# Innovation in teaching and learning through internationalisation

Initiatives by the ECIU and EPICIR European University Alliances

Comparative Case Study for HEInnnovate



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## 1.1 The goal of this comparative case study

This comparative case study for the HEInnovate initiative addresses the goal of improving the quality of education through internationalisation initiatives undertaken by higher education institutions (HEIs). Internationalisation has been an essential part of higher education throughout the years, with universities and colleges encouraging student mobility, staff mobility and international partnerships. In recent years, the European Commission has sought to give internationalisation an extra boost by means of its European Universities Initiative (EUI). The EUI is the European Commission's ambitious strategy to integrate universities across Europe into transnational alliances centring on common organisational, thematic, or challenge-focused missions. Over consecutive rounds beginning in 2019, the now 44 selected alliances are forming deep institutional partnerships. Enhancing the quality of teaching and learning is at the top of the list of benefits expected from the EUI. The EU education and mobility programme Erasmus+ became the central programme for the implementation of the initiative.

The compared cases in this study are the European Consortium of Innovative Universities (ECIU) and the European Partnership for Innovative Campus Unifying Regions (EPICUR). For each we used information from public sources (websites, strategy documents, newsletters), complementing this with information from communications and interviews with representatives of the alliances.

Based on the experiences of these two European University Alliances, this case study illustrates how international collaboration can help improve the quality of education through the joint work undertaken by the members of the two alliances.

The case study discusses the motivation for the alliances, their work on educational innovation, and the challenges they face to realise their goals. Both alliances are working on innovations in teaching and learning and each is doing this in its own way, using specific policies, tools and structures. Some initial results are also presented, along with.

This case study compares the two alliances, focusing on the following questions:

- What are the goals that the HEI wants to achieve with respect to innovations in education?
- What policies and other mechanisms are used to introduce educational innovations in the alliance's member institutions? What barriers have been encountered by the transnational university alliances?
- What lessons can be learned from the experiences of the alliances in introducing innovations in teaching and learning?

In combination, the answers to these questions also are useful for other universities as well as university alliances that wish to introduce innovations in their institutions' education portfolio.

## 1.2    Introduction: the European Universities Initiative

The European Universities Initiative (EUI) is a European Commission initiative aimed at fostering cross-border cooperation and collaboration among European universities. Through encouraging the formation of transnational alliances, the EC seeks to create a new generation of European universities that are competitive, innovative and inclusive, and that promote European values and identity. The EUI seeks to achieve the following goals:

- Strengthening the European Higher Education Area by encouraging cross-border cooperation among universities.
- Promoting the mobility of students, teachers and researchers across Europe.
- Supporting the development of new curricula and teaching methods that are relevant and responsive to the changing needs of society.
- Encouraging interdisciplinary research and innovation by bringing together researchers and students from different disciplines and countries.
- Enhancing the quality and competitiveness of European universities by fostering their collaboration with industry and the public sector.

The European Universities Initiative is aiming to encourage the institutional transformation of European universities. In terms of education, the alliances focus on the creation of European inter-university campuses where students, staff and researchers can enjoy seamless mobility and create new knowledge together, across countries and disciplines. Its curricula are student-centred and are jointly delivered across inter-university campuses. Students will be allowed to build their own programmes and experience mobility at all levels of study.

The European Universities are typically made up of six to 10 higher education institutions across Europe. Their alliance activities are characterised by a challenge-based approach, according to which students, academics and external partners can cooperate in inter-disciplinary teams to tackle the big societal challenges (say, the United Nations' Sustainable Development Goals around the green and digital transitions, democracy, and inclusive societies. The European Universities Initiative is part of the European Commission's broader strategy for strengthening the European Higher Education Area and promoting the competitiveness and excellence of European universities. The European Universities are a flagship initiative of the European Strategy for Universities (published in January 2022) that sets the ambition to support 60 European Universities involving more than 500 higher education institutions by mid-2024.

The European Commission published a number of calls for proposals to select alliances. Only selected alliances receive European funding. The calls were published in 2019, 2020 and 2022 under the Commission's Erasmus+ Programme. The alliances selected by the European Commission include partners from all types of higher education institution and cover a broad geographic scope across Europe. In the 2019 and 2020 pilot rounds, the Commission provided each approved alliance the same fixed sum of €5 million for partnership-building activities and a further €2 million for joint research over a three-year period. The budget covers a three-year period and is spent on the implementation of the joint long-term strategy of the alliances.

The participating universities are expected to co-finance their alliance activities. This co-financing is supposed to cover 20% of the alliance's operational costs as proposed in the budget. In addition to the European funding, several individual EU member states also decided to support the alliances and have allocated dedicated national funding to alliances that were selected by the

European Commission.[1] However, the amount of national funding and the conditions attached to that funding differ substantially between member states. Below, we will return to this issue.

In 2019, 17 alliances involving 114 HEIs from 24 Member States were selected. In 2020, 24 alliances were selected, involving 165 HEIs from 26 Member States and countries associated with Erasmus+. In 2022, a total of 20 alliances were selected for funding; 16 were existing alliances (from the 2019 call) and 4 were new European Universities. The alliances involve 175 HEIs from 24 EU Member States and 3 associated countries. All in all, this means that by the end of 2022, 44 alliances involving 340 HEIs from 31 countries (all EU member states and Iceland, Norway, Serbia and Turkey) are funded as part of the EUI.

