

# Learning Spaces around the world: an international comparative approach

Author: John Augeri<sup>1</sup>

<sup>1</sup>Paris Île-de-France Digital University, centre PMF, bureau C1903, 90 rue Tolbiac, 75634 Paris cedex 13

## Keywords

Learning Spaces Centers Commons international

## 1. INTRODUCTION

During the last decade, the innovative physical Learning Spaces, usually shortened to « Learning Spaces » have continuously increased as a hot topic, especially in the Higher Education world (Oblinger, 2006). These spaces consist to a mix of innovative spatial organization, layout, furnishing and ICT equipment, and seek to support - and sometimes induce - innovative teaching and learning practices, such as active learning, flipped classrooms, collaborative work and project based learning (Byers, T., Imms, W. & Hartnell-Young, E., 2014).

After a first rush mostly based on Active Learning Classrooms designed for formal teaching and learning activities, the Learning Spaces trends now tend to move to larger and integrated spaces such as Learning Commons and Learning Centers, more focused on informal practices, and that are often considered to represent the future of university libraries, as they usually are located inside them or replace them.

Considering the internationalization of this Learning Spaces phenomenon, and the relevance to compare experiences and share the best practices, an international comparative study has been formally launched in October 2016 by Paris Île-de-France Digital University (France) and Kyoto University (Japan).

This paper presents the study's range, framework and methodology, as well as the first results and outcomes collected during its first year.

## 2. STUDY RANGE, FRAMEWORK & METHODOLOGY

In February 2018, the study involves more than 120 institutions, spread on 4 continents, and representing more than 140 Learning Spaces of different types (see 3.). Contacts and interviews have been conducted with 450 university stakeholders, practitioners, users and contractors. Within all the territories (USA, Canada, European Union, Japan, Singapore, Australia, New Zealand), a specific focus has been made on Japan, considering the specificities of this country especially in terms of Higher Education system, and societal approach to architecture and digital tools uses.

The study relies on a framework of ten criteria, that seek to cover the whole range of matters to deal with in a Learning Spaces project: strategic, material and technical, operational and pedagogical. Hereafter the list of those ten criteria: Terminology, Layout and Furnishing, Integrated IT/ICT, BYOD compliancy, Location on the campus, Governance, Design & Evaluation tools, Community interactions, New Services, Teaching & Learning practices.

Beside the factual comparison itself, the study seeks to identify, in an intercultural approach, the internal and external dynamics that lead Learning Spaces projects, to highlight their conditions of success, and more globally to qualify the nature of the transformation they induce on the campuses.

Therefore, the methodology includes quantitative but also qualitative approaches, especially involving interviews, focus groups and observations in real time or using time-lapse video recordings.

### 3. TYPES OF SPACES

#### 3.1. Formal spaces: Active Learning Classrooms & Collaborative Classrooms

Often present as the first insight of an institution towards the Learning Spaces in their formal side, the Active Learning Classrooms (sometime called Collaborative Classrooms) are typically designed to replace traditional classrooms, they usually represent the next generation of, or - in some examples - the lectures halls.

They are typically based on innovative layout using clusters of fixed or moveable tables (see 5.1) that promote and support collaboration and group working, using different sets of technologies, and support a range of new teaching and learning formal practices (figure 1).



Figure 1

MIRAiS Active Learning Classroom - Kyushu Institute of Technology, Japan

#### 3.2. Formal spaces: Collaborative Lecture Halls

By analogy to the classrooms (see 3.1), some projects have been conducted to refurbish, renovate, and redesign lectures halls to give them an Active Learning ability based on collaboration and group working.

The examples are much rare than the Active Learning Classrooms as the cost, but also and mainly the design challenge appear to be more complicated to overcome, due to some basics related to this kind of facilities: high capacity (hundreds of students), slopes, directional typology with the teacher facing the students. The most significant examples that can be observed use the same kind or furnishing than an Active Learning Classroom (figure 2).

