

#### **LEARNING & TEACHING PAPER #11**

# Evidence-based approaches to learning and teaching Thematic Peer Group Report

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March 2020



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# What is evidence-based learning and teaching?

This report is the result of the work carried out in the Thematic Peer Group "Evidence-based approaches to teaching" (hereafter referred to as "the group", see also Annex).¹ The overall aim of the group was to explore what evidence higher education institutions use or consider relevant in order to enhance learning and teaching. By deciding to address the role of using evidence in both learning and teaching, the group wanted to emphasise the organic link between them.

The concept of evidence-based learning and teaching (EBLT) is complex and multifaceted. While there is consensus on some key characteristics, there is none on its definition, either in the literature or among practitioners. The concept covers intersecting fields and areas of university activities, upon which both the institution (at its various levels) and individual academics can act. EBLT elements cover pedagogy, didactics, scholarship of teaching and learning (SOTL), but also quality assurance processes, data collection and management, and governance and management models.

To the group, EBLT tackles two important questions: how to adopt an evidence-based methodology while teaching, and how to select and use the best evidence to take informed decisions for learning and teaching in a sustainable way.

For the purpose of this report, and based on research literature and practices discussed during its meetings, the group defines EBLT as follows:

EBLT concerns connecting learning and teaching to evidence-based methods, strategies and processes, through nurturing a systemic institutional culture that is committed to continuous improvement of student learning.

The EBLT approach is guided by ubiquitous critical thinking, and typically includes the following main steps, to be carried out in a cyclical way:<sup>2</sup>

- 1. decide on, and define, the question to be addressed;
- 2. collect and analyse evidence (i.e., the data, information and literature) needed to proceed;
- elaborate and design initiative(s) (including objectives and assessment indicators);
- 4. implement and practice the initiative(s);
- 5. assess the outcomes of the initiative(s) against its (their) objectives and indicators;
- 6. take decisions based on evidence (including outcome assessment) and apply feedback (back to step 4 above) in order to improve the process through the next step, in a quality-driven manner.

An EBLT approach requires continuous data collection and analysis at course, programme and institutional level, as all three levels have an inseparably intertwined effect on the quality of learning and teaching. Decision-making should make use of this data and analysis in a transparent way, and contribute to the dissemination of best practices.

#### © Examples of evidence could include, but are not limited to

- Use of cases or models from interdisciplinary or disciplinary literature in pedagogy, didactics and education sciences (used as references or examples of practice);
- Own teaching activities and/or initiatives (possibly through action research or scholarship on teaching and learning);
- Teachers' self-assessment and performance assessment (e.g., through a teaching portfolio, student evaluation of teaching, or peer evaluations);
- Assessment of student achievement, underpinned by a learning outcome approach<sup>3</sup> (e.g., through student portfolios, or student learning assessment);
- Peer exchanges of observations on teaching initiatives (in the framework of peer mentoring or as part of peer learning in a community of practice in teaching);
- Feedback from various stakeholders in learning and teaching (teachers and their peers, students, alumni, employers), through meetings, surveys or focus groups;
- Quantitative and qualitative outputs from learning analytics.

Importantly, evidence-based approaches should not be understood as adverse to innovation in learning and teaching. On the contrary, they offer a well-founded methodology for innovative pilots or experimentation to foster sustainability. In education sciences literature, evidence-based practices have gained increased attention, as a way to find out to what extent and under which conditions new methodologies in learning and teaching work well, to improve student learning, programme outcomes, and overall quality of learning and teaching at the institutional level. Deeply rooted in fields with a strong clinical component such as medicine, nursing, and psychology, EBLT has more recently become a gripping topic in educational research. <sup>4</sup>EBLT does not offer one-size-fits-all solutions on what to do, but shows how to "best achieve your own values, priorities, and goals",5 in a context where those responsible for teaching need to show creativity and judgement to decide which teaching methods are the most suitable for their respective context, and how to apply them. As Petty put it, "evidence-based practice re-professionalizes teachers, giving them control over initiatives to improve learning [...]".6

The following sections advocate adopting evidence-based approaches in learning and teaching at the institutional level and make suggestions on how to overcome the related challenges.