In September 2022, the EC issued its latest Erasmus+ 2023 European Universities call (the 2023 call) to continue the rollout of the European Universities Initiative. At the time of writing this case study, the call was still open.[2] Apart from the European Universities alliances selected under the 2020 Erasmus+ call for proposals, the call in this round was also open for participation of HEIs from Western Balkans countries to become full partners in the alliances. Also, a Seal of Excellence will be awarded to proposals which have been assessed and scored as high quality (above 80 points) but that cannot be funded under Erasmus+ due to lack of available budget. The seal is a quality label that recognises the quality of the concerned proposals and helps the alliances receive funding support from other European Union or national sources.

For this case study it is important to highlight that one of the key goals of the EUI is to encourage collaborative work on new innovative approaches to learning and teaching, including 'living labs', at Bachelor, Master and Doctorate levels. Our case study will in particular focus on the pedagogical innovations that the two alliances described in this case study are working on. The alliances, ECIU and EPICUR, were selected for European funding in the 2019 European Universities call. In other words, they are part of the first wave of European Universities.

## 1.3    Process, influencing factors, supporting mechanisms and context

For this comparative study we apply an analytical framework developed by Davey et al. in 2018 (see Figure 1). Originally, the framework was developed to study university-business collaborations, but it can also provide useful categories to describe and understand other change processes in higher education institutions. In the following, the integration of pedagogical innovations in HEIs will be understood as a change process, as this will alter existing practices.

**Figure 1: Analytical Framework**

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[1] In the case of Germany, national funding (by the German DAAD foundation) was also awarded to those alliances that were not selected for EU funding but that had submitted a proposal that was evaluated as 'good'.

[2] Open until January 31, 2023. Results expected around July 2023.
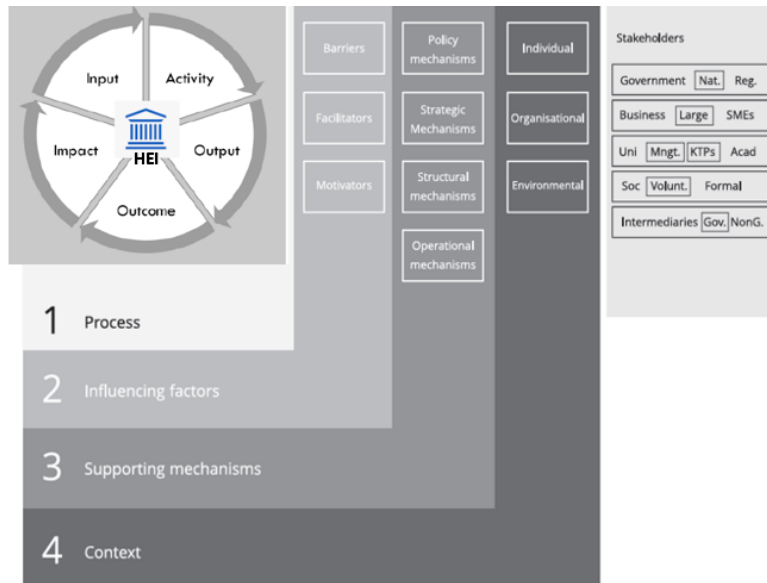
Source: *Source: Davey, T. et al. (2018): The state of university-business cooperation in Europe. Final report. Luxembourg: Publications Office of the European Union, p. 26*

The framework includes the various levels, factors, and challenges around implementing change towards a more sustainable and innovative HEI.

Central to the analytical framework is the *process* dimension, which relates to the change process. This process is operationalised as a simple activity chain. It distinguishes between inputs, activities, outputs, outcomes, and impact. The process can be regarded as a cycle because organisational change is usually not just a sequence of different activities, but often its actual outcome and impact will lead to further action in the institution. This dynamic process is embedded in three further dimensions (or layers) the *influencing factors* at the second level, the *supporting mechanisms* on the third level, and the *context* - on the fourth level.

The second layer of influencing factors signifies the immediate environment in which the process takes place. At this level, various barriers, facilitators, and motivators influence the activity chain and pull it in one or other direction. The (third) level of supporting mechanisms relates to the institution's enabling environment that includes the policies that frame rather than directly influence the steps in the change process.

Finally, the fourth dimension stands for the wider context in which the process is situated. It includes factors that are not under the institution's direct control, such as the individual characteristics and preferences of the actors involved or circumstances in the socio-economic environment of the HEI. In addition, the framework also looks at different categories of stakeholders that can have a role in the change process. Stakeholders are linked to very different organisations in the institution's environment.

## 1.4   Motivations for alliance formation

In terms of the influencing factors shown in figure 2, we now will discuss the motivations for the alliances to undertake collaborative activities. The motivations for the alliances lie in declining student numbers, growing fiscal pressures and intensified international competition for prestige, research talent and funding. This has induced collaborations, alliances, and mergers among higher education institutions (HEIs).

Firstly, among the HEIs themselves and, secondly, for the governments that support HEIs.[3] Through collaborations, alliances and mergers, HEIs try to enhance their education and research, achieve efficiencies, or align their network to the policy environment. For a long time already, institutional collaboration – both nationally and trans-nationally – has been occurring in academic research. Collaboration is less frequent in the design and delivery of instruction. The reason is probably that education, traditionally is an autonomous affair, often undertaken by individual academics in their own specialised area.

Thanks to new information and communications technologies there are new opportunities available to collaborate more easily and flexibly in education. Where traditionally educational collaboration primarily took place in face-to-face settings, there are nowadays new ways and methods for teamwork across institutional borders – even across national borders. This collaboration could allow teachers from different HEIs to develop and deliver new courses at a distance in an online format. In doing their development work, instructors can make use of open educational resources. Both EPICUR and ECIU work on the digital transformation of teaching formats.

