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Benchmarking Report

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Co-LIFE Project

The state of the environment and the economy require altering the way we approach business transactions (cf. the UN Sustainable Development Goals). Innovative sustainable interventions addressing social inequality and environmental degradation are required to create employment opportunities for sustainable growth. The Co-LIFE project aims to produce innovative educational measures in impact-focused entrepreneurship (IFE) in four (4) Indian HEIs. Project partner institutions in Europe and India have come together to co-develop educational content (course curriculum), learning materials, and novel innovative pedagogics to advance IFE-based education in India. This educational collaboration between Indian and EU-based HEIs (including students as co-developers) involves creating a tight stakeholder ecosystem in India and between India and the EU. The proposal involves local companies, non-academic organizations, and relevant stakeholders bringing innovative added value for social inclusion. This will produce positive social, economic, and environmental results through knowledge-sharing. Through close collaboration between HEIs, companies, and associations, e. g. via impact-focused entrepreneurship activities, the Co-LIFE project will create change in communities, in the short and long term. India needs sustainable interventions to exploit their demographics and vibrant ecosystem for entrepreneurial growth. The goal is Erasmus+ CBHE goals. Additionally, enhancing intercultural relations between the EU and India among HEIs, students, teaching staff, and local businesses and associations is an objective. HEIs and the ecosystem created in the project will benefit from exchanging best practices in learning and teaching methods and practical ideas towards employment and sustainable development in their respective areas.

Benchmarking report

Case-based learning approaches in Indian and European higher education institutions supporting Impact-Focused Education.

Many educational institutions today collaborate closely with companies or other organizations in the world of work or other types of assignments where a real-life context provides the learning experience. To educate students who will gain skills that the world of work needs, the collaboration with different kinds of organizations and real-life projects are beneficial. The organizations will gain the benefits of students solving their issues and bringing about innovative ideas, the students will gain experience and networks. Study assignments that are based on real contexts and real-world problems provide learning opportunities that are relevant to both the society and the students.

Why this benchmarking report was created?

In the project Co-Life Indian and European higher education institutions develop a pilot course of impact-focused entrepreneurship that will be implemented in India. Thus, it was seen as important to benchmark different learning approaches that would be utilized in planning the course. The benchmarking was concluded in the initial planning stages of the project, when the pedagogical approach, topics and curriculum were designed. The benchmarking report informs the next stages of the project.
The research questions investigated in this benchmarking report were the following:

- How are the consortium member HEI's currently utilizing problem-based learning?
- How does problem-based learning support education for impact-focused entrepreneurship?
- Which approaches from the consortium HEI's can be utilized in developing the pilot course on impact-focused entrepreneurship?

This article explores the different approaches of project-based learning in the participating higher education institutions. In the European universities there are several different learning approaches that have a lot in common with the pedagogical framework of problem-based learning. On the other hand, Indian universities commonly utilize a learning approach called Live Projects, which is similarly connected to problem-based learning.

Methodology

Benchmarking was used as the methodology of this report. Tuominen (2016) describes benchmarking as the process of identifying, understanding, and

adapting excellent practices from organizations anywhere in the world to help your organization improve its performance. The aim of benchmarking is to provide information about enablers that result in outstanding performance.

When benchmarking practices from other organizations, creativity in utilizing the results is important. Therefore, new innovations can emerge. (Ojasalo, Moilanen & Ritalahti 2021.) In the case of the Co-life project, benchmarking in this case was deemed as a suitable method to understand the practices from the HEIs in relation to problem-based learning. The project aimed at building the new pilot course based on work that was already done in the participating HEIs, to best utilize work, expertise and learnings from older projects where curriculums and pedagogical approaches had already been developed and tested with students.

The practical implementation of the benchmarking took place during the spring 2024. All participating HEIs were requested to review their offered courses in relation to themes like problem-based learning, working on real-life case assignments, sustainability and other topics that were deemed as important by the Co-life consortium. All HEIs were sent a questionnaire about their courses and asked to provide a benchmarking example.

Benchmarking instructions for the HEIs

These questions guided the benchmarking process and were sent to all HEIs that participate in Co-life project.

Find a course at your higher education institution that uses problem-based or real life cases as the platform for learning. Describe the course in a ppt presentation. You can use these questions as inspiration:

- The duration of the course in months/weeks?
- How many credits is the course?
- Who are the students (on what level: master, bachelor)?
- What kind of real-life cases do they work on?
- Have companies, NGOs or public organisations had a role in the course, and what kind of role?
- What have been the outcomes for student's learning, local communities or the provider of the cases?
- Describe the structure of the course with contact days etc.
- Describe the pedagogical approaches (lectures, readings, workshops, peer learning, study visits, group discussion etc.)
- Anything else you think is interesting

After benchmarking information was received from the HEIs, the examples were analyzed and this report was compiled.

Theoretical Background: Problem-based Learning, Live Projects and Learning by Developing

For the purposes of benchmarking, a theoretical background of three pedagogical approaches is presented here. They provide understanding about what area pedagogical frameworks in European and Indian HEIs in regards to learning by working with real-life assignments and organizations networked with the HEI.