# Why adopt EBLT and what are the challenges?

#### I. WHY ADOPT EBLT?

Universities are knowledge-based institutions and therefore it would appear rational and self-evident that they approach learning and teaching in an evidence-based manner. But that is not always the case. Therefore, the group developed three main arguments to support the adoption and development of EBLT at universities:

#### 1. Evidence-based approaches bridge teaching and research

EBLT proposes a scholarly attitude to teaching and education design (e.g., curriculum or course design), as recommended by the European Principles for the Enhancement of Learning and Teaching (Principle 6).<sup>7</sup> Teaching is still often seen as an individual activity,<sup>8</sup> whose scientific and evidence-based aspects only relate to the teachers' own research, not to their teaching. Evidence-based reflexivity on learning and teaching should open opportunities for exchanging and collaborating with peers, in experimenting, implementing and assessing outcomes of pedagogical practices. In this regard, it provides an approach to teaching that is similar to scientific research. In doing so, research and teaching activities would be perceived as cross-fertilising and not as competing activities, contrary to what happens often.

#### 2. Existing internal quality assurance can nurture evidencebased approaches

A large amount of data on learning and teaching is already systematically collected for quality assurance purposes. EBLT should be profiled as essential for developing learning and teaching in any university as part of an institutional quality assurance (Principle 10 in the European Principles for the Enhancement of Learning and Teaching). Naturally, this data

could also be made available to inform any EBLT initiative, if that is not already being done. Nevertheless, the group observed that quality assurance is sometimes considered by academics and authorities as a separate, administrative duty, competing with research and teaching missions. However, teaching staff should see cyclical quality assurance processes as an opportunity to access valuable information, for example, feeding into designing curricula or implementing innovative initiatives in learning and teaching.

### 3. Evidence-based approaches are nurtured by existing evidence collection and academic structures

Collecting data-based evidence and assessing EBLT initiatives would in most universities require a mindset shift rather than additional processes. There is already plenty of data to inform decisions and tools for enhancing learning and teaching at institutions, but they are not always grouped in an overarching, easily accessible data lake, partly due to GDPR requirements for anonymity. This leads to them likely not being used efficiently. For instance, socio-economic and academic data about student profiles and their learning experience, teaching methods and student learning activities, and course or programme evaluations are not always owned by the same organisational units and may not interconnect. Similarly, entities in charge of learning and teaching and quality management already exist at programme, faculty, department, or university levels. Therefore, there is usually no need to create new entities to implement EBLT, but to shift the mission of existing ones (Principle 3 in the European Principles for the Enhancement of Learning and Teaching).10

#### II. IDENTIFIED CHALLENGES

The group identified three challenges for universities to adopt EBLT as a standard way to improve learning and teaching:

#### **CHALLENGE #1**

#### Reaching a common understanding of EBLT across the institution

EBLT may already exist and be differently defined at various levels (faculties, departments, pedagogical staff, etc.) through local practices. The university leadership or specific services, such as the learning and teaching centre, may also have their own definition, which not all teachers may be aware of. Reaching an institutional understanding of EBLT across these different levels, while respecting academic autonomy, may constitute a crucial yet not easy step towards adopting an evidence-based approach.

#### **CHALLENGE #2**

#### Implementing EBLT in a sustainable way

EBLT is still to be imposed as the usual, standard way to approach learning and teaching for institutions, their staff and students. While examples of successful practice emerge and they are in some cases supported by incentives such as awards for innovation in teaching, a university level system to recognise such initiatives is still missing in other cases. Subsequently, the mainstreaming

or sustainability of successfully implemented pilots may be problematic. Also, development of EBLT can be differently paced across the institution, especially at large or highly decentralised ones.

#### **CHALLENGE #3**

#### Evaluating EBLT activities and promoting successful initiatives

Many institutions address teaching enhancement, quality assurance, and research on learning and teaching – all aspects valued in an EBLT approach. But they may interlink them, because responsibilities for each of these processes are spread across various levels of an institution. The quality loop for EBLT activities also raises questions that do not have commonly agreed answers, such as: Who assesses EBLT? How can an institution efficiently disseminate convincing EBLT initiatives?