Promoting collaboration among HEIs has proved to be an increasingly important priority for governments. The aim to encourage peer learning can push governments to encourage inter-institutional collaboration. Both national and European governments are striving for their universities to become more relevant for the economy and society - meeting the needs of students, employers and European citizens. This policy environment also encourages universities to join transnational alliances, such as the ones supported by the European University Initiative. Several governments provide dedicated financial support to their national universities that participate (or plan to participate) in the initiative.

Finally, and in particular in the area of research, governments are encouraging their national universities to collaborate with foreign universities to become more successful in the international competition for prestige, talent and research funds. The recurrent funding for universities in several European higher education systems puts a financial premium on universities bringing prestigious research grants from the European Research Council and the European Framework programmes in general. Collaboration could enable universities to strengthen research in the face of national and international competition and improve their position in the rankings.

The perceived necessity of establishing economies of scale and scope have encouraged HEIs to expand the number and types of collaboration with the hope of enhancing their competitiveness and achieving efficiency gains. Such efficiency gains are also part of government policies in several countries.

In short, collaborations, alliances and mergers are often actively promoted by governments, and aim to strengthen institutions and improve performance against global competition. Some of these collaborations, such as the European University alliances, may also involve business partners. Partnerships with the private sector might be one means of making better use of new ICT or enhancing the student experience more broadly.

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[3] Williams, J. (2017), *Collaboration, alliance, and merger among higher education institutions.* OECD Education Working Paper No. 160. Paris: OECD Directorate for Education and Skills.

Evidence about the outcomes of collaborations, alliances, and mergers is limited[4], but the fact that strategic partnerships are on the rise at least indicates that collaborations can strengthen institutional performance, and that the learning resulting from collaboration can produce innovations and efficiencies.

Institutionalised inter-organisational collaborations, ranging from project-based cooperation (jointly providing a service or specialised programme without compromising the autonomy of each partner) to comprehensive mergers (combining separate institutions to have a single governance and management structure). In the European alliances we study, the partners combine existing operations, pooling their areas of expertise and creating something new. This is done as part of an institutional arrangement, so there is a substantial degree of involvement from the central leadership of the institution. Furthermore, there are several activities undertaken in the collaboration that cover a wider range than, for instance, a single research project. The partners in the alliance retain their separate identities, unlike in the case of a merger, where an entirely new legal entity is created. In the transnational collaboration, the partners are from different countries and work to achieve a shared set of goals, where the HEIs remain legally independent, and share the benefits of their collaborative work.[5]

Although the rationale for forming the alliance may not be fully explicit, the common reasons for the European University alliances are:[6]

- Responding to external drivers (such as the European policy)
- Improving the scale, range and quality of research
- Improving the range and quality of learning and teaching for students
- Achieving synergies (economies of scope)
- Obtaining capacity and expertise
- Strengthening market position, whether nationally or internationally
- Acting to prevent competitors seizing a particular opportunity
- Gaining financial strength through acquiring assets and income or achieving economies of scale

Which motivation is the most important, is difficult to say for our two case studies. Both wish to work on innovations in teaching and learning for students and broadening their educational offerings and responding to a particular student demand.

## 1.5   The alliances: characteristics and goals

### 1.5.1   Description of the cases

This comparative case study describes the initiatives undertaken by two European University alliances around the topic of educational educations. The two alliances are: (1) the ECIU University, the European Consortium of Innovative Universities, and (2) EPICUR, the European

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[4] See, e.g., Fehrenbach, H., & Huisman, J. (2022). A Systematic Literature Review of Transnational Alliances in Higher Education: The Gaps in Strategic Perspectives. *Journal of Studies in International Education* https://doi.org/10.1177/10283153221137680.

[5] Todeva, E., & Knoke, D. (2005). Strategic alliances and models of collaboration. *Management decision*, *43*(1), 123-148.

[6] Higher Education Funding Council for England. (2012). *Collaborations, alliances and mergers in higher education: lessons learned and guidance for institutions*.

Partnership for Innovative Campus Unifying Regions. Some of the characteristics of the two cases are shown in the table below.

**Table 1: Characteristics of the two cases (ECIU and EPICUR)**

| | ECIU – the European Consortium of Innovative Universities | EPICUR - The European Partnership for Innovative Campus Unifying Regions |
|---|---|---|
| Composition of alliance | 13 member universities: <br><br> Aalborg University (DK) <br><br> Autonomous University of Barcelona (ES) <br><br> Dublin City University (IE) <br><br> Hamburg University of Technology (DE) <br><br> Kaunas University of Technology (LT) <br><br> Linköping University (SE) <br><br> Lodz University of Technology (PL) <br><br> National Institute of Applied Sciences in Toulouse (FR) <br><br> Tampere University (FI) <br><br> University of Aveiro (PT) <br><br> University of Stavanger (NO) <br><br> University of Trento (IT) <br><br> University of Twente (NL) <br><br> associate member:    Tecnológico de Monterrey (Mexico) | 9 member universities: <br><br> Karlsruhe Institute of Technology (DE) <br><br> University of Strasbourg (FR) <br><br> Adam Mickiewicz University of Poznan (PL) <br><br> Aristotle University of Thessaloniki (GR) <br><br> University of Natural Resources and Life Sciences (AT) <br><br> University of Haute-Alsace (FR) <br><br> University of Freiburg (DE) <br><br> University of Amsterdam (NL) <br><br> University of Southern Denmark (DK) |
| Start of alliance | 1997 | 2019 |
| Combined student volume | 207,000 students in the 13 member universities | 307,000 students in the 9 member universities |
| Staff | 31,118 (incl. 17,182 academic staff) | 40,000 (incl. 21,000 academic staff) |
| Faculties | 142 | 118 |
| Research groups | 449 | 156 |

Source: EC and author

Both alliances are part of the first wave of European Universities (see preceding section). There are some notable differences between the two alliances. The ECIU alliance is based on a partnership that started more than 25 years ago, whereas EPICUR commenced at the start of the EUI. Compared to other European Universities, the ECIU alliance is one of the biggest in terms of the number of partners. The different national backgrounds of the alliances' partners are illustrated in Figure 2 below.

