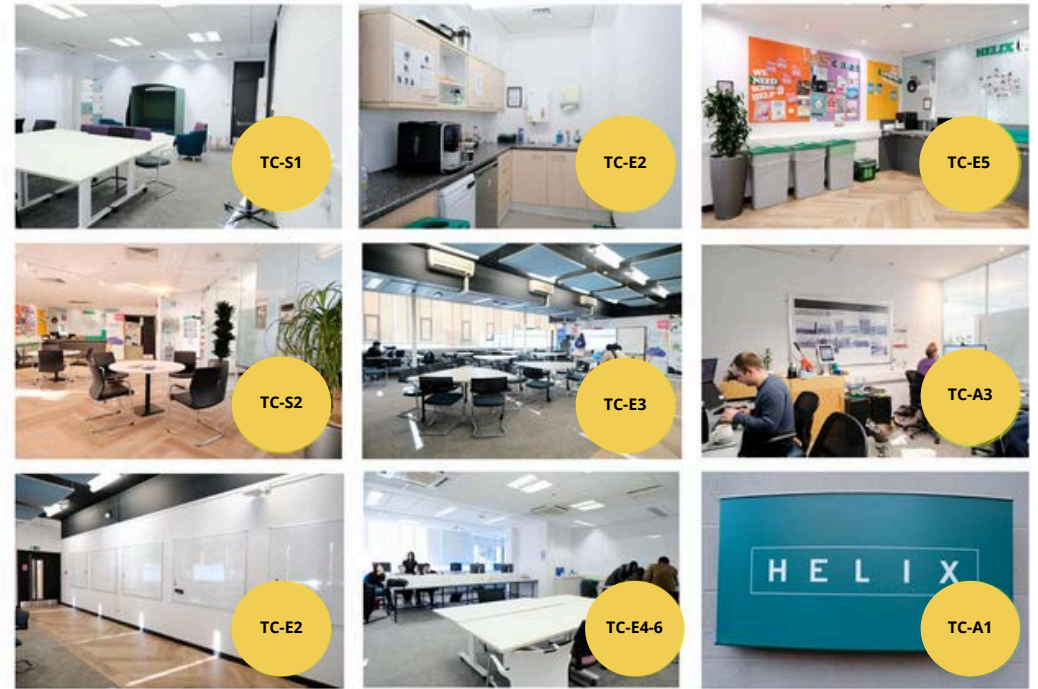


Helix has TI-4: A fusion of exclusivity and inclusivity.

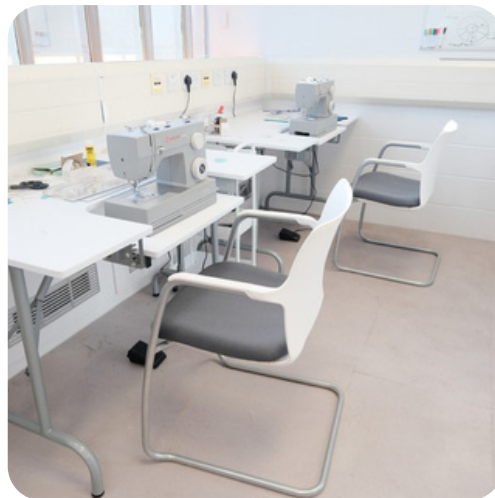
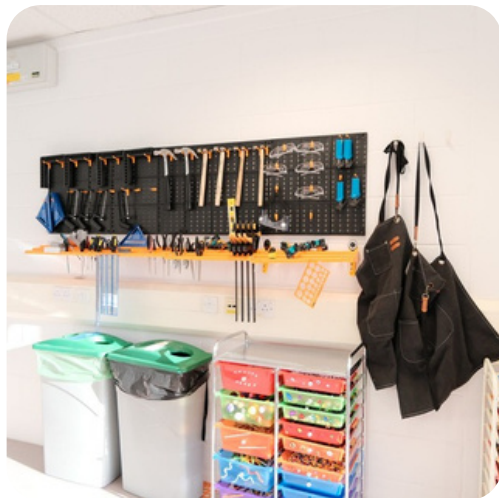
	Yes	Partly/Improving	No
<b>Component TC-S</b>			
TC-S1 Plenty of flexible space	✓		
TC-S2 A certain number of separate quiet spaces	✓		
<b>Component TC-E</b>			
TC-E1 Diverse teaching and learning equipment	✓		
TC-E2 Catering equipment	✓		
TC-E3 Different types of furniture	✓		
TC-E4 Colour scheme	✓		
TC-E5 Green plants	✓		
TC-E6 Adequate natural lighting	✓		
TC-E7 Appropriate background music	✓		
TC-E8 Equipment for temporary ownership			✓



	Yes	Partly/Improving	No
<b>Component TC-A</b>			
<b>TC-A1 Clear signage</b>		✓	
<b>TC-A2 Opening hours</b>		✓	
<b>TC-A3 Staff</b>	✓		
<b>TC-A4 Online reservation system</b>		✓	
<b>TC-A5 Publicity strategies</b>	✓		



Pictures of Helix demonstrating in yellow circles the conditions that are already existing in the space, in green circles the ones that are improving and in the red circle the condition that is not present in the space.





