PRINCIPLES OF DESIGN AND IMPLEMENTATION OF L&T SPACES: LESSONS LEARNT FROM GERMAN AND PORTUGUESE HIGHER EDUCATION

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Agenda

✓ Introduction
✓ Methodology
✓ Results: a comparative SWOT analysis of policies and practice of the design and implementation of L&T spaces
  ✓ The HE system and the HEIs in Germany
  ✓ The HE system and the HEIs in Portugal
✓ Conclusions: recommendations and principles for the design and implementation of L&T spaces in HE
The role and importance of L&T spaces in HEIs has long marked an under-researched topic (P. Temple, 2008)

Activated and Supported L&T Processes

Physical L&T Space

Hybrid L&T Space

Virtual L&T Space

Student and Teacher Performance and Satisfaction
Introduction

The Education and Training 2020 framework and the EU agenda for HE: priority to the support of effective and efficient HE systems, which includes bringing pedagogical innovation into the classroom.

Strong scientific evidence shows the **efficacy of active learning strategies**.

**But ...** active learning strategies implementation needs **flexible and technology-enriched new L&T spaces** supporting active, real world-centred and cross-disciplinary problem-solving L&T methodologies.
Introduction

L&T spaces have been designated as the ‘third pedagogue’ (Talbert & Mor-Avi; Ninnemann 2018)

Space affects ingredients of L&T behaviour and learning success

Emphasis is being placed on the design of innovative L&T spaces and their impact on pedagogy

Three major trends inform current L&T space design:
1) Learning principles to support social and active learning strategies
2) Human-centred design
3) Digital devices that enrich learning
Introduction

Against this backdrop and based on results of the Erasmus+ Strategic Partnership *Learning and teaching space in higher education* (LTSHE 2021)

Comparative analysis of the practice and policies of the design and implementation of L&T spaces

German HE system (national and institutional levels)

Portuguese HE system (national and institutional levels)

Scholarly literature analysis of principles for L&T space design and of criteria of theoretical frameworks for assessing L&T spaces

Preliminary list of tentative principles of design and implementation of HE L&T space(s)
Methodology

- Digitalisation in HE
- HE funding programmes
- HE law
- University didactics
- University organisation
- University strategy
- Structure
- Infrastructure
- Room
- Teaching
- Innovative
- Space
- Area
- L&T in HE
- L&T spaces
- Quality assurance of L&T spaces
- Quality assurance of digital(ised) L&T
- Pedagogic innovation

Content analysis of different documents

LTSHE
1st phase of research

Snowball effect (Portugal)
(7 innovative L&T spaces)

Desktop literature analysis (Germany)
Dozens of HEIs

A diversified set of search terms
Results – HE System and HEIs in Germany

**Strengths**
- Education and HE are exclusively in the responsibility of the individual federal states
- Many HEIs are active in designing and implementing innovative L&T spaces (even before the Corona pandemic)
- L&T spaces are a general concern in the accreditation of study programmes and institutions

**Weaknesses**
- Education and HE are exclusively in the responsibility of the individual federal states
- Activities are frequently based on time-limited project funding
- Activities are often carried out solely at individual HEIs
- Monitoring and stocktaking of the availability of L&T spaces, physical, hybrid and virtual, seems to be underdeveloped at individual HEIs
- Overarching strategies for renovation, modernisation and enhancement of L&T spaces are largely missing
- Lack of digital competencies of teachers (and students)
Results – HE System and HEIs in Germany

Opportunities
- Provisions and requirements from HE politics are scarce (reflecting the freedom of L&T guaranteed by the German constitution)
- Individual organisational units of HEIs are provided with great scope for decision-making and action with respect to L&T spaces design and implementation

Threats
- The institutional responsibilities and financing models for the realisation of spatial conversions and new HEI buildings are largely unclear
- Equipping public HEIs with room and space is notoriously underfunded, including L&T spaces
Results – HE System and HEIs in Portugal

**Strengths**
- L&T spaces are a concern in the accreditation of study programmes and institutions
- Public universities’ strategic and activities plans evidence the importance given to L&T spaces for the L&T process
- Specific cases of innovative L&T spaces

**Weaknesses**
- Lack of references to L&T spaces in Portuguese national policy laws and regulations
- Digitalisation, didactics, pedagogy and curriculum design and the importance and status of physical L&T spaces almost absent from national laws
- Lack of specific information on L&T spaces that enhance innovative L&T in the universities’ official documents
- Absence of themes such as demands of sustainability, internationalisation, diversity, inclusivity and quality assurance of design and implementation of L&T spaces in the universities’ strategic documents
Results – HE System and HEIs in Portugal

**Opportunities**
- Recent presence in the agendas of HEIs of concerns with L&T pedagogic innovation and improvement
- Decisions on L&T spaces left to institutions under their autonomy status regarding pedagogy
- Specific cases of innovative L&T spaces
- COVID19 pandemic crisis which brought the need for pedagogic innovation and digitalisation in HE – *Skills 4 pós-COVID – Competências para o Futuro* (Competences for the Future) initiative

**Threats**
- Lack of funds for equipping HEIs with room and space, in particular innovative L&T spaces
- Decisions on L&T spaces left to institutions under their autonomy status regarding pedagogy
Conclusions

There are very scarce legal requirements, administrative regulations or strategic objectives concerning the design and implementation of L&T spaces in both Germany and Portugal.

L&T space activities usually are HEI-specific, temporally limited projects with restricted options for interinstitutional and system-wide comparison and benchlearning.

However, the results obtained can be related with sets of principles for the design and implementation of L&T spaces in HE available in the literature which helped to identify some principles for action.
Conclusions

Tentative principles of design and implementation of HE L&T space(s)

If L&T space metaphorically is considered the “third pedagogue” in addition to teachers and students, then the design and implementation of L&T spaces in HE should be seen as a strategic core area.

To meet the diverse requirements of all different HEI stakeholders the design and implementation of HE L&T spaces requires a multi-perspective, inter- and transdisciplinary access.

To meet pedagogical requirements, the HEIs’ strategies for the design and implementation of L&T architecture must be informed by contemporary scientific knowledge about L&T processes.

To meet the diverse requirements for L&T space design and implementation, digital infrastructures are needed to guarantee the necessary flexibility and modularity of L&T spaces.
Conclusions

**Tentative principles of design and implementation of HE L&T space(s)**

Future-oriented Learning Worlds must be conceived according to “**User Centred Design**”, so that **users** can intuitively **understand** the **L&T spaces**, **use** them, and **experience** them in multi-sensory ways.

**Innovative L&T spaces**, or future-oriented Learning Worlds, should not be conceived as either physical or virtual but as **integrative**.

**Training** should be provided to the **teachers (and students)** that are going to develop their activities in the new L&T spaces.

The design and implementation of L&T spaces must be **enduringly supported on organisational levels**, **financed**, and subjected to **continuous quality enhancement**.
Conclusions

The analysis made has some limitations, mainly due to the scarcity of information available.

In the future it would be interesting to investigate more deeply more institutions where L&T innovative spaces have already been designed and/or implemented to analyse how far the proposed principles are in fact applied.

It would also be interesting to discuss the implementation of innovative L&T spaces at different levels: strategic, epistemological and operational. An impact analysis of the spaces on L&T improvement should also be undertaken.
References


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