**Figure 2: The location of the alliance partners**

| ECIU | EPICUR |
|------|--------|
|  |  |
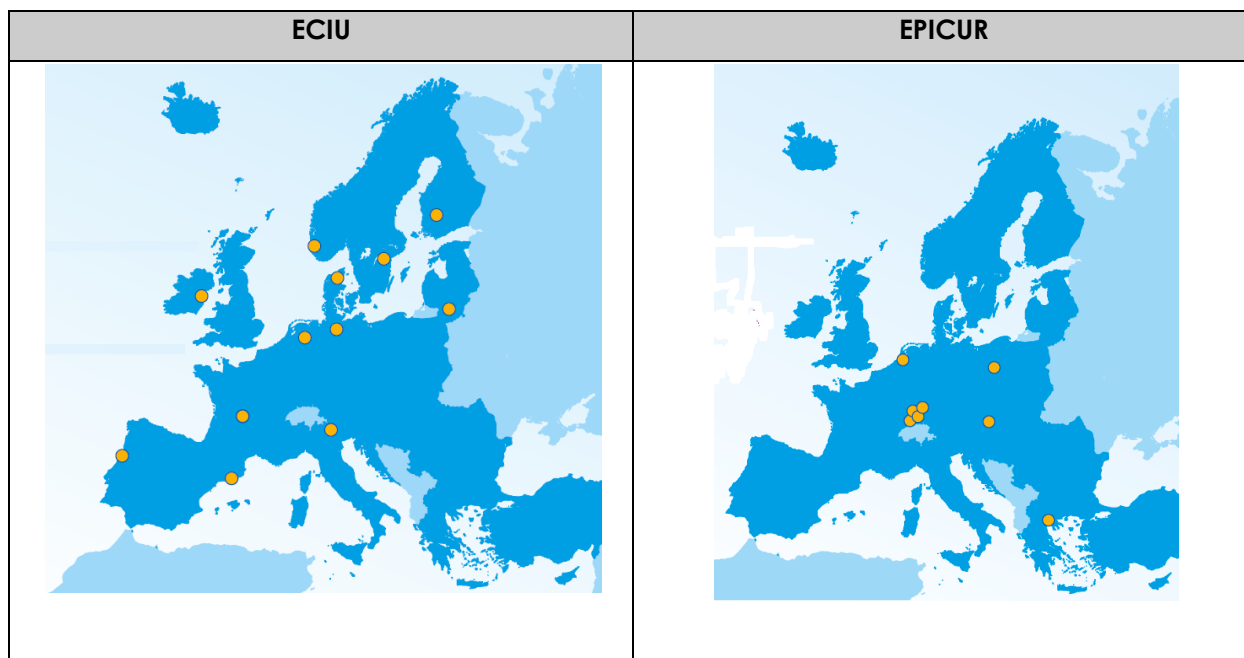
As part of their EU-supported activities, the partners in both alliances are working together to develop and promote innovative teaching and learning methods. They have in common the goal to enhance the student learning experience and create a more sustainable future through research-based education.

The ECIU is working on innovations in teaching and learning, addressing the following goals:[7]

- Development of new online learning platforms and tools to enhance student engagement and interaction.
- Implementation of flipped classroom methodologies, combining online and face-to-face learning, and developing micro-modules.
- Adoption of challenge-based education.
- Encouragement of interdisciplinary and cross-cultural collaborations through international student exchanges and joint projects.
- Incorporation of cutting-edge technologies such as artificial intelligence, virtual and augmented reality, and gamification in teaching and learning.

The EPICUR alliance is also promoting and supporting innovations in higher education and research. It aims to:[8]

- Expand the teaching and learning offerings based on Liberal Arts and Sciences, working towards a 'European Bachelor of Liberal Arts and Sciences'.
- Consolidate and connect study programmes in the field of European languages and establishing a model language policy for multilingual universities and safeguarding and strengthening European linguistic diversity.

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[7] https://www.eciu.eu/for-learners/about

[8] See: https://epicur.education/our-alliance/goals/

- Create a virtual inter-university EPICUR campus environment to broaden the opportunities for virtual mobility and the development of new courses, testing a learning platform based on gamification.
- Transform education, research and transfer practices and opportunities across its member universities in order to develop original cutting-edge solutions and train new generations of European change makers able to shape a European society in transition.

Both ECIU and EPICUR are placing the great societal challenges of the Europe (i.e. the European citizens) of tomorrow at the centre of their work. The challenges are focusing on climate change, healthy living, ageing populations and digital transformations.

As a result of the 2022 EUI call, both EPICUR and ECIU received a multi-million grant from the European Commission under the ERASMUS+ programme to further roll-out the plans for their alliance. ECIU remade its alliance ECIU University+ (ECIUn+) and the EPICUR follow-up project is called EPICUR-SHAPE-IT. The new EU grant is covering the period until 2028.

The digital transformation of teaching formats and the development of student mobility are also priorities of both alliances. ECIU works on developing Microcredentials-based courses. EPICUR, like ECIU, is facilitating new forms of mobility (physical, virtual, blended) within an inter-university campus (see below).