Problem-based Learning (PBL)

Education in the 21st century is evolving rapidly, driven by technological advances and a shift towards more holistic and practical approaches to teaching and learning. One such approach that has gained significant attention and adoption is Problem-Based Learning (PBL). PBL is a student-centered pedagogy that involves students actively engaging in real-world problems to acquire deeper knowledge and develop essential skills (Cockrell and Caplow 2000).

Problem-Based Learning is an instructional methodology that uses complex and challenging problems as the starting point for learning (Awang and Ramly 2008). Unlike traditional teaching methods, which often rely on lectures and rote memorization, PBL encourages students to collaborate, think critically, and apply their knowledge to find solutions to these problems. This approach not only enhances subject matter understanding but also fosters key skills such as problem-solving, self-directed learning, and teamwork. (Stepien and Gallagher 1993; Alavi 1995; Cockrell and Caplow 2000.)

PBL places students at the heart of the learning process. They are responsible for their own learning, with the teacher acting as a facilitator rather than a provider of knowledge (Hmelo-Silver 2004). The problems used in PBL are often complex, open-ended, and reflective of real-life situations (Beringer 2007). This relevance to real-world issues helps motivate students and makes the learning experience more meaningful. Students typically work in small groups to solve problems. This collaborative environment promotes the sharing of ideas, peer learning, and the development of communication skills. (Cockrell and Caplow 2000; Awang and Ramly 2008; Missimer and Connell 2012.) In PBL, students are encouraged to take ownership of their learning. They must identify what they already know, what they need to learn, and how they will acquire that knowledge. This process fosters independent learning skills. The teacher's role shifts from being the primary source of information to a facilitator who guides and supports students in their learning journey. This involves asking probing questions, providing resources, and helping students stay on track.

PBL can be seen to develop the students' critical thinking, motivation and engagement and deeper understanding of the issues studied. PBL prepares the students for the real world, since the skills and knowledge gained with the approach are directly applicable in real world issues. (Martyn et al. 2014.) PBL also develops team works skills, research and problem-solving skills as well as communication skills. Teamwork dynamics can be a challenge in PBL, since teamwork can be a challenge and hinder the learning process if too difficult.

The PBL process generally follows a structured sequence of steps:

1. Problem Presentation: Students are presented with a problem scenario, often in the form of a case study or real-world situation. The problem should be complex enough to challenge students and stimulate inquiry.
2. Problem Analysis: Students discuss the problem in their groups, identify what they already know, and determine what additional information they need. This phase involves brainstorming, questioning, and hypothesizing.
3. Research and Inquiry: Based on the analysis, students conduct independent research to gather information and resources that will help them understand the problem better. This step emphasizes the development of information literacy skills.
4. Synthesis and Solution Development: Students come together to share their findings, discuss different perspectives, and develop possible solutions. This collaborative effort often leads to a deeper understanding of the subject matter.
5. Presentation and Reflection: Finally, students present their solutions to the class or a larger audience. This is followed by a reflection phase where they evaluate their learning process, the effectiveness of their solutions, and their teamwork. (Cockrell and Caplow 2000; Hmelo-Silver 2004; Beringer 2007.)

In Problem-Based Learning, teachers play a crucial role in facilitating and guiding students through the learning process. The teacher should shift from traditional teaching methods to acting as facilitators. Teachers guide, support, and mentor students rather than providing direct instruction, encouraging the students to take ownership of the process. The teacher should take specific consideration into designing the problems that are worked with, so that they are relevant to students' lives and challenging enough to stimulate critical thinking and problem-solving skills. The teacher should support the learning process by giving guidance and by monitoring the progress of the groups. (Hmelo-Silver 2004.)

The potential to learn through group work should be considered by creating multidisciplinary student teams, readiness to mediate conflict within student groups and ensuring all students participate equally in the tasks. The style of the

learning sessions should be engaging and interactive, to build motivation with the students. Assessment of learning should evaluate both the process and the final solution, including peer and self-assessments to foster reflection. (Hmelo-Silver 2004.)

Learning by Development (LbD) Model

One pedagogical model that has many similarities with PBL is the Learning by Development (LbD) model, pioneered by Laurea University of Applied Sciences in Finland. The LbD model blends education, research, and development to create a dynamic learning environment where students, teachers, and industry professionals collaboratively solve real-world problems. This chapter delves into the principles, structure, benefits, and challenges of the LbD model. (Laurea 2024.)

Learning by Development (LbD) is a pedagogical model that integrates learning with practical development projects. Unlike traditional educational models that separate theory and practice, LbD merges them into a continuous learning process. Students work on authentic projects that meet the needs of real clients, including businesses, communities, and public organizations. Through this model, students not only acquire theoretical knowledge but also develop practical skills and professional competence. (Raij 2014.)