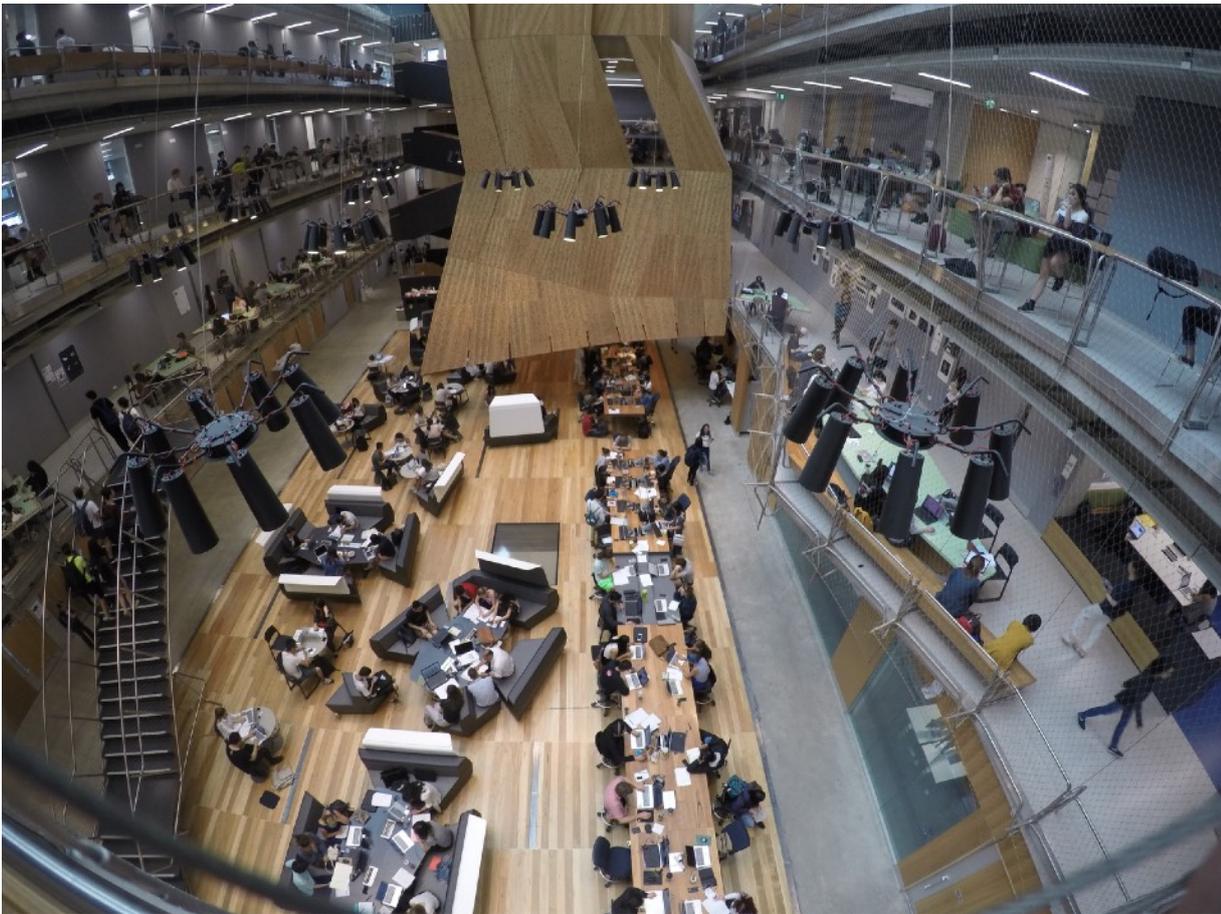


**Figure 2**  
**Collaborative Lecture Hall - McGill University, Canada**

### **3.3. Informal and integrated spaces: Learning Commons & Learning Centers**

If the Learning Spaces phenomenon is existing since a decade mainly through the Active Learning Classrooms, a very progressive significant rise can be observed on the informal and integrated Learning Spaces (figure 3), represented by the Learning Commons and the Learning Centers. These latter are based on a conjunction between facilities, services and content, that motivates their proximity to the university libraries, they complete or sometimes replace. Their larger surface allows them to propose a wider set of subspaces (see 5.2), adapted to different kinds of students' practices, and supposed to be compliant with the most recent ones, for instance connected to the BYOD (see 4.1).

This trend on the informal spaces is illustrated by some studies showing that they became the academic location where the students spent the most important part of their time on the campus (Ellis, R., 2017).



**Figure 3**  
**School of Design - University of Melbourne, Australia**

## **4. TECHNOLOGY**

### **4.1. BYOD**

The Bring Your Own Device (BYOD) is a major trend in all territories, and has obviously direct consequences on the design and the operations of the formal and informal Learning Spaces. However, some variations in the modalities of the BYOD can be observed. Japan, at the opposite of all other territories, shows a smartphone based BYOD, that institutions struggle to switch to a laptop based one. Virtual Desktop Infrastructure and/or cloud based applications are more and more present on the campuses, to support the BYOD phenomenon.