### 1.5.2    *The strategy and goals of the alliances*

### ECIU

The ECIU's strategic focus on innovation in teaching and learning and entrepreneurship is translated into its offering of shared minors, joint masters, and mobility grants for students and staff. The alliance tests different models with the aim of transforming higher education in Europe. At the core of ECIU University is challenge-based learning - in short CBL. Students, learners, teachers, researchers, representatives of businesses, public organisations, and NGOs team up across multiple disciplines to address real-life challenges. Its education will increasingly be based on addressing societal challenges, requiring international mobility and collaborations among the staff and students of the member universities.

ECIU University is to become a European university without degrees. Its learners get micro-credentials for individual courses, which they will gather in a competence passport tailored to their needs, instead of offering a fixed "one-size-fits-all" degree. This aligns with the ECIU University Mission for 2030.[9] Research-based micro-credentials, offered throughout Europe, are the core of personalised skills and competence development of its learners. The ECIU University's type of education is open to everyone, including lifelong learners This is part of the ECIU University's strategy to flexibly upskill and reskill the European workforce, developing creative and resilient European citizens with an entrepreneurial mindset. To quote one of the project leaders in the ECIU: 'I dream of a "NETFLIX" styled university, where you pay a fee and choose from all the courses available' (Sander Lotze, ECIU University project director). Our goal is to deliver modular education. We don't want a "one size fits all" university, but an educational system based on building blocks that you put together yourself.'

Challenge-Based Learning (CBL) is a pedagogical approach that actively engages students to identify, analyse and design the solution to a problem in a real-life situation.[10] Learners, teachers and researchers cooperate with cities and regions, businesses, and citizens to solve real-life

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[9] https://www.eciu.eu/news/eciu-university-2030-connects-u-for-life

[10] https://www.utwente.nl/en/cbl/what-is-cbl/#cbl-framework-three-main-phases Tecnologico de Monterrey, 2015.

challenges. The ECIU has decided to focus on the UN Sustainable Development Goal 11: *Sustainable cities and communities*.[11] ECIU divided SDG11 into 4 main topics: Circular economy, Energy and sustainability, Resilient communities, and Transport and mobility.[12] More thematic topics and societal challenges will be introduced in the near future.

In addition to the SDG themes, the ECIU also focuses on the theme of entrepreneurship, technology and innovation as well as developing competencies, such as language learning. Learners may choose from a variety of micro-modules (short courses) that can support them to better address the challenge, for example to widen their knowledge on strategic planning or sustainable development. A total of 205 unique Micro-modules were offered between Autumn 2020 and Autumn 2022. The total number of offered Micro-modules is 285, including 28 language learning modules with 11 languages.

CBL is characterised by three main phases:

- **Engage,** that is the commitment that students take on in facing a challenge, in defining the problem to be solved and in asking the right questions;
- **Investigate,** where students find relevant information and analyse it;
- **Act,** which is where students design, implement and assess the solution.



CBL should not be confused with Project Oriented Learning or Problem Based Learning. Unlike these, which are based on the analysis of case studies or on the resolution of a theoretical problem, CBL focuses on solving a current problem presented by a "challenge provider", a company, a private or public organisation or a non-governmental organisation (NGO) motivated to find a solution to a real issue. So far, more than 100 business companies, public organisations and NGOs offered their challenges.

ECIU's goal is to create an arena where people can set up challenges, a sort of a platform where anyone - students, members of industry, government or citizens - can sign up and form teams.[13] The teams addressing the challenge include a diverse group of people with different expertise and learning needs. The teams will work together, supported by training teams of 'teamchers'- a new breed of teachers/coaches different from the traditional teachers.[14] Every challenge ends with a specific outcome, which can be novel ideas, spin-offs, new research questions, and most importantly a better and more sustainable world.

The goal is that learners will develop professional, transversal, personal skills and competences. They will develop problem-solving and team-work competences and get the opportunity to work in a multidisciplinary and international team and develop intercultural competences as well as

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[11] https://sdgs.un.org/goals/goal11

[12] https://engage.eciu.eu/

[13] This 'engage' platform can be found here: https://engage.eciu.eu/browse?learningOppTypes=623140000 For the challenges, also see: https://challenges.eciu.org/challenges/

[14] For an example of a challenge situated at Tampere University and its city, see: https://www.eciu.eu/news/challenges-bring-together-students-and-employers-experience-at-tampere-university

international experience. The latter because of the possibility to study at different European universities during a short-term exchange or to meet up for a few days or participate online.

The CBL vision is not to replace traditional universities. It is an "add on", a flexible learning pathway that is mission driven. We also believe that this type of education could keep people bound to their home universities. But it would also allow students to move freely from one ECIU university to another during their studies. In the future, the ECIU likes to have European challenge based Master programmes for particular UN Sustainable Development Goals. In the more distant future, the ECIU would like learners to be able to pick and choose a challenge, becoming a life-long member of an educational environment, and gaining knowledge, skills and competences rather than a degree.

At first, the ECIU focuses on Master-level challenges. Students need to have at least 90 ECTS, if not, a completed bachelor's degree is required. Students also will have to have a minimum level of English language proficiency. Lifelong learners can also participate in solving the challenge either to obtain a promotion in their work field, to further educate themselves.

After the successful completion, all learning will be documented in a European competence passport. Micro-credentials, as well as all skills obtained through the CBL-project are listed in a digital passport and can be renewed and complemented later on. This credential is an ECIU certificate. There is always the possibility of receiving a transcript of records or a diploma supplement if necessary. The ECIU has been able to raise global higher education awareness of micro-credentials and European degrees. It also worked on developing a system of issuing e-sealed digital credentials.[15]

In terms of the results of ECIU in the past four years, more than 300 staff members and teachers across the ECIU University member universities have been engaged in the ECIU University activities so far and more than 600 learners have worked on real-life problems.