# Recommendations

The group proposes the following recommendations addressing the challenges described above:

# I.REACHING A COMMON UNDERSTANDING OF EBLT ACROSS THE INSTITUTION

The first step towards adopting an evidence-based approach to improving learning and teaching is to work on a commonly agreed understanding of how the approach is to be applied at the institution, and within its entities (faculties, departments, etc.). Such a common understanding would serve as a catalyst for all stakeholders to situate the kind of education the institution aims to offer and determine how this offer will be delivered.

In order to reach such a widely shared EBLT definition across an institution, the group recommends the following:

- 1. In terms of methodology:
  - It matters at least as much as the definition itself that the
    process of reaching an institutional definition of EBLT should
    be collective. The participation of all stakeholders (such as
    leaders, academic and administrative staff, students, and
    graduates) playing a decisive role in learning and teaching is
    crucial to ensuring ownership and coherence.
  - Top-down approaches and steering from leadership should be complemented by bottom-up contributions so to reach a common and robust EBLT definition.
- 2. At the institutional level:
  - Each institution's vision and strategic documents related to its education policy and linked to its learning and teaching mission, should be evidence-based and context-sensitive.
  - Engagement and commitment from the institution's top leadership to EBLT are necessary and should be regularly and widely communicated to the entire institution through the most efficient information channels.

- 3. At faculty, study programme and course levels:
  - An institutional definition of EBLT should grant sufficient flexibility to accommodate the specific context of different faculties, departments, study programmes, and individual pedagogical staff members, while sharing a common understanding of institutional priorities.
  - Different actors in the institution may need different types of "evidence": what teachers need to develop their own teaching may differ from what departments and faculties need for improving the overall quality of a study programme. The process of reaching an institutional definition of EBLT should thus also enable a mutual understanding of what each type of evidence represents for each level.
  - Any definition of EBLT should be meaningful in the classroom context. Existing practices, activities or strategies should be introduced to staff through training or other professional development activities. Staff should be encouraged and motivated to test and assess the effect of these practices on student learning.

# II. IMPLEMENTING EBLT IN A SUSTAINABLE WAY

The implementation of EBLT should take place at institutional, faculty, department, study programme and course levels, as well as at the level of individual teachers. Specific attention should be paid to the sustainability of initiatives (Principle 9 in the European Principles for the Enhancement of Learning and Teaching).<sup>11</sup>

Based on the experience of its members and standard change management principles, the group formulates the following recommendations:

 EBLT should be introduced as a strategic priority for the institution in order for it to become systemic, sustainable, and embedded in the institution's culture. This can be done through the institution's mission statement, policy statement, charter, learning and teaching strategy, or other kind of institution-wide policy document.

- Such a strategy should itself be evidence-based and be developed through a mapping of needs, collection of data, and use of existing resources and operational units.
- Building such a strategy and sustaining it cannot be done
  without full ownership of all stakeholders concerned, and
  should involve those responsible for teaching as well as
  students, who are responsible for their own learning paths.
  Dialogue should be initiated to ensure that existing practices,
  as well as concerns and perceived challenges, are accounted
  for.
- To the extent possible, EBLT should mobilise and interconnect existing policies to embrace coherently all dimensions of learning and teaching (including pedagogical resources, human resource management and career progression, financial management, quality assurance, and facility management).
- 2. Subsequently, an evidence-based **institutional action plan** for learning and teaching should be designed and carried out.
  - Such an action plan should include the basic components of an evidence-based approach: defining the questions to be addressed, collecting and analysing related evidence, and designing initiatives, including objectives and indicators for monitoring the outcomes. For each action, the plan should specify roles and responsibilities, the resources needed for a sustainable implementation, the timeline and milestones, and the assessment process, in an enhancement-led, cyclic scheme.
  - To support implementation, EBLT approaches should permeate all aspects of learning and teaching planning, from curriculum design, development and delivery, to student assessment methodologies. Particular attention should be paid to the overall coherence of the education offer, and hence to coordination between those responsible for curriculum planning and for pedagogical support.
  - EBLT actions could use a design-based approach by starting with limited-scale pilot initiatives for testing selected concepts in specific contexts at the institution. When successful, these initiatives could underpin other initiatives, in a way that extends EBLT across the institution, based on evidence of success or efficiency.
- A communication plan should support the development of any EBLT approach so to acknowledge EBLT initiatives and increase their visibility and that of their promoters, in the spirit of peerlearning.
  - Such a plan should encompass all levels of the institution and ensure overall coherence and linkage to policy or strategy documents.