In the Learning Spaces, the BYOD is integrated in the very first steps of the design process. Most of the fixed PCs (but some exceptions, see 6.2) tend to be removed, and the furnishing is chosen to be as compliant as possible to the use of personal devices, especially through basics such as multiple power outlets and dense WiFi networks.

### **4.2. Trends in technology for Learning Spaces**

Usually, the Learning Space - formal and informal - tend to be designed and presented as high end equipped in terms of technology. Indeed, the design of the Active Learning Classrooms, the Learning Commons and the Learning Center often integrate an amount of embedded technology higher than the average one in the other facilities on the campus. This for uses purposes as well as visibility and communication ones.

However the popularity of the features themselves show significant variations. Analog writing and annotation devices, such as white boards and writable surfaces are highly popular among the users, much more than their digital counterparts. On the digital side, wired and wireless screen sharing systems compliant with the BYOD devices also present a high rate of uses.

Globally, the surveys conducted around the users show that a mix between analog and digital features, beside a high compliancy of the facility towards the BYOD are the most popular requests.

Some Japanese examples even go beyond the usual preconception of the cultural approach to digital practices, by applying a “low tech on purpose” design to their informal Learning Spaces, seeking to promote and support human-centered collaboration instead of a digital tools based one.

## 5. LAYOUT

### 5.1. Fixed vs. flexible furnishing & layout

As a core component of any Learning Spaces design, the typical furnishing used are divided in two categories that directly reflects the expected types of activities to be led.

Fixed layout are especially used in collaboration-oriented spaces, involving digital features for group work activities. It typically implies fixed collaborative tables (from 3 to 8 seats) embedding a shareable LCD monitor through a video hub.

At the opposite, the flexible layout, based on lighter and moveable furnishing, offers a variety of spatial configurations especially compliant with different activities to be typically led in an Active Learning spaces. Beside a formal teaching space such as an Active Learning Classrooms, this configuration is also used in Learning Commons seeking to provide versatile spaces to the users. However, in some significant examples, it appears that the spatial layout of yet flexible Learning Spaces is spontaneously almost never modified by the users, leading the space’s managers for instance to display some printed layout suggestions at the entrance.

More, the study shows that even if most of the so called Active Learning Classrooms indeed comply with the flexible layout, it doesn’t support a trend that would progressively make the fixed one disappear. The typical scheme is a mix of both of them, in a zoning logic (see 5.2). Nevertheless, due to cultural specificities, the ratio between fixed layout and flexible one shows some variations between the territories. Japan, for instance, show more systematically a space optimization to the Learning Spaces design, that translates itself into a versatility based on flexibility, and that is also applied in private home.

### 5.2. Zoning

Considering the two different layout and furnishing configurations described above, and the balance between them, the integrated spaces such as Learning Centers and Learning Commons usually mix them by applying a zoning scheme. This latter consists to a subdivision of the space in independent yet connected functional units, using for each of them a specific layout, furnishing and technology fitting the intended typology of practices.

The zoning applied to the Learning Centers and Learning Commons appears to be a key factor of success, reflecting the adaptation of the space’s features to the users’ needs. Nevertheless, some observation shows significant quantitative variations in the uses of the different subspaces, that can especially be highlighted through time-lapse videos, and that usually illustrate a redundancy between those subspaces and other locations on the campus (see. 7.1).

Practically speaking, the zoning and the segmentation it induces can be applied through different ways: color scheme on the furnishing and/or on the walls and carpets, architectural features, furnishing type and height (figure 4).



**Figure 4**

**Learning Commons - Osaka International University, Japan**

## **6. SERVICES**

Typically, the informal and integrated spaces such as Learning Commons and Learning Centers are often defined by three fundamentals: facilities, contents, and practices. Beside, following their core objective to fit with the students' expectations, to support innovative practices, and sometimes to face different forms of competition (see. 7.1 & 7.2), they almost systematically include a set of new services, such as the following examples.