Central to the LbD model are real-life projects that address genuine needs. These projects serve as the primary vehicle for learning, ensuring that students engage with relevant and meaningful tasks. LbD emphasizes collaborative learning. Students work in multidisciplinary teams, often alongside teachers, researchers, and industry partners. This collaboration fosters diverse perspectives and holistic problem-solving. In LbD, theoretical knowledge is directly applied to practical situations. This integration helps students understand the relevance of their academic studies and enhances their ability to apply knowledge in real-world contexts. Reflection is a critical component of the LbD model. Students regularly reflect on their experiences, challenges, and learning outcomes. This reflection deepens their understanding and promotes continuous personal and professional development. The LbD model is closely connected to the research and development activities and projects by Laurea University of Applied Sciences. The LbD projects are often part of larger R&D initiatives, contributing to innovation and knowledge creation.LbD enhances the employability of students, integrates theory and practice to impact deep learning, supports' students creativity and innovation skills, and helps with growing the professional networks of students. The reflective practices support personal growth and resilience. (Raij 2007; Raij 2018.)

The LbD process is structured as follows:

Planning Stage;

- **Identifying the Phenomenon**: Define the R&D project's core concepts and their interrelationships, outlining the project's activities.
- **Reflecting on Previous Research**: Analyze and interpret prior research findings and solutions.
- **Predictive Recognition and Description**: Anticipate and describe processes related to the project, enabling the formulation of initial hypotheses based on existing knowledge and personal learning plans.

Acting Stage

- **Acquiring Tools**: Gather relevant theories, models, subject-specific concepts, and practical tools necessary for action.
- **Collaborative Action**: Develop problem-solving skills through collaborative efforts, leading to the formation of new habits and practices.

Evaluating stage:

- **Continuous Evaluation**: Regularly assess both the project's progress and personal learning outcomes, considering the consequences of actions taken.
- **Reflecting and Creating New Meanings**: Reflect on shared experiences to generate new insights and meanings.
- **Recognizing and Evaluating Competence**: Identify and evaluate the skills and competencies gained.
- **Assessing Impact**: Measure the project's overall impact.

Developing

- **Sharing and Disseminating**: Communicate, share, and utilize the outcomes and findings of the project. (Raij 2018.)

Live Projects

Live projects have emerged as a significant pedagogical tool in Indian universities, providing students with the opportunity to apply theoretical knowledge in real-world scenarios. Live projects are an application of PBL (Rohm et al 2021). These projects bridge the gap between academia and industry, fostering practical skills, enhancing employability, and encouraging innovation (Tang & Mitchell 2016). Live projects involve collaboration between educational institutions and industry partners to offer students hands-on experience in solving actual business problems or working on real-time industry assignments. Unlike traditional internships, live projects are often integrated into the academic curriculum and are short-term, focusing on specific tasks or problems. (Sara 2011. Live Projects Network 2024). Many Indian universities have integrated live projects into their curriculum as part of capstone projects, elective courses, or summer training programs. Live projects are often supervised

by faculty members and industry mentors to ensure that students receive proper guidance and feedback.

Successful implementation of live projects requires robust partnerships with industry. Universities often collaborate with companies, NGOs, and government organizations to identify suitable projects. Projects are usually selected based on their relevance to the academic program and the feasibility of completion within the given timeframe. Students are often given the option to choose projects that align with their interests and career aspirations. Allocation may be based on academic performance, skill sets, or through a competitive selection process. Faculty members and industry professionals provide mentorship throughout the project duration. Regular reviews and feedback sessions are conducted to monitor progress and address challenges. This support system ensures that students remain on track and learn effectively from the experience (Whatley 2016; See also GRD Institute of Management 20214, Techno India University 2024, I Business Institute 2024, JK Business Institute 2024.)

The live projects approach resembles more an internship than problem-based learning and learning by development, but they offer similar benefits for students' learning. Students gain invaluable experience by working on real industry problems, which enhances their practical knowledge and skills. Live projects help develop essential skills such as problem-solving, project management, teamwork, and communication. Students get insights into industry workings, trends, and expectations, making them better prepared for future careers. Interaction with industry professionals allows students to build a network that can be beneficial for future job opportunities. Incorporating live projects enriches the curriculum, making it more dynamic and relevant to current industry needs. (Chang & Rieple 2013.) Students with practical experience are often more attractive to employers, leading to better placement records for the university. Partnerships with industries can lead to research collaborations, funding opportunities, and enhanced institutional reputation. Some benefits for industry include students bring new ideas and perspectives, which can be valuable for innovation, companies can identify potential future employees through these projects and that live projects often provide companies with cost-effective solutions to certain problems. (Sharma & Sharma 2024.)

Examples of courses and projects in Co-Life project Higher Education Institutions

This section of the report presents courses from Higher Education Institutions that are partnering in the Co-Life project, demonstrating the different ways they are implementing case-based learning. It entails both the practical and

pedagogical arrangements of the courses. This information was gained through the benchmarking methodology.

Integrating Real-Life Projects and International Collaboration in Sustainability Education at Lab

Incorporating practical, real-life projects and fostering international collaboration, LAB University of Applied Sciences offers a range of sustainability-focused courses that provide students with hands-on experience and a global perspective on environmental and ethical challenges.