**EPICUR**

The EPICUR alliance places the teaching of "Liberal Arts and Sciences Education" (LAS) at the centre of its educational innovation activities. This is to be accomplished through student-centred learning and collaborative teaching formats including service-learning and research based internships. EPICUR strives to create a four-year European LAS bachelor at several of its partner universities. Liberal Arts and Sciences (LAS) is a student-centred approach to university education and an alternative to disciplinary study. LAS encourages intellectual discovery and personal development in an international learning community.

Multilingualism and safeguarding and strengthening European linguistic diversity is another goal of EPICUR. EPICUR's vision is that by 2025, the new generation should be able to master at least two foreign languages. Multilingualism and inclusion should consolidate European linguistic diversity while ensuring access for all to university studies. The key concept for its educational approach is ' inclusive excellence'.

Liberal Arts and Sciences programmes recognise the need for true interdisciplinary collaboration in order to identify and tackle the societal challenges facing the world today. Particular emphasis is placed on promoting intercultural awareness and understanding, on the development of critical analysis and reflection, and on the ability to provide leadership and to make articulate and

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[15] See ECIU Position Paper "A vision for European learners, values, and priorities and a paper on the concept of a "European Degree".

persuasive arguments. EPICUR intends to address the grand societal challenges ranging from climate change, healthy living, ageing populations and digital transformations.

In parallel to this, EPICUR works on the digital transformation of teaching formats and the development of student mobility. EPICUR's long-term strategy for education involves a systemic approach to developing flexible curricula, building on embedded mobility formats and training offers for all learners. By 2030, EPICUR's offer will include seamless student pathways, enabling students to gain a European personalised learning and work experience. These are labelled as *European Tracks* - personalised study trajectories centred around a real-world challenge. This implies there is a certain amount of similarity to ECIU's challenge-based approach to education (see above).

European Tracks are EPICUR's Liberal Arts and Sciences-inspired flexible learning pathways. Embracing the spirit of Liberal Arts and Sciences, students can put together their own tailored curriculum. The courses take place online or in blended formats. In the EPICUR European Track, students have the chance to take key competence courses and/or courses in the two thematic areas "Natural and Societal Sustainability" and "European Identities". All students at EPICUR universities can apply for the European Track from their second year of studies. Students can engage in various forms of international mobility (physical, virtual, blended) via the EPICUR (virtual) campus (see below).

EPICUR considers language and culture to be vital for communication within academic communities and for interaction with societies. A good command of several European languages is a basic precondition to foster educational and research quality and facilitate learning experiences. Offering mobility programmes in the field of European language and culture is one of EPICUR's key priorities to promote multilingualism. In return linguistic and cultural diversity will nurture social cohesion and mutual understanding in Europe as well as improve the employability of students and researchers.

The Language Training for Mobility courses are dedicated language acquisition courses. During these courses students can learn a language or boost their language proficiency. The ultimate goal is for students to be able to follow academic courses in one of the EPICUR languages. EPICUR offers students the opportunity to combine courses in a flexible, short mobility format, a learning pathway (LP), to improve skills and gain new competencies. Offers are sometimes split into various Learning Pathways (LPs), based on the required language proficiency level aimed for. Some require a physical presence in class. Students receive an official EPICUR recognition in the form of a micro-credential. EPICUR is currently developing a flexible concept for a European Track Certificate that students will receive upon completing a European Track. Again, these initiatives are bearing some resemblance to ECIU's work on micro-credential-based courses (see above).

European Tracks are study trajectories centred around a real-world challenge. There are two types of learning offers in the European Track:

EPIC Mission: *transdisciplinary group project,* involving short-term physical and complementary virtual mobility, in which students from across the continent come together as "mission crews" to tackle a societally relevant challenge on behalf of an external stakeholder with the support of an academic mission guide.

EPICUR learning ventures: *thematic courses* in the different challenge areas as well as *key competence courses*.

For the first option, students complete an EPIC Mission in a challenge area. This is a transdisciplinary research project which they take on together with peers from across the alliance. The EPIC Missions

are group projects in which students from across Europe come together to tackle real-world challenges on behalf of real-world stakeholders with the academic support of their mission guides. EPIC Missions are blended mobility opportunities that start with an in-person kick-off event, followed by online collaboration throughout the mission period and a physical reunion at the end. The missions[16] consist of two parts: a team mission and a solo mission.

In 2022, the EPICUR partners offered seven EPIC Missions in collaboration with external stakeholders from across the continent. The EPIC Missions start with an asynchronous pre-kick-off phase. Halfway through, there is a final presentation and a Capstone event at the end. In the academic year 2022/23, EPICUR offers European Tracks in the following challenge areas:

- Natural and Societal Sustainability
- Sustainable innovations and social justice
- Transformative cities
- Sustainable resource management
- Education and communication for sustainable development
- Inner development and sustainability
- European Identities
- Cultural Change and Contested European Identities
- Memories and Images of Europe
- European Futures
- Language and Culture

The EPICUR *learning ventures* (the second route that students can take as part of their European Track) consist of all learning activities apart from the EPIC Mission that students can complete within a challenge area, such as:

- Thematic courses
- Key competences courses
- Internships
- Service learning
- Research placements

The EPICUR *Internship Exchange Programme* provides cross-border internships for students (2 months) in one of the EPICUR universities' locations. The internships enable students to work on societal challenges. Contributing to the employability of the graduates, the practical work experience in private enterprises and civil society organisations enables students to broaden their horizons, improve their language proficiency and enhance their intercultural competencies at an early stage.