### **6.1. Laptop & Tablet lending system / Charging stations**

Laptop & Tablet lending system / Charging stations - The BYOD trend can be completed by some devices lending service, usually installed in the library located Learning Commons. For those devices, as well as the users' own, power remains as a very basic yet fundamental issue when having an intensive use in mobility. One day long autonomy is clearly not a reality for number of devices, making necessary to provide battery charging solutions, especially in the Learning Spaces where their use is potentially intensive. As mobile furniture typically use in flexible spaces don't allow to integrate power supply, such equipped Learning Spaces can have charging areas along a wall, or simply electrical racks lying on the ground. Fixed furniture, on their side, almost systematically integrate power plugs for the users.

### **6.2. Specialized Workstations**

An obvious consequence of the BYOD trend is the on-going removing of the fixed PCs. In almost all the Learning Spaces that have been visited in all territories, fixed PCs tend to disappear, also because of the furniture specificities. Nevertheless, in the Learning Commons and the Learning Centers, if large PCs areas free to use for the students are tending to be removed, some fixed PCs areas still remain on precise purposes. The installed machines installed in such areas present specific features, such as A/V producing workstations.

### **6.3. Tech Support & Workshops**

The conjunction between the BYOD and the Learning Spaces also introduces new modalities in terms of technical support and user assistance. Within the new types of services provided for example in the Learning Commons, 1st level technical assistance desks or counters (previously provided at the IT department) appear to be one of the most popular and useful ones.

### **6.4. Teaching Assistance**

In a huge majority of the visited Learning Commons and Learning Centers, a pedagogical support / teaching assistance counter is proposed on a daily or weekly basis. Such service allows for example undergraduate students to get topical mentoring from graduate students, on site and face-to-face. Nevertheless, within a same territory, such kind of service can show very variable results, some of them by cultural specificities.

### **6.5. Group Working Areas**

As collaboration is a core component of any Learning Spaces design, Group Working areas constitute a key feature, especially in the informal spaces. In all territories, bookable (through a classical human counter or through an online tool) spaces are very popular among students. They are usually equipped with collaborative tables, shareable screens and writable surfaces. Physically, they can be closed (usually by glass walls) or separated by specific furniture.

### **6.6. Printing Labs & Fab Labs**

As a supporting service for the academic and research activities, some Printing Labs can be observed in Learning Commons, allowing researchers for example to print scientific posters. In some cases, and especially in Learning Commons installed in specific schools, some genuine Fab Labs can be integrated, proposing for example 3D printing services.

### **6.7. Visualization Areas**

Some Learning Commons and Learning Centers include specific features focused on large scale displays. Technically speaking, those areas are usually built around a grid of LCD displays or tiles. Those visualization areas open interesting pedagogic perspective, for example in data analyzing or large scale image processing, offering to the Learning Commons a unique feature on the campus.

### **6.8. Presentation Areas**

Several Learning Commons integrate areas focused on presentation and lectures, smaller than the classical lecture halls, and with different purposes. They are usually open on the rest of the Learning Commons to incite people to freely attend the lecture or presentation that are organized. These presentation areas are less formal than a usual academic lecture, and open to a wider audience. In Japan especially, those presentations areas can be permanent, then using a mini lecture hall style of furnishing (figure 5).