## **LUU PGR Lounge is located on Mezzanine Level of the Leeds University Union (LUU), which is above the Refectory.**

Leeds University Union (LUU) serves as the representative body for over 30,000 students at the University of Leeds and is centrally located on campus. The origins of the Union trace back to 1870 when it was established as a society of the Yorkshire College. The current structure of LUU began to take shape in 1937. Today, LUU is a multifunctional building that accommodates a variety of student services and social spaces, including food outlets, pubs, cafes, and informal gathering areas such as Crossroads. Additionally, it houses clubs and societies, student representative offices, retail shops, and bars.

LUU PGR Lounge is a compact space that serves the PGR community, offering a venue for independent and collaborative study. Its layout consists of six main areas connected by a central lobby, creating a versatile environment where PGR students can choose spaces that best suit their needs.

**Click here to get more information:**



**Administration:** This area includes a small office for the space managers.

**Study Space:** A flexible area with tables and chairs where students can work alone or in groups.

**Individual Space:** This space, designed with a linear layout, is dedicated to students who need a quiet area for focused, independent work.

**Collaborative Space:** This is a larger area furnished with tables, chairs, and various other pieces of furniture, ideal for group activities and discussions.

**Meeting Room:** A small, private room that accommodates one or two people, providing a more isolated environment while still being connected to the main lounge.

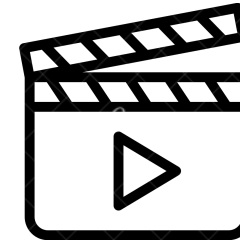
**Lobby:** A central area with chairs and couches for informal work and a collaborative blackboard for announcements and shared information.

## Dr Matthew Bachmann



**Academic Engagement Manager, Manager of the PGR Lounge,  
Leeds University Union**

**People  
say:**



*"One of the best ways to explain what the PGR lounge is, is to contrast it with some other spaces around campus. So, PGR should receive office space and effective workspace from their schools or from their institutes, and they should have access to silent study space and the resources they need through the library, what this is trying to offer. As a PGR lounge is to feel like a need for a community space something that's bridging gaps across subjects and across schools and across faculties, and bringing the PGR community together..."*



## Felix Emotu



**International Postgraduate Officer,  
Leeds University Union**



*“The PGR Lounge is a space that is designed for our PGRs, specifically for our PGRs. So, the union designed that space to ensure that the PGRs have that sense of belonging to the union...They have the space where they can integrate, can interact, can connect with one another, create that sense of society. There are quite many activities that take place in that Lounge. It’s in its infancy stages, but there are quite many activities that are already taken place in that Lounge. For instance, I see PGRs organising their study meetings there, find many groups sitting there sharing ideas and digesting issues in that specific area of studies...”*

*Not a library setting, not academic class kind of setting... but as a casual open space where you can do read your stories or read your text or something to refresh your mind...”*



## Dr Sophiko Daraselia



**College Officer in the Faculty of Social Sciences,  
University of Leeds**



*"I work across all four schools in the faculty and there is a need for a dedicated space for all four PGRs, and I came up with the idea of using the Luu PGR Lound as a dedicated space...and LUU is the central point across all these four schools, and it was a perfect location for our four PGR dropping-in.*

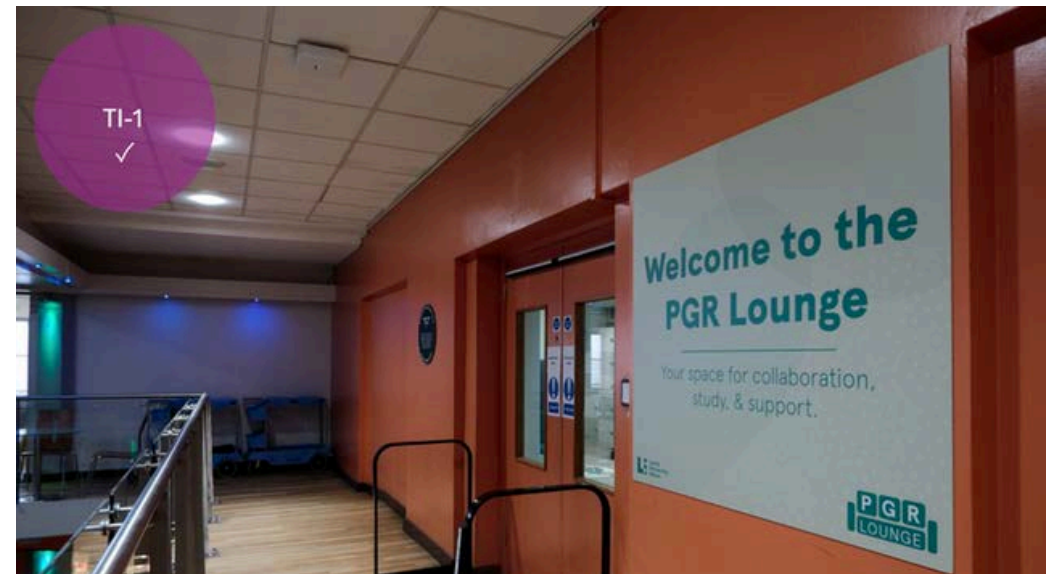
*The main purpose how we use the PGL Lounge space we use the main room which is a very friendly space, big space, and it allows multiple simultaneous conversation... PGRs can have separate independent conversations...they can have their lunch... while other PGRs can have more research related discussions on their research project...when a PGR has a meeting, for example, they ask: where can we go? where can we take this call? And we are encouraged and advise the PGR to go to a next room which is the quieter room for a dedicated for meeting..."*