- Differentiated and somewhat personalised communication contents and formats could target different audiences (e.g., the general public or stakeholders within the university), explain how the institution sees its education provision, and how it improves learning and teaching in a continuous manner.
- 4. Appropriate **support structures** should be developed, or existing ones adapted, so as to ensure support for EBLT in a sustainable and complementary way, while ensuring due attention to academic and teaching autonomy.
  - Institutions should make good use of what already exists.
     Depending on the context, using existing structures may also mean connecting different units' work, or shifting their focus.
  - Learning and teaching centres, as well as education developers at faculties, play a central role in offering support. Institutions should define their responsibilities clearly and communicate them to those in charge of teaching.
  - Teaching enhancement is central to supporting teachers, and should come in a variety of (differently scaled) offers: professional development schemes,<sup>12</sup> training programmes, teaching innovation incentives (such as grants or time allowance) as well as smaller-scale peer-learning events and opportunities for informal gatherings. Both individual commitment and collective endeavours in building learning communities among teachers should be supported. Specific support may be envisaged for some groups (e.g., early-stage academics) based on a needs analysis.
  - Teachers should be encouraged to engage with projects in the field of SOTL, as well as with experimentation or action research projects to enhance teaching quality and student learning experience. This would ultimately build up a culture of experience sharing in learning and teaching.
  - Sharing experience between those who teach, in a recognised way and on a regular basis, would underpin communities of practice and nurture groups of teachers as change agents willing to transform their teaching and conduct pilots. This can be achieved with excellence schemes<sup>13</sup> or education leadership programmes (to reinforce the role of study programme or course coordinators).
  - Teachers should be encouraged and offered opportunities to
     examine their own teaching practices in a systematic and
     self-reflective way, applying research methodologies to their
     teaching practice. This can be done by offering training courses,
     organising specifically dedicated meetings or events, or
     defining, in a collegial way, improvement action plans for each
     course. One common practice is to use a teaching portfolio,
     which should account for recognition of achievements in
     teaching.



- For the adoption of an EBLT approach to be successful, students need to be informed about the objectives of various existing initiatives, and training students is needed to optimise their learning experience in a new pedagogical environment.
- Finally, as underlined by all EUA Thematic Peer Groups so
  far, enhancing teaching cannot be achieved without proper
  recognition for the teaching activity. Cultivating EBLT requires
  dedication, time and effort from teachers. Career promotion
  and progression should therefore acknowledge the value of
  EBLT and recognise, or at least not penalise, these efforts.

#### III. EVALUATING EBLT ACTIVITIES AND SPREADING SUCCESSFUL INITIATIVES

Both evaluating EBLT initiatives and spreading successful initiatives on a regular basis should be rooted in an institution's culture, with a continuous striving for an improved student learning experience as well as evidence-based decision-making by the institutional leadership (Principle 4 in the European Principles for the Enhancement of Learning and Teaching). Evaluating the impact of EBLT may seem highly complex, due to the difficulty of identifying a direct causality between actions and outcomes. Nevertheless, the group is convinced that if an evaluation takes place with the aim of quality improvement, it will be an excellent way to support EBLT actions and to recognise the efforts of actors engaged with them.