**Figure 5**

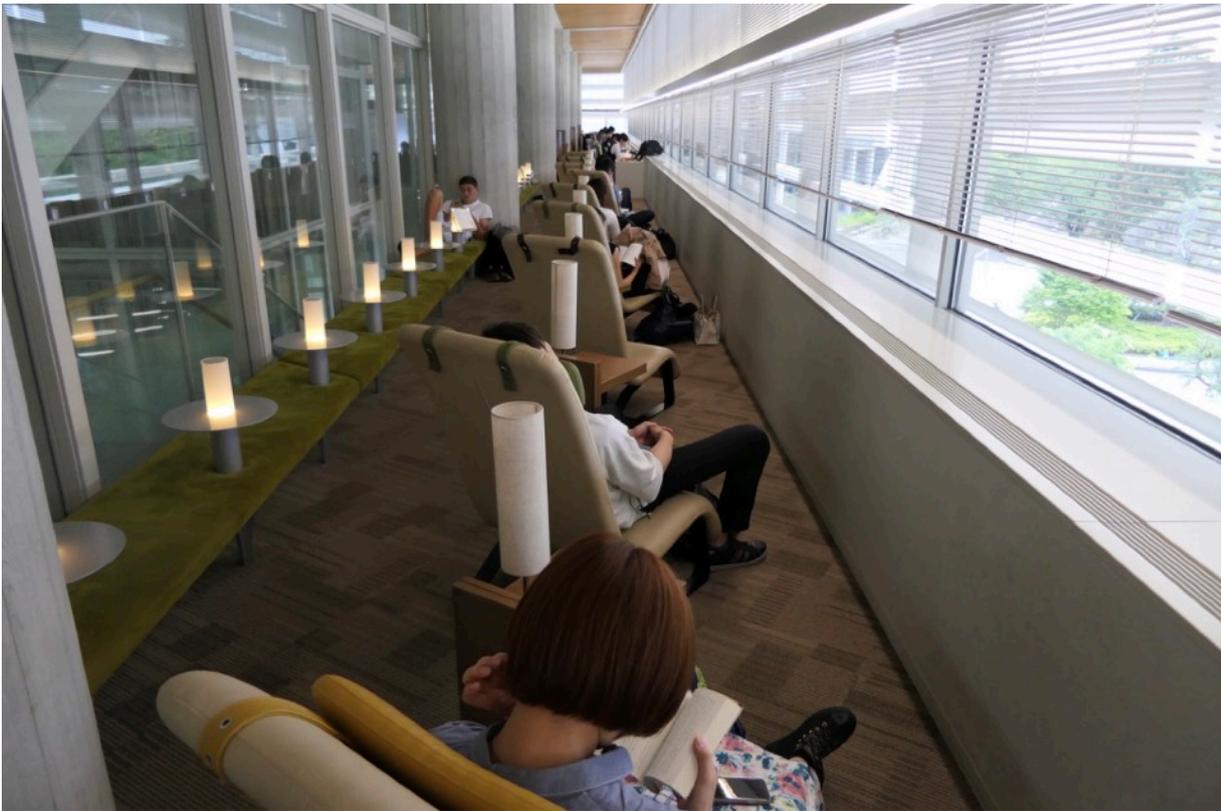
**Academic Link Center - Chiba University, Japan**

### **6.9. A/V Production Studios**

The MOOC trend, as well as the generalization of online rich contents, supported the emergence of A/V Production Studios, located for some of them in the Learning Commons and the Learning Centers. In Japan and in the US, especially, different types of video recording facilities can be observed in the Learning Commons, from simple “one button operation” ones allowing faculties to produce a commented video of a slideshow, to higher end ones, involving specific HR but providing sophisticated recording, editing and post production.

### **6.10. Relaxing Areas**

In their usual zoning, the Learning Commons and the Learning Centers systematically integrate relaxing areas (figure 6). Those versatile areas are very popular among the students as they usually are the only ones of this style on the campus. Important variations can be observed between the different territories, clearly culture-related, such areas being much more systematic in the US and Australia.



**Figure 6**  
Izumi Library - Meiji University, Japan

## **7. CHALLENGES FOR LEARNING SPACES**

### **7.1. Internal competition**

The Learning Commons and Learning Centers projects are deeply connected to the libraries. On all territories a huge majority (approximately 80%) of those innovative spaces are indeed replacing a library, or hosted in it. Nevertheless the remaining ones are located separately from the library, usually creating a competition on the campus, even though the students seem to have a clearly and spontaneous understanding of the respective roles of these facilities: considering the libraries as a more formal and individual learning area than the Learning Commons and Learning Centers.

### **7.2. External competition**

Considering the typical requests coming from the students regarding their preferred features in an informal learning space such as a Learning Commons or a Learning Center (power + WiFi, possibility to eat and drink, cozy layout), some actors external to the campus and to the academic area have taken the opportunity to act as third places for the students, settled between the formal learning area (the campus) and the private area (home), creating hereby an external competitive situation with these very spaces. This phenomenon can especially be observed with the coffee shops. However, this type of competition is highly connected to the campus geography, to the institutions' regulation regarding contractors, and to the cultural habits of the students.

In the typical US campuses, for instance, the students usually live on the campus, where coffee shops are also existing. When they look for an informal learning space, students can therefore choose between this latter and the Learning Commons or the Learning Center when it exists. In several significant examples, these coffee shops are installed in the very institutional informal Learning Spaces, creating a synergy that translates itself to a high potential of attraction for the students.

As the opposite, the typical journey of a Japanese student is based on three steps. The first one consists of spending hours on the campus for formal learning activities, in classrooms and lecture halls. The third one is to go back home, which is almost never on the campus in Japan, and which is primarily a place to sleep in the local culture. Between, the second step formalizes the matter of the informal learning area, that clearly highlights a very strong competition between the Learning Commons and

the Learning Centers located and the campuses, and the coffee shops (whose density is extremely high in Japan) located outside, on the way back home. The institutions therefore struggles to keep the students in the campus for this second step, especially by providing facilities that sometimes applies the same architectural codes than the coffee shops (figure 7), and by offering exclusive services (see 6.).