Within the internships at private enterprises, participants work at successful start-ups in the EPICUR regions, allowing them to acquire an entrepreneurial mindset at an early stage. Some of these enterprises operate in the field of social entrepreneurship.

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[16] There are several missions. See course catalogue: https://register.epicur.auth.gr/assets/courses/catalogue/study-program.html?id=NSS

In the field of civic engagement, EPICUR offers *Intercultural Service Learning*, which combines an innovative way of online academic learning with on-site voluntary work in a civil society organisation. EPICUR regards civic engagement and intercultural awareness, as well as a critical awareness of societal contexts and political developments as indispensable for shaping society and responsible global citizens.

Students who want to develop innovative solutions for the "Grand Challenges" and create impactful and innovative products can apply for the Summer School Edition of the EPICUR *Entrepreneurial Lab*.

This Entrepreneurial Lab Summer School is jointly organised by The Aristotle University of Thessaloniki (AUTh), University of Natural Resources and Life Sciences (BOKU), and the Karlsruhe Institute of Technology (KIT). It aims to provide an effective and state-of-the-art entrepreneurship education by connecting entrepreneurial students and stakeholders from nine EPICUR partner universities. It is based on the cooperation of the EPICUR ecosystems including lecturers and trainers, as well as start-ups and investors.

A key characteristic of the summer school is the synthesis of technology, sustainability, and the individual (entrepreneur) in a pedagogical setting. Participants in the summer school programme will develop innovative solutions to current and future sustainable and social challenges based on patents and technologies developed by the Karlsruhe Institute of Technology (KIT) and the Aristotle University of Thessaloniki (AUTh).

### 1.5.3 *Supporting mechanisms and obstacles*

In terms of the mechanisms and structures put in place by the ECIU and EPICUR alliances to support the attainment of their objectives we present some of the policies and facilitators in the following sections. Please note that the list is not exhaustive and omits some of the standard tools such as providing financial incentives (e.g., seed funds) and organising meetings, workshops and network events to support collaboration.

**ECIU**

One of the supporting mechanisms put in place by ECIU to promote CBL is the CBL Toolbox.[17] In the toolbox tips, tricks, and tools are available for course coordinators, teachers, students and learner teams. It is an online resource base.

For students, taking part in learning opportunities is completely free. Students are offered opportunities to attend workshops on Challenge-Based Learning to understand how it works and how to formulate challenge questions. One such workshop was the alliance-wide kick-off Event for ECIU University Challenges for the Spring of 2021, with 66 participants.[18] Within the context of their work on challenges, students were provided workshops and seminars, for instance on Design Thinking, Social Leadership and Scenario Writing.

To boost a sense of community among the ECIU learners, an ECIU Student Community was created on Facebook: https://www.facebook.com/groups/eciucommunity. This group offers every student of the ECIU member university a platform for student related information, reflections and best practices on the topics tackled by ECIU University, such as the Sustainable Development Goal 11 "sustainable cities and communities". It offers testimonies and best practice sharing. The

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[17] https://www.utwente.nl/en/cbl/cbl-toolbox/

[18] https://www.eciu.org/news/lets-make-a-real-impact-the-spring-semester-challenges-were-officially-launched

group offers space for all students to share tips regarding challenges, mobility and social activities to do when students register to a challenge.

Technology – in particular information and communication technology – is an important facilitating factor in the collaborative work of the alliance. The XR Campus is ECIU University in virtual reality[19] – an "Educational Metaverse". It allows student teams from ECIU University partners to collaborate, working on a six-week knowledge work assignment in virtual reality (VR). At the same time, it allowed the ECIU to test the ability to use VR in virtual teamwork. This test took place between October 2020 and March 2021 as part of a master's level university course about organisational teamwork and connected to an ECIU challenge set by Tampere city on Data and software services for a sustainable city.

Students were asked to reflect on their VR user experiences and specifically to reflect on the potentials and bottlenecks. The XR Campus development project received an enthusiastic reception, as VR was perceived to have great potential in removing the bottlenecks of remote collaboration, especially in terms of VR's ability to foster engagement, shared understanding, and informal communication.

The Virtual Campus provides instant collaboration opportunities throughout Europe. Learners, teachers, researchers, and societal actors can access the Campus anywhere and anytime to immerse in interaction and co-creation. The ECIU challenges can be solved together, and the VR environment offers all kinds of opportunities for skills and competence development.

In virtual reality, people feel psychologically immersed as if they were physically present in the same space. ECIU University XR Campus provides new interactive spaces for communication and shared understanding, for example, meeting colleagues in a virtual park or a virtual classroom. The extended reality digitalises tools that are traditionally used for shared focus in learning, like sticky notes and video presentations on the screen, in addition to drawing that is available in 3D. Virtual reality can also foster sociability and playfulness, integrating effects like flying and releasing fireworks, or impressing yourself in a 360-degree movie.

Immersive virtual environments combined with gamification provide new standards for interactions with the community. Initiatives like these show how digitalisation and educational innovation can go hand in hand.

**EPICUR**

Similar to the ECIU, the EPICUR Alliance has created a community platform - the EPICUR Community Platform, to serve as a basis for students and instructors to facilitate teaching and learning collaboration and social exchange. The Community offers diverse opportunities for engagement for students and teachers.

EPI-WIKI is a Best Practice Guide for implementing Liberal Arts and Sciences at European Higher Education Institutions.[20] The guide provides information on the concept, design and implementation of Liberal Arts & Sciences programmes, including about the integration of LAS components in existing study. Again, this tool is akin to the ECIU CBL Toolbox described above.