## Bridging Space Tools Checklist

Is LUU Postgraduate Lounge a bridging space?  
**YES, with potential to be improved.**

	Yes	No
TI-1 Indoor spaces with the function and fundamental purpose of providing learning activities.	✓	
TI-2 More functional than traditional formal educational spaces.	✓	
TI-3 A delicate balance between seriousness and relaxed atmosphere.	✓	
TI-4 A fusion of exclusivity and inclusivity.	✓	
TI-5 Bridging spaces also have scale.	Human	



The PGR Lounge has TI-1: Indoor spaces with the function and fundamental purpose of providing learning activities.

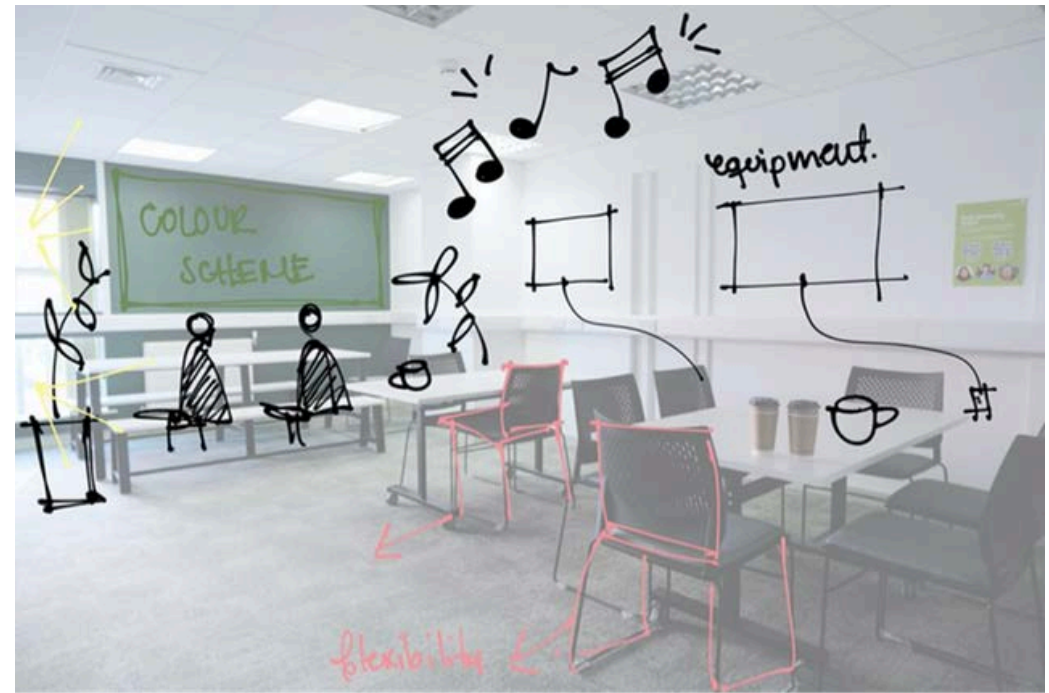


The PGR Lounge has TI-2: More functional than traditional formal educational spaces, TI-3: A delicate balance between seriousness and relaxed atmosphere, TI-4: A fusion of exclusivity and inclusivity and TI-5: Bridging spaces also have scale.

	Yes	Partly/Improving	No
<b>Component TC-S</b>			
TC-S1 Plenty of flexible space	✓		
TC-S2 A certain number of separate quiet spaces	✓		
<b>Component TC-E</b>			
TC-E1 Diverse teaching and learning equipment		✓	
TC-E2 Catering equipment			✓
TC-E3 Different types of furniture	✓		
TC-E4 Colour scheme	✓		
TC-E5 Green plants			✓
TC-E6 Adequate natural lighting		✓	
TC-E7 Appropriate background music			✓
TC-E8 Equipment for temporary ownership			✓



	Yes	Partly/Improving	No
<b>Component TC-A</b>			
<b>TC-A1</b> Clear signage		✓	
<b>TC-A2</b> Opening hours			✓
<b>TC-A3</b> Staff	✓		
<b>TC-A4</b> Online reservation system		✓	
<b>TC-A5</b> Publicity strategies		✓	



The picture of the PGR Lounge is integrated with diagrams of the aspects that would improve the space such as plants, music, catering equipment etc.





TOOLKIT

# BRIDGING SPACE ON CAMPUS