The question of evaluating EBLT initiatives cannot be disconnected from the question of how teaching is generally evaluated in an evidence-based way. The following recommendations intertwine these two aspects:

- At the institutional level, a policy or framework should define how to collect and use meaningful data; how to analyse the data with respect to the initial objectives; how to formulate constructive recommendations for continuous improvement; and how to manage the subsequent decision-making process.
  - Institutions should define what "meaningful data" is in their context. Such data should be geared towards the overall purpose of improving the student learning experience.
  - Tools for data collection should include existing learning and teaching-related databases or data lakes (interconnected databases), with the agglomerated results of student assessments, results from student feedback surveys, etc.
  - Faculties, departments, study programmes or courses may define their own indicators, in addition to those of the institution's. In order to reach coherence across data sets and build up data analysis for learning and teaching in the long

- term, indicators should have a minimum level of alignment across the institution, and definitions of indicators should be widely disseminated.
- Complementary data collected through focus groups or surveys could be gathered at faculty, study programme and course levels. In line with the overall institutional framework, specific strategies for evaluating EBLT in the classroom should be devised and embedded in both course-level and programmelevel assessment processes.
- 3. Scientific and research-oriented methodologies and approaches of teaching evaluation based on reflexive observations on contextualised teaching, and more specifically **SOTL**, should provide an insightful basis for examining individual teaching practices as well as institutional policies.
- 4. The methodology applied for evaluating EBLT initiatives, or innovative projects in learning and teaching in general, should be widely accepted across the institution, and acknowledged by the academic community. For this purpose, **peer evaluation** seems adequate, as it is a commonly accepted method in research assessment as well as in European quality assurance.
  - Teaching and/or specific initiatives in teaching should be evaluated by experts (in the taught discipline, in didactics, or by experts from both fields), for instance based on a teaching portfolio. Such experts should, however, still be considered as peers. They should formulate recommendations for improvement, which can be useful for the future, regardless of whether the pilot conducted is prolonged or scaffolded or not.
  - Existing representative committees (including peers as well as students) can take charge of making decisions regarding future resource allocation, based on such recommendations.
  - Such recommendations could also serve as evidence to inform evaluations of teaching performance, together with other resources such as student feedback surveys.
  - In a context of increasing international cooperation and network building, exchanges and collaboration between those with responsibilities in teaching should form an integral part of internationalisation strategies. This can include, for instance, structured exchanges with partner universities for building up peer communities in teaching. These peers could serve as experts in future evaluations of new initiatives.

- 5. The above-mentioned **communication plan** should also include reporting about the main achievements and impact of the EBLT approach by acknowledging EBLT outcomes and increasing their visibility as well as that of those promoting them.
  - Such a plan should encompass all levels of the institution, with overall coherence and reference to policy or strategy documents.
  - Institutions should encourage EBLT promoters and students involved to deliver testimonies, communications and publications on successful EBLT cases, in various formats.
     Peers talking to peers can be more efficient than top-down communication.
- 6. Beyond communication, spreading successful initiatives and empowering those responsible for teaching cannot be achieved without **mobilising communities of practice**. Such groups of change agents are needed to disseminate results from pilots and inspire their peers, in a way that would address resistance to change and concerns about potential failure. The institution has a role to play in making these communities of practice visible, acknowledging their role without overloading them, and, in parallel, **promoting the resources available** (learning and teaching centre, training offers, peer mentoring support, etc.) to support anyone starting a process of reflecting on their teaching and acting upon it.



# Conclusions

Evidence-based learning and teaching is a way to conceptualise how to take decisions to improve learning and teaching, based on concrete evidence provided by either scientific literature and experimentation, or by data and information collected through various processes. The adoption of EBLT, in a systemic approach to the enhancement of learning and teaching, should equip institutions with an efficient way to improve students' learning experience, because EBLT is closely related to other missions and activities, such as research and quality assurance. EBLT can benefit from existing data and structures and does not necessarily require extra investment. It requires reflexivity, and agency to act upon learning and teaching, from individual teachers, from staff in charge of study programmes, and from leadership.

The group proposes a set of recommendations following an evidence-based cycle: reaching a common understanding of EBLT across the institution, implementing it, and evaluating it so as to make gains sustainable. Ultimately, in institutions where both education and research are fundamental missions, approaching teaching with an evidence-based perspective should become the norm, and contribute to making teaching recognised as a scholarly activity, following a scientific and critical thinking methodology.