The EPICUR alliance also makes use of ICT to facilitate collaboration among the academics and students in the various alliance activities. The EPICUR Inter-University Campus[21] is a central online gateway for supporting flexible virtual, physical and hybrid mobilities for all students and staff

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[19] See: https://www.eciu.eu/news/xr-campus-virtual-reality-for-instant-collaboration-shared-understanding-and-focus

[20] https://learn.epicur.education/goto.php?target=wiki_662

[21] See: https://epicur.education/the-inter-university-campus/

across the alliance. One of its unique features is its fully digitalised, paper-free process for student admissions that is supported by a secure, scalable and transparent solution based on free and open-source software. Furthermore, EIUC offers innovative functionality to monitor mobilities, issue and recognise certifications (including ECTS and micro-credentials).

EPICUR created a digital infrastructure to support virtual mobilities: the EPICUR Inter-University Campus. Its main objectives are to monitor mobilities and minimize the manual administrative work for supporting mobilities. Part of it is the VCLP (Virtual Campus Learning Platform)[22], a Learning Management System that supports learning content management and tools for collaboration, communication, evaluation and assessments. The Inter-University Campus provides information about specific courses (in a course catalogue) and on how to register.

### 1.5.4    Obstacles

The two alliances mentioned a number of obstacles standing in the way of them fully achieving their ambitions as transnational alliances. Some of these obstacles are primarily external to the alliance (e.g., funding, regulation), while others relate to the characteristics and the composition the individual members of the alliance.

The first (external) obstacle is the financial sustainability of the alliances. The alliances receive financial support from the European Commission and their national governments – but European financial support is for a limited period and the level of national funding is very different between member states and its future is often uncertain. This may hamper the future success of the alliances.

For example, the ECIU University argues that long-term commitments from the EU and the Member States are necessary to realise its ambitions. It needs a sustainable funding source and calls for more time, support, and funding to realise its ambitions as a European university.

A critical element of the EUI's funding architecture is the need for participating universities to co-fund their alliance activities. The amount required varies by alliance size and scope but can be prohibitive for many lower-tier and less well-resourced universities. While for ECIU and EPICUR there seem to have been no immediate problems, but as alliances get more diverse in terms of partner universities the financial burdens for some members may become more substantial. The partners engaged in collaboration may have very different capacities to cover costs related to cooperation out of their core budget, beyond project-bound funds.

The partners in the alliance invest a substantial amount of funding from their own resources to realise their ambitions. The Erasmus+ and Horizon Europe funds, combined with the national funds are but a modest share of its total financial investments. Alliances call for additional support from their Member States. Several European countries have set up funding schemes to support the participation of their universities in the European Universities Initiative. This facilitates institutions' long-term planning and decreases dependency on project-bound funding.

Other obstacles are found in the regulatory environment around international collaboration. This relates to the legal status of the alliance, such as the possibility of the University Alliance as an entity to be eligible for funding, next to the higher education (partner) institutions. The ECIU Vision 2030 states that the ECIU University should be a public-private entity at the European level, owned by the ECIU member universities, with the ability to receive mixed funding and revenues at the European level. At the moment, the ECIU is working on elaborating these principles in a business

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[22] See: https://learn.epicur.education/ilias.php?baseClass=ilrepositorygui&reloadpublic=1&cmd=frameset&ref_id=1

case. Consideration is being given to adjusting the legal structure to make it possible for the university to be financed from different sources of income.

Moreover, the regulation around European degrees and the administrative complexity and accountability frameworks of international projects also may imply significant obstacles for the operation of the alliance. Across countries, there are differences in degree structures and requirements regarding the number of ECTS credits needed for a degree; differences in academic calendars, in grading and differences in higher education access requirements and the ability of higher education institutions to select students. The EUA has mentioned some other challenges and obstacles for the European Alliances.[23]

### 1.5.5    Lessons Learned

The two alliances, ECIU and EPICUR, have been piloting innovative models for European Universities since 2019. They are working on reshaping how higher education in Europe is provided. Both alliances have implemented innovative pedagogical education models: Challenge-based Learning (CBL) in the case of ECIU, and European Liberal Arts & Sciences (LAS) programmes in the case of EPICUR.

There is a global demand for lifelong and micro-learning opportunities as people seek to enhance their skills, competencies and knowledge.

The following lessons can be extracted from the experiences of the two European University Alliances:

- There is a great opportunity for teachers to learn from each other in transnational alliances about innovative teaching like CBL and LAS in practice, and exchange findings based on research concerning innovative teaching methods

- Technology (ICT), online platforms and toolboxes can facilitate virtual mobility and knowledge exchange between partners, creating opportunities and virtual spaces for teachers and learners to exchange their material, experience, and facilitate workshops. ICT and social media also can help build a community – of teachers, researchers and students

- There is a need as well as a great opportunity for university education to focus on the grand societal challenges – the SDGs, placing them in the focus of transdisciplinary education modules. Incorporating the societal challenges in CBL and LAS programmes prepares students to tackle Europe's biggest societal challenges

- Mobility (physical, virtual, blended) is one of the core aspects of these challenge-based approaches. International mobility can be facilitated by an inter-university campus

- The didactic approach and the collaborative, problem-based approaches inherent to LAS and CBL programmes build a distinct set of competences in the students and have great potential to foster their critical thinking and intercultural competences. The LAS and CBL models developed by ECIU and EPICUR encourage civic engagement among students and encourage learners to apply their knowledge beyond the classroom

- The micromodules developed by the alliances are attractive educational offerings for traditional students as well as life-long learners

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[23] See: European University Association (2022), *The European Universities Initiative and system level reforms. Current challenges and considerations for the future*. Brussels: EAU.
https://eua.eu/resources/publications/1038:the-european-universities-initiative-and-system-level-reforms.html