Figure 7

Self Access Learning Center - Kanda University of International Studies, Japan

### 7.3. Capacity

Regarding the formal Learning Spaces, and in the first rank the Active Learning Classrooms, a key challenge appears to be the physical capacity, and therefore the ability to insert them in regular classes scheduling. Indeed, even though the Active Learning Classrooms often represent the first step of an institution's initiative towards Learning Spaces and hold high promises, a very clear trend that stuck them at the experimental level is observed on all territories. Meaning that in a significant proposition of the institutions visited, the number of Active Learning Classrooms is very low, and their position in the institution is clearly identify as an experimental one.

As the typical capacity of such facilities rarely goes beyond few dozens of seats for the biggest ones, it becomes necessary to built several of them to become able to physically host weekly classes, and therefore to insert themselves in a large scale teaching & learning practices evolution process that should also be promoted by the institution itself.

### 7.4. Faculty Development

On the practices point of view, the success of an Active Learning Classroom clearly appears to rely on a formal Faculty Development process. If this latter is relatively easy to implement in an experimental situation that implies one of very few Active Learning Classrooms, the perspective of a generalization and of an integration in an institution wide teaching & learning practices evolution process makes mandatory an industrialized Faculty training initiative. This not only to make them able to take all the benefits of the room's material and technological features, but also to engage them prior that to redesign their courses to include Active Learning phases.

This highlights the human challenges of such projects, that tend to be at least as important to overcome than the material and technological one.

## 7.5. Assessment

Considering the amount of money spent to built them, and the position they tend to have in the institutions strategy, the qualification of the success of the Learning Spaces became an equally hot topic (Imms W., Cleveland B., Fisher K.,2016). However, the formal evaluation initiatives remain quite rare. Within the ones existing, the EDUCAUSE Learning Space Rating System (LSRS) appears to be the most widely adopted. Especially focused on the formal Learning Space pre-occupancy assessment, it is based on a set of 44 criteria organized in 6 thematic sections. The approach is totally quantitative, which makes this system relevant for instance in funding discussions.

But the assessment of the informal Learning Spaces, in a more qualitative way, remain a field more complex to address, and yet to be explored.

## 8. REFERENCES

Baepler P. (2014). *Active Learning Spaces: New Directions for Teaching and Learning Number 137*. Jossey Bass.

Byers, T., Imms, W. & Hartnell-Young, E. (2014). *Making the case for space: The effect of learning spaces on teaching and learning*. Curriculum and Teaching 29(1) 5-19.

Fisher K. (2007). *The New Learning Environment: The Campus as Thirdspace*. EDUCAUSE Australia Conference.

Gould T. (2011). *Creating the Academic Commons: Guidelines for Learning, Teaching, and Research*. Scarecrow Press.

Imms W., Cleveland B., Fisher K. (2016). *Evaluating Learning Environments: Snapshots of Emerging Issues, Methods and Knowledge*. Sense Publishers.

Murray G., Fujishima N. (2016). *Social Spaces for Language Learning*. Palgrave.

Oblinger D. (2006), *Learning Spaces*. EDUCAUSE.

Coll. (2014, 2017). *Learning Space Rating System*.

## 9. BIO



**John Augeri** is co-founder and deputy director of Paris Ile-de-France Digital University. His core topics are innovative physical Learning Spaces, Faculty Development and BYOD.

Since 2016, John is managing an international research project entitled « International comparative study of innovative physical Learning Spaces policies, design principles and outcomes on teaching & learning practices and on campuses transformation », already involving 120 institutions on 4 continents.

John regularly acts as expert/advisor and as guest lecturer in 50 institutions in Europe, Japan, USA, Australia and Singapore. During the last 18 months, he gave 35 talks in national and international symposiums and conferences about the international situation of Learning Spaces (including at EDUCAUSE annual conference 2017), and has been invited twice as visiting researcher in Japan on the same topic. He's also member

of the board of advisors of large scale existing and upcoming Learning Spaces around the world, and core member of major international Learning Spaces related workgroups (i.e. EDUCAUSE Learning Space constituent group, Learning Space Rating System group, FLEXspace repository...).