## Annex

#### **EUA LEARNING & TEACHING THEMATIC PEER GROUPS**

As part of its work on learning and teaching, EUA carries out activities with the aim to engage with university communities in charge of learning and teaching. One of these activities is coordinating the work of a set of Thematic Peer Groups. The groups consist of universities selected through a call for participation to:

- discuss and explore practices and lessons learnt in organising and implementing learning and teaching in European universities, and to
- contribute to the enhancement of learning and teaching by identifying key recommendations on the selected theme.

The 2019 Thematic Peer Groups, active from March 2019 to February 2020, invited participating universities to peer-learning and exchange of experience, while at the same time they contributed to EUA's policy work as the voice of European universities in policy debates, such as the Bologna Process.

Each group was chaired by one university and supported by a coordinator from the EUA secretariat. The groups met three times to discuss key challenges related to the theme, how to address the challenges through innovative practices and approaches, and what institutional policies and processes support the enhancement in learning and teaching. In addition, the groups were welcome to discuss any other issue that was relevant to the theme. Outside the three meetings, the groups were free to organise their work independently. Members of the groups also attended a final workshop, where they had the opportunity to meet and discuss the outcomes of other groups and address synergies. The workshop was hosted by Utrecht University in the Netherlands on 12 February 2020 and followed by the 2020 European Learning & Teaching Forum from 13-14 February, where focus groups based on the work of the Thematic Peer Groups were organised to obtain feedback on their results.

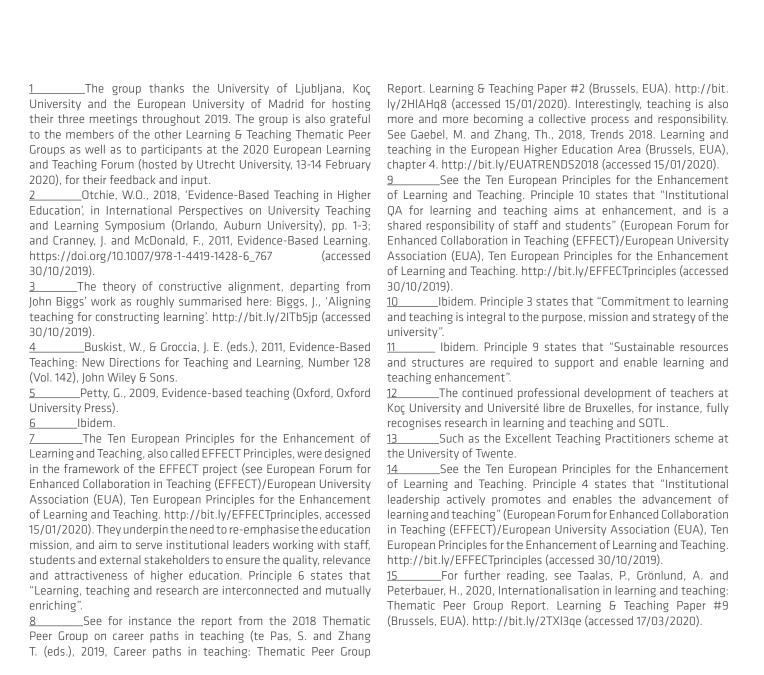
### Composition of the Thematic Peer Group 'Evidence-based learning and teaching'

(starting with the group chair and by alphabetical order of the country name)

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- Riga Stradins University, Latvia: Nora Jansone-Ratinika
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- Universidad Europea de Madrid, Spain: Gonzalo Mariscal, Sara Redondo Duarte, Sebastian Hytten (student) and Álvaro Viñuela Sanz (student)
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# **Endnotes**





The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 48 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations, EUA ensures that the voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, websites and publications.

This paper is one of a series of reports specifically focused on learning and teaching. It is designed to gather the knowledge and experiences of experts on the topic from across Europe. EUA's activities in learning and teaching aim at enhancing the quality and relevance of higher education provision, underline the importance of learning and teaching as a core mission and advocate for learning and teaching activities to be geared towards student learning and success.





