'IPV Região Impulsiona e Inclui'

Learning innovation Hub

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> Learning by collaborative teaching: an engaging multi-party cowriter activity. L Hamamsy, W Johal, T Asselborn, J Nasir, P Dillenbourg, 2019. [IEEE RoMan]*

Three major trends particularly marked the transformations of the academic field at the turn of the century and provide enriching explanations for the interpretation that learning centers projects aim to. These are:

First, universities are an area that is undergoing a major process of internationalization that concerns the curricula of researchers and students in the same way as the collaborations between the various institutions; this closer contact simultaneously implies an increased competition between the latter.

Second, the concept of the university based on the idea that scientific knowledge is a public good is to be defended (or regulated) from the challenges arising by a rapprochement between academia and the private sector, for it is redefining the distribution of tasks in the production of knowledge. The model whereby universities are responsible for basic research and the private economy is responsible for the commercialization of results must be thoroughly equated.

Third, the emergence of the knowledge society plays a decisive role in the current transformations of the university landscape, turning into unavoidable issues how to address keywords such as interdisciplinarity, openness, informal exchange or flexibility in a substantial manner.

The need to increase the number of students and the academical success of their careers is closely related to the need of the desired, and required, knowledge society democracies aim to enable and to, ultimately, build and develop.

More than a decade after the emergence of learning centers across Europe (see list**), the basic concept of a modernized library space, easy to access and use, has evolved significantly. Greater versatility is now being sought, in terms of the use of digital and, for the particular present, material means, it is used as a place for informal learning and is recognized as an opportunity for opening, through the attendance of its members, to communities surrounding. A quick analysis of foreign models shows, however, that this logical evolution does not take place without change, more or less profound: it is easy to see the possible impacts on learning styles, approaches and teaching methods. But it is also necessary to integrate changes in terms of organization, the consequences on the staff and the skills required, juggling with the specific context of each institution.

The 'teaching-learning processes', in the past the 'teaching processes' and now, increasingly, the 'learning processes', recognizing the importance of enabling the acquisition of knowledge to subjects holding atypical dominant modes, cannot dispense with, for its placement in practice, the decisive factor that constitutes the environment- the space, and the corresponding organization, in which these processes will take place. It is essential that the pendular movement between conception and application that leads to achievement is made possible with the availability of spaces for creative reflection, discussion and debate, of an 'administrative/documental scholastic' nature, with nearby spaces for prototyping, manufacturing and production, with 'factory floor' features.
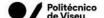
The staff required to assist these operations can be recruited between retired personnel from nearby industry, as examples from Switzerland, Ireland, Finland and The Netherlands exemplify.

The learning center can also contribute to the development of educational innovation, by offering services more specifically geared towards teacher-researchers. They can thus house laboratories or existing cells within the establishment, the object of which is the development of e-learning, the integration of ICT in teaching programs or the production of multimedia content or even integrate these missions, directly in the structure, as can be seen in some realities.

This student life dimension is very present at Imperial College in London, which has a "flexible" area (The Mobile Zone) promoting discussion and interactivity in addition to a cafeteria. It is even more so in Glasgow, where the Saltire Center is positioned as a social, intellectual and cultural hub. Created following a first Learning Café experience in 2001, it places communication and social interaction at the heart of the learning process: "Learning starts with conversation."

With flexibility as a key word, which makes it possible, for example, to adapt the different spaces to the size of the groups, these architectures pay great attention to interior design, to the comfort and aesthetics of the furniture, to the legibility of the signage, to create attractive places. These spaces also provide for differentiated atmospheres, called upon to take into account the very varied learning situations and methods of the students. Through their activities, they themselves will be at the origin of these different arrangements. But also from an architectural point of view, one of the characteristics is the differentiation of zones according to working methods: individual work in peace, zone of silence, or group work. The concept is very often implemented in terms of a variety of soundscapes, being able to choose between noisier areas and quieter ones. Attention to student life is marked not only by the place of group work but also by relaxation areas (including coffee shops).