Ethics, Environment, and Business

This bachelor-level course, with a credit load of 5 ECTS, is designed for graduate students, primarily from LAB's International Business program and Erasmus exchange students. It runs twice annually and includes a combination of lectures, guest speakers from companies and NGOs, practical exercises, workshops, and student presentations. Real-life projects are a core component, often commissioned by local businesses or RDI projects, enabling students to tackle issues like food waste, sustainable event management, and environmental communications. Students work in teams, gaining insights into the complexities of business ethics and environmental sustainability, and developing skills in international teamwork and creative problem-solving.

Sustainability Marketing

This bachelor-level course of 5 ECTS is run twice a year, once online and once in classroom teaching. The course contents are based on CSR, customer behaviour, and marketing communication supporting customers´ awareness, understanding and purchasing habits of more sustainable products and services. The course contains weekly lectures, guest lectures, case studies and individual reading tasks. All lectures and smaller tasks support the larger case study where student teams analyse companies´ sustainability marketing and give well-argued suggestions for further improvement.

Sustainable Travel

This 5 ECTS course focuses on helping local tourism companies achieve the Sustainable Travel Finland (STF) certification. Students, mainly from the Tourism and Hospitality Management program and Erasmus exchange participants, collaborate closely with companies throughout the certification process, which involves several steps. The course includes initial weekly teaching sessions followed by dedicated project work, where students assist companies in

progressing through the STF application stages. This hands-on approach provides students with practical experience in sustainable travel practices and teamwork, while companies receive valuable support in achieving their certification goals.

Smart Cities

The NordBiz international intensive course, worth 7 ECTS, involves students and teachers from eight Scandinavian-Baltic higher education institutions. The course includes a preparatory phase where students create country reports, followed by an intensive week in a host country, working on real-life projects for local businesses or public organizations. Past topics have included CSR, social entrepreneurship, and circular economy practices. An example project involved planning an environmentally friendly suburb, addressing housing, transportation, food production, and waste management. This course emphasizes international teamwork and practical problem-solving, providing students with a deep understanding of urban sustainability challenges and offering companies innovative ideas and benchmarking insights.

Winter School: Climate Change and Circular Economy

Organized annually, this 5 ECTS course brings together students and teachers from ten European higher education institutions. The program includes preliminary work based on company interests, followed by an intensive week at LAB. During this week, students work in international teams on real-life case projects, attend lectures, engage in practical exercises and workshops, and participate in social events. A notable project involved streamlining processes for a local second-hand store, developing an online shop, and improving transportation and social media communication. This course fosters a comprehensive understanding of climate change and circular economy challenges, practical experience, and international collaboration, benefiting both students and participating companies with innovative solutions and diverse perspectives.

BTECH Presents Innovative Courses: Nordic-Baltic Business Ethics and Circular Economy in Fashion Industry

Nordic-Baltic Business Ethics and Entrepreneurship

This unique course, part of the NordBiz network involving universities from Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, and Sweden, aims to introduce a Nordic-Baltic business perspective on sustainable development with a focus on business ethics and entrepreneurship. Emphasizing work in a multicultural environment, the course aims to build a network of future business professionals. The central theme revolves around business ethics and entrepreneurship within the experience economy, particularly focusing on entrepreneurial initiatives in creative industries related to business ethics, sustainability, and societal impact. The theoretical framework includes innovation, organizational, and management theories. Key areas of study include fair trade, environmental issues, piracy and copyright, gender issues, cultural appropriation, and equal distribution of services.

The course is structured into two main parts: country cases and a final project. In the first part, students prepare reports on business practices in their home countries, which are presented and graded during an intensive week. The final project involves multicultural group projects based on real-life company cases, presented at the end of the course. By the end of the course, students are expected to understand the Experience Economy and Creative Industries, apply innovation, management, and organizational theories, analyze and evaluate information related to the Creative Industries, identify factors fostering business ethics and sustainability, enhance cultural and communication awareness, and execute qualified project tasks effectively.

Teaching methods include project work and tutoring, workshops, seminars, presentations, company visits, and guest lectures. The prerequisites for enrollment are 60 credits in Business Administration, with at least 45 credits completed before the course starts. Assessment is based on a written Intensive Program Report adhering to academic standards, an oral presentation using PowerPoint to teachers and company sponsors, and a multiple-choice test based on course literature.

Circular Economy in the Fashion Industry

This course addresses the urgent need for a new economic model in response to resource depletion and the climate crisis. It explores the concept of a circular economy with a focus on the fashion industry's environmental impact and

sustainable practices. The theme centers on applying circular economy principles to the fashion industry, emphasizing the reuse, recycling, and restoration of materials. Key principles include Cradle-to-Cradle (C2C) and the 7Rs: Rethink, Reduce, Reuse, Repair, Refurbish, Recover, and Recycle. The framework covers circular economy design, innovative business models, reverse cycles, and enabling system conditions.

Students will study the sourcing of raw materials (both virgin and secondary sources), product design for longevity and durability, the impacts of production and distribution, the use and maintenance of products, and end-of-life strategies for recycling and material reuse. By the end of the course, students should understand circular economy principles and their application in the fashion industry, analyze the environmental impact of fashion, identify opportunities for circular business models, and implement sustainable practices within the industry.