A Learning/Hub Center is a tool with a strong digital dimension, and as such should be considered as part of the establishment's digital strategy. It is consistent with the policy of disseminating knowledge through digital technology and its free access within the campus, and with the strategy of production, acquisition and management of digital content. Its role in promoting the intellectual and/or cultural heritage of the university should also be integrated, as should its impact in terms of attractiveness on knowledge networks. In this sense, the definition of the digital strategy appears to be a prerequisite for the establishment of such a device. The relationships between digital strategy and teaching, research and heritage strategy also highlight the links that the Learning/Hub Center can have with these different elements.

From this perspective, the principle that these issues represent is an expression closely related to the discourse on the emergence of a knowledge society. The transformations implied by this discourse are changing the conditions for the production and transmission of scientific knowledge. Flexibility and interdisciplinarity, as stated before, are keywords. The same is true for the internationalization of the academic field as well as the approach to fill the gap between enterprises and universities. These two processes also describe transformations which represent the cause and the effect of an increasing competition in which the protagonists of the field of higher education and scientific research are being defined. At the same time, the debate on the conditions for a future scientific practice concerns the built environment in which scientific knowledge is ideally produced and transmitted.

The precise implications of these transformations at the level of the objectives pursued and the solutions implemented by the actors of knowledge town planning comprise the urbanization of *campi*. For those who use it as a model, urban space represents a series of qualities such as heterogeneity or the spontaneity of the encounter which perfectly correspond to the image of the new conditions for the production of knowledge, highlighting the relation to the role they attribute to the built environment and scientific practice.
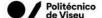
Such an approach also reflects an image of students who, doing several things at the same time, appropriate the building in such a way as to continually adapt it to their needs. In addition, those concerns provide an excellent illustration of how architecture is currently being mobilized as a resource for an identity strategy. Areas that depend heavily on the creativity of their brainpower, such as universities, in fact, attach increasing importance to the quality of work environments. The same goes for the constitution of their corporate identity and the visibility of their brand.

Some other dimensions, eventually overwhelmed by moral, and consequential political reasons, could be taken into consideration:

The integration of exhibition spaces and a performance hall in a program of the premises is, for example, called upon to promote exchange between academia and the general public. The upscale restaurant is supposed to benefit contacts with the economic community in particular. In addition, the language learning center should facilitate communication between teachers, researchers and students from all over the world. (that is the tentative case of, for instance, Indeg, in Lisbon, and Inegi, in Porto)

In short, it is important to retain some 'contemporary' learning centers/hubs:

i)   real support for the acquisition of knowledge guaranteed by a much closer link between students and teachers from the posed subjects/problems to the design of the solutions/project;

ii)   friendly, open and flexible spaces;

iii)   maximum accessibility in terms of timetables and resources;

iv)   remote use facilities;

v)   a versatile staff and a grouping of services.

The adoption of these criteria would make it possible to qualify the projects concerned as genuine resource centers for knowledge acquisition by research based on practice and experience and to constitute a real improvement in the service provided to the performance of students and universities.
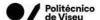
> Knowledge is extremely social. Knowledge itself is social. You don't know something if you can't explain it to someone. And, in doing so, that knowledge was apprehended, reinterpreted, rebuilt by you. You've made it your own, as if you had created it. And, in some way, you've done it.
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> (…)
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> "Learning is creating."
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> A mind for numbers: How to Excel at Math and Science (Even If You Flunked Algebra). Barbara Oakley, 2014. TarcherPerigee - Penguin Books USA.

* from "Learning Center EPFL : construire l'avenir d'une institution de formation et de recherche scientifique", Schreier, Mathias ; Söderström, Ola (Dir.). Mémoire de diplôme universitaire : Université de Neuchâtel, 2010.

"Today, the teaching provided at EPFL remains relatively traditional in its modalities: the contact hours of students with teachers (professors and researchers) easily reach 35 hours per week. "

The transformations underway seek to establish a new relationship between teachers and students. Pierre Dillenbourg explained to me the principles of a pedagogical reform of which he is one of the main defenders:

"There are too many classes where they [students] are given an exercise. In life, we don't give them exercises, we give them problems. In a problem, we don't have the algorithm for the solution, we can't apply a formula. We have bits of the algorithm and we have to combine them to find a solution. Often in a problem, there is not only one solution, there are three, four solutions and you have to be able to argue why one would be better than the other. "(Dillenbourg, May 11, 2009)