Teaching methods include lectures and seminars, workshops and project work, guest lectures, and industry visits. Assessment involves multicultural team projects on real-life company cases related to circular economy practices in the fashion industry, a written report adhering to academic standards and focusing on practical applicability, an oral presentation of findings to teachers and industry sponsors, and a multiple-choice test based on course literature and circular economy principles.

Design for Sustainable Cities and Communities Introduction at Thomas More University

Thomas More offers a full-time postgraduate program in Space and Service Design, a 60-credit, international, and multidisciplinary course. Students focus exclusively on real-world projects for actual clients, ranging from public services and social organizations to cultural institutions and sustainable enterprises. The United Nations Sustainable Development Goals (SDGs) serve as a guiding framework throughout the curriculum, with each external project meticulously evaluated to ensure alignment with at least one of the SDGs.

The program utilizes Learning by Doing (LBD) and service design thinking as core methodologies. One notable partner is the Province of Antwerp, where students completed an exemplary project for the "Toerisme Provincie Antwerpen" department. The project aimed to expand and enhance the region's hiking network, reflecting the collaborative and impactful nature of the course.

The Province of Antwerp, the client managing 'Toerisme Provincie Antwerpen', to expand and enhance the province's hiking networks. Antwerp aims to improve the quality and distribution of these networks to attract both residents

and tourists, promoting walking as a popular activity linked with other tourist attractions. The goal is to create a high-quality hiking network that is accessible, safe, inclusive and sustainable.

To achieve this, the project is divided into phases. Initially, the focus is on regions without existing networks, using local knowledge to establish virtual walking routes, with a rollout beginning in 2023 and completion by autumn 2024. In the second phase, starting in 2025, the physical and virtual networks will be evaluated for quality and distribution, with adjustments made as necessary. The final phase involves a comprehensive review of the entire provincial walking network to ensure a well-balanced, integrated system.

The course emphasizes understanding the needs of hikers to design supportive services and tools. The client seeks guidance on improving the walking experience through tailored, future-proof, and sustainable products. The design process follows the Double Diamond structure, involving research, ideation, testing, and final solution delivery. Students will use various design and research tools, including service safaris, interviews, user journey mapping, and co-creation sessions with stakeholders.

The project's ultimate aim is to offer high-quality, accessible walking experiences in Antwerp, promoting walking through innovative and sustainable solutions. The course also includes a two-day immersive trip to Zilvermeer Mol to experience and evaluate current tourism services, providing valuable insights for the design process. Collaboration between Thomas More, ID&A, Space & Service Design, and the province of Antwerp ensures a comprehensive approach to enhancing the walking networks.

Besides the topic of Sustainable tourism, the programme works on topics such as Design for Care, Design for circular economy, Design for sustainable food production and consumption, Design for inclusive cultural environments and Design for future learning, etc.

Experiential Learning through District Immersion at ISDM

This 11-month course at ISDM blends development and management education to equip students with a deep understanding of society and development. The core curriculum includes courses on the development ecosystem, intervention design, sustainability, scaling, and organizational management, augmented by workshops on Personal Mastery, Group Dynamics, and Writing in the Discipline. A distinctive feature is Context-Based Collaborative Learning (CBCL), where students engage with bricoleurs to discuss their individual and group learning journeys.

A key component is the Realizing India (RI) initiative, a two-week district immersion aimed at building a holistic understanding of district-level realities. During this immersion, students engage with various aspects of the district—social, economic, political, demographic, cultural, administrative, and geographic. They also interact with multiple actors to understand their roles and relationships. This immersion helps students apply tools of situation analysis, systems thinking, and participatory research, and to map the ecosystem and stakeholders.

Preparation for RI involves secondary research to develop an empirical understanding of the district, creating a district profile, analyzing data, and developing a nuanced understanding of people's lived experiences. Students also prepare logistical plans and budgets for their immersion.

During the immersion, students conduct interviews and focus group discussions, observe daily life, and consolidate their findings into a comprehensive report. They share their experiences and insights with the cohort, preparing for presentations and discussions upon their return. Partner CSOs support students by providing contextual understanding, facilitating accommodation, and helping connect with key stakeholders.

Post-immersion activities include debriefing, presentations, and assessments. The insights gained from RI feed into the next term's focus on intervention design, where students develop systems design, Theory of Change and Theory of Action, and Monitoring and Evaluation plans. This experiential learning component is crucial for understanding real-world development challenges and designing effective interventions based on the context and problems identified during the immersion.

Real-life case based student Activities at Goa Management Institute

At the Goa Management Institute, the Sustainability Hackathon is a prominent event that brings together teams of students and professionals from diverse disciplines to tackle real-world sustainability challenges. This hackathon provides a dynamic platform for participants to demonstrate their creativity, critical thinking, and problem-solving skills as they work collaboratively on sustainability issues.

In addition to the hackathon, the Sustainability Ambassadors of the Centre for Excellence in Sustainable Development (CESD) engage in various live projects that promote sustainability awareness and action. Notable projects include a photography contest titled 'Sustainable Imprints - Capturing through the lens of GIM,' which encouraged participants to capture sustainable practices through

photography. Another significant initiative was the national-level videography competition 'Reel It In,' which focused on themes such as sustainability, ecotourism, and wildlife, allowing participants to express their understanding and ideas through video storytelling.

A key initiative, the Green Industries Goa Campaign, saw students investigating the sustainability initiatives of Micro, Small, and Medium Enterprises (MSMEs) in the state of Goa. Through interactions with Industrial Estate presidents and MSME owners, students explored the motivations behind these businesses' investments in environmental efforts and their strategies for reducing their carbon footprint. This campaign provided valuable insights into the drivers of sustainable business practices and enhanced students' understanding of the practical challenges and opportunities in promoting green industry initiatives.

As part of the Community Outreach Projects, formerly known as Give Goa and now renamed SLRI (Service Learning and Rural Immersion), first-year postgraduate management students engage in immersive field internships through their service learning course.This initiative connects students with community outreach projects led by banks, schools, corporates, foundations, government departments, FPOs, and NGOs. It provides a unique opportunity for students to understand grassroots challenges, apply critical thinking, and collaborate with stakeholders to develop data-driven interventions, fostering meaningful improvements in the community and bridging the gap between learners and grassroots organizations.

These activities not only foster a deeper understanding of sustainability among students but also enhance their ability to communicate and advocate for sustainable practices effectively.

Service Design and Circular Economy Courses at Laurea University of Applied Sciences

The Service Design for Circular Economy and Service Design courses at Laurea University of Applied Sciences integrate theoretical learning with practical, hands-on experience, structured into two main sections: a Theory section and a Project section. Both courses award 5 ECTS to the students on completion.
In the Service Design for Circular Economy course, the initial Theory section is conducted online and provides a foundation in the service design process, specifically the Double Diamond model, along with circular economy principles and methods. This section includes various tasks and tests that students complete independently. The subsequent Project section combines online and on-campus activities, beginning with team formation and a project brief kickoff.

A significant component of this section is the mandatory sprint week on campus, featuring intensive ideation and concept workshops. During this week, students work in teams to develop a service concept for a clothing or textile company, focusing on circular economy business models and sustainability. The project culminates with final presentations, portfolio submissions, and self and peer assessments.

The Service Design course also begins with an online Theory section, introducing students to the service design process and its tools and methods. Following this, the Project section is held both on-campus and online, where student teams undertake a service design project for an insurance company. This section involves various phases of the Double Diamond model—Discover, Define, Develop, and Deliver—and includes several key campus sessions, workshops, and team-based activities. The course concludes with final presentations and self and peer evaluations.

Both courses emphasize the importance of active participation in on-campus sessions due to the collaborative nature of the projects. Students engage in real-world challenges, applying theoretical knowledge to develop innovative service concepts and sustainable business models.

Fostering Innovation and Sustainability: ARCH College's Cumulus Student Talent Camp and Business Development Courses Empower Future Designers and Entrepreneurs

Course: Cumulus Student Talent Camp (Design Identity Direction)

ARCH College of Design & Business initiated the Cumulus Talent Camp from October 30 to November 4, 2023, curated and hosted by ARCH College in Jaipur, India. The Cumulus Student Talent Camp (Design Identity Direction) is a distinguished blended mobility program, offering 3 ECTS credits. This 7-day intensive course, which includes a one-day virtual pre-camp session followed by six days of physical mobility, is designed to provide participants with a comprehensive understanding of Sustainable Development Goals (SDGs) in both regional and global contexts. The camp emphasizes learning from living traditions and explores how crafts and local knowledge can be leveraged to advance SDGs through innovative design solutions.

The course begins with an online orientation, introducing students to the SDGs and preparing them for the in-person activities. The physical mobility segment includes extensive visits to various industries, such as the Ceramic Industry at Neerja International, the Watch Industry at Jaipur Watch Company, the Fashion & Textile Industry at Nila House, the Gems & Stone Industry at Gomes Gems, the Rugs & Carpet Industry at Jaipur Rugs, the Block Printing Industry at Rangotri,

and the Hand Made Paper Industry at Kalpana Papers. Additionally, students visit the Garment Export Promotion Zone in Jagatpura and explore Paras Kamal, Threads & Buttons. A cultural visit to the JKK Handicraft Fair & Lokrang Festival further enriches the experience, offering insights into the region's cultural heritage.

Pedagogical Direction:

Day 1: Focuses on "Being, Awareness, Kinaesthetic Thinking," encouraging students to engage with their surroundings and develop a heightened awareness of the physical and sensory aspects of design.

Day 2: Emphasis is placed on "Micro/Meso/Macro Thinking, Context," guiding students to analyze design issues from different scales and perspectives and understand the context in which they operate.

Day 3: The focus shifts to "Managing, Thinking Strategies," where students learn to manage their design processes and apply various strategic thinking methods to address complex challenges.

Day 4: Students explore "2D, 3D & 4D" thinking, examining different dimensions of design and incorporating multiple perspectives into their creative processes.

Day 5: Dedicated to "Four Track Presentation," focusing on Product Design, Communication Design, Sustainable Design, and Social Design, where students present their group work across four tracks, showcasing the insights and solutions developed throughout the camp.

The program also includes a "Define & Ideate" workshop, where students engage in collaborative brainstorming sessions to develop ideas related to SDGs and traditional crafts. The agenda continues with a Jhalana Leopard Safari, an ARCH campus tour, a prototyping workshop, and reflective discussions, culminating in final presentations and documentation of the students' work. A Gala evening celebrates the achievements, and an optional city tour with visits to museums, forts, and palaces provides additional inspiration.

Assessment criteria include active participation in workshops, discussions, and site visits, with a minimum of 84 working hours required to complete the course successfully.

The camp's pedagogical direction emphasizes experiential learning, fostering creativity, and encouraging cross-disciplinary collaboration. It aims to broaden students' perspectives, enhance their networking and knowledge-sharing skills, and empower them to contribute to sustainable development through design.

This program has now become an annual event, underscoring its significance in inspiring future designers and promoting the preservation and innovation of traditional crafts within the context of global sustainability efforts.

Course: Strategic Business Development

The "Strategic Business Development" course, offering 4 credits and encompassing 120 hours of instruction, is designed to provide students with the skills and knowledge necessary to analyze business situations, identify key stakeholders and address specific challenges within a business context. Students begin by conducting a detailed analysis of a given situation, identifying relevant stakeholders and selecting a problem centered on one specific stakeholder.

Once the problem is identified, students develop and validate a solution. Building on the business model created in the Lean Model Canvas (LMC) framework from a previous assignment, students will then create a comprehensive investor pitch deck. This pitch deck will cover all critical aspects of the business that potential investors need to know, including value proposition, market strategy, financial projections and growth potential.

Throughout the course, students will explore various types of potential customers. By conducting trials and analyzing demographic and psychographic data, they will create a detailed persona of the ideal customer best suited for their business. Additionally, students will carry out secondary research to determine the overall market size of the business sector they are focused on. They will calculate the Serviceable Available Market (SAM) based on the "customer persona" and estimate the Share of Market (SOM) based on their growth plan, providing a realistic assessment of the market share they can capture.

This course emphasizes practical, real-world applications, preparing students to develop and present strategic business plans that are well-researched, customer-focused, and investor-ready.

Course: Entrepreneurship
The course is designed to immerse students in real-life entrepreneurial situations, bridging the gap between theoretical knowledge and practical application. By engaging directly with industry professionals, participating in live projects, and analyzing real-world case studies, students will develop a comprehensive understanding of the challenges and dynamics of the business world. This experiential learning approach is aimed at enhancing critical thinking, problem-solving, and decision-making skills, essential for any aspiring entrepreneur. Students will be encouraged to apply their classroom learning in practical settings, thereby gaining valuable insights into the functioning of businesses and the complexities of the market environment.

The course will include 45 contact hours, during which students will actively participate in interactive sessions, workshops, and field visits. These activities are strategically designed to provide firsthand experience and exposure to real-world business scenarios. The assessment will be based on continuous evaluation, project work, and participation, totaling 100 marks. This approach ensures that students are not only evaluated on their theoretical knowledge but also on their ability to apply that knowledge effectively in real-life situations.

Conclusions: Innovative Approaches for Impact-Focused Entrepreneurship Courses

In developing a new impact-focused entrepreneurship course that bridges Indian and European higher education institutions, several innovative ideas and teaching methods from existing programs can be adapted to foster sustainable business practices, international collaboration, and practical learning experiences. These approaches emphasize real-life projects, experiential learning, international teamwork, and a focus on sustainability, all of which can be incorporated into the new course design.

Benchmarking Results

This report outlines the different courses and approaches of the HEIs that participate in the Co-life project. As a result of the benchmarking, it is obvious that any existing courses emphasize learning through direct engagement with real-world problems. Here are some main best practices that emerged from the benchmarking of the different courses in the HEIs.

How are the consortium member HEIs currently utilizing problem-based learning?

The consortium member higher education institutions (HEIs) are actively applying problem-based learning (PBL) and related pedagogical models, Learning by Developing (LbD) in Europe and Live Projects in India, to connect academic study with real-world challenges. Across institutions, PBL principles are embedded through real-life cases, collaboration with external partners, and experiential learning. The report highlights both European and Indian practices that share common foundations in problem-solving, teamwork, and reflection.

European HEIs

1. Laurea University of Applied Sciences (Finland)

- Laurea employs the Learning by Developing (LbD) model, which is closely aligned with PBL.

- Students work in authentic R&D projects with businesses, communities, and public organizations, integrating theory with practical development.
- Projects emphasize collaboration, reflection, and innovation, fostering employability, creativity, and professional competence.

2. LAB University of Applied Sciences (Finland)

- LAB's courses integrate sustainability and entrepreneurship through problem- and case-based projects with companies and NGOs.
- Students tackle real challenges such as food waste reduction, sustainable travel certification, and circular economy in collaboration with external partners.
- Methods emphasize international teamwork, guest lectures, workshops, and company-commissioned projects, enabling cross-cultural problem-solving.

3. Thomas More University (Belgium)

- Applies Learning by Doing and Service Design Thinking, both rooted in PBL principles.
- Students in the *Space and Service Design* postgraduate program work exclusively on real-world projects for clients (e.g., provincial government on sustainable tourism initiatives).
- The Double Diamond design model (research → ideation → testing → delivery) structures projects addressing sustainability, inclusion, and circular economy.

Indian HEIs

4. ISDM (Indian School of Development Management)

- Uses Context-Based Collaborative Learning (CBCL) and District Immersion to immerse students in real-world social and development problems.
- Students conduct field research, stakeholder mapping, and participatory analysis to design interventions.
- This experiential model builds systemic problem-solving skills and directly mirrors the PBL process—problem definition, analysis, and solution design.

5. Goa Institute of Management (GIM)

- Employs live projects, hackathons, and community outreach rooted in problem-based approaches.
- These activities strengthen critical thinking, stakeholder engagement, and evidence-based problem-solving.

6. ARCH College of Design & Business (India)

- Courses like the *Cumulus Student Talent Camp* and *Strategic Business Development* integrate design thinking and real-world casework.
- Students work on SDG-focused projects through site visits, industry collaboration, and prototype development.
- The programs emphasize experiential, multidisciplinary teamwork—core principles of PBL.

Synthesis Across Consortium Members

Across both European and Indian institutions:

- Real-world problems are central to learning, replacing abstract exercises.
- Industry, NGOs, and public-sector collaboration create authentic contexts for student engagement.
- Cross-disciplinary and multicultural teamwork fosters diverse approaches to problem-solving.
- Reflection and self-assessment are integral parts of learning.
- Sustainability and social impact themes guide most projects, linking PBL to impact-focused entrepreneurship.

In conclusion, consortium HEIs utilize problem-based learning through authentic, interdisciplinary, and sustainability-oriented projects that engage students in solving real-world challenges alongside external partners. These diverse applications of PBL collectively inform the design of the Co-LIFE project's pilot course on impact-focused entrepreneurship.

How does problem-based learning support education for impact-focused entrepreneurship?

Problem-based learning (PBL) supports impact-focused entrepreneurship education by equipping students with the mindset, skills, and collaborative experience needed to design sustainable, socially responsible, and contextually relevant solutions. Across the consortium's European and Indian higher education institutions (HEIs), PBL manifests through real-world projects, live collaborations with companies and communities, and interdisciplinary teamwork — all of which are foundational for entrepreneurial learning that aims to create positive social and environmental impact.

1. Real-World Engagement and Practical Relevance

PBL situates learning in authentic contexts — a cornerstone of impact-focused entrepreneurship.

- **LAB University of Applied Sciences** integrates company-commissioned projects in sustainability-focused courses (e.g. *Sustainable Travel*, *Ethics, Environment and Business*, *Sustainability Marketing*), where students co-create solutions for real organizational challenges such as waste reduction and sustainable tourism certification.

- **Laurea UAS**'s *Learning by Developing (LbD)* model similarly immerses students in projects addressing genuine client needs. Students apply circular economy principles and service design thinking to develop viable, sustainable business models. This direct engagement mirrors entrepreneurial practice — identifying a real problem, working with stakeholders, and creating implementable solutions that yield measurable impact.

2. Development of Entrepreneurial Mindsets and Skills

Through open-ended, complex problems, PBL cultivates the mindsets essential for entrepreneurship:

- Critical and creative thinking: Students analyze multidimensional sustainability challenges (e.g., LAB's *Smart Cities* projects and Laurea's service design cases).
- Resilience and adaptability: As seen in **ARCH College's** Cumulus Student Talent Camp, learners navigate uncertainty and co-design SDG-aligned innovations using local crafts and resources.
- Collaboration and communication: PBL's group-based structure builds team dynamics, negotiation skills, and the ability to engage diverse partners — all vital for social entrepreneurs operating in multi-stakeholder ecosystems.

3. Interdisciplinary and Cross-Cultural Collaboration

Impact-focused entrepreneurship demands integrative problem-solving across disciplines and contexts — an intrinsic feature of PBL approaches in the consortium HEIs.

- NordBiz intensive programs and LAB's *Winter School* bring together students from multiple countries and disciplines to address sustainability challenges, fostering global perspectives and intercultural competence.
- **ARCH College** and **Thomas More University** integrate design, business, and sustainability to produce holistic innovations — reflecting how entrepreneurs must blend creativity, strategy, and ethics.Such collaboration mirrors real entrepreneurial ecosystems, where diverse expertise and cultural insight drive scalable, inclusive innovation.

4. Systemic Understanding and Social Awareness

PBL strengthens contextual understanding, crucial for entrepreneurs tackling societal issues.

- **ISDM's** District Immersion experience immerses students in local communities to analyze systemic development challenges through participatory research, stakeholder mapping, and systems thinking. Students learn to identify root causes and design context-specific interventions — precisely the skills needed for *impact-focused*

entrepreneurship that addresses social inequities and environmental degradation.

5. Reflection, Feedback, and Continuous Learning

A defining feature of PBL across the consortium is reflection and iterative improvement, fostering the entrepreneurial habit of learning through doing.

- Both **Laurea's LbD model** and **Thomas More's** service design projects embed reflection cycles and feedback from clients, mentors, and peers. This mirrors the entrepreneurial process