The new pedagogical model therefore provides for a reduction in ex-cathedra class hours, in favor of strengthening group work. In the future Learning Center, students and teachers will have to find the necessary equipment for this type of learning. Arranged like islands in a completely open library, fenced rooms of different sizes will be available to the working groups. Not far from them, the Research and Support Center for Training and Technologies (CRAFT) will move into its new premises. This institute develops new learning aid technologies and offers educational workshops to EPFL professors. Its director Pierre Dillenbourg is counting on teachers to integrate the opportunities offered by the Learning Center into their courses:

"We hope that with the Learning Center we will gradually pass a vision in which it is the student who learns and not the professor who teaches. " (Dillenbourg, May 11, 2009)

**Some learning centers:

Nightingale Centre, Kingston

Saltire Centre, Glasgow

Montesquieu Centre, Tilburg

Université Sorbonne nouvelle, Paris 3

Imperial College, London

CRAI net, Barcelona

ESSEC, Cergy-Pontoise

Grimm Zentrum, Berlin Humboldt Universität

OBA, Amsterdam

Université Lille 1, Sciences et technologies

Campus Condorcet

Université Paris Descartes, Paris 5

EPFL Rolex, Lausanne

ETH-Kompetenzzentrum für Lehren und Lernen, Zürich

<u>Ensuring L C/H communication</u>

The contribution of a Learning Center to forging a positive and innovative image of the university or to contributing to its notoriety, especially if it is accompanied by a strong architectural gesture, should be underlined. Most foreign Learning Centers have taken this communication dimension into account and use the Learning Center as a differentiating element in their strategy to attract new students, especially foreign students. This is all the more the case when the place hosting the device is emblematic, as is the case in Glasgow, Lausanne or Berlin.

In order to reinforce this effect and to control the image developed around the device, the implementation of an appropriate communication plan is to be expected. This must take into account the different audiences concerned by the Learning Center, internally and externally, and be broken down according to the stages and progress of the project.

Internally, the communication plan is one of the elements promoting change management, in the sense that it allows through targeted and regular messages to inform the university community about the project, its objectives, its progress, its organization ...

It thus contributes to the acculturation of staff and their support for the project. It can take the form of regular publications in internal communication media (newspaper, newsletter, intranet, etc.), information meetings for the various departments and services of the establishment, site visits during the construction phase, etc.

Externally, the scope and content of the communication plan will be defined according to the objectives and targets of the project and the actors participating in it. If the students and the university community constitute the privileged target, a wider communication towards the general public can also be set up, especially if the device provides for an opening on the City, if it offers events or exhibitions. reaching a wider audience.

In terms of communication, the name given to the device appears to be a point to be treated with the greatest attention. The term Learning Center was originally adopted in Great Britain to mark the difference between this new type of device and a "traditional" library, but its use is still very controversial today. The question does not relate to the use or the declension of the British term, difficult to translate, nor to the reference or not to the term library. It is a question of finding a qualifier for the device (notion of "brand name" or of personalization or even personification), which will promote its appropriation by users and make any communication measure more effective.

A triangular relation:

A coherent, extended and integrated service offer

A physical, functional and friendly place

An efficient and responsive organization

Overall, "A balance to be found for each project! "

Correlated image inceptions

There are many examples that have resulted in a name clearly identifying the Learning Center(s):

• The center of Sheffield Hallam University was named after a local figure who worked for the economic development of Sheffield (Sir Norman Adsetts, former president of the chamber of commerce, former member of the board of trustees of Hallam University, former company director);

• The Nightingale Center in Kingston is named after the famous British nurse who was a pioneer in health care and who regularly visited her family in one of the buildings now housing a university unit;

• The name of Xplora was found in Avans and illustrates the desire not to use the term Learning Center to better identify the equipment;

• The name AgoraTech was imagined to characterize the documentary component of the Paris Saclay campus project.

This communication dimension is of a strategic nature, and thus fully participates in the success of the Learning Center. It is leading to the emergence of new functions, geared towards marketing, which must be taken into account by the establishment.

At Imperial College London, the library has set up a marketing function in charge of better communication, particularly in attracting researchers. She is also responsible for website policy (the library pages being top ten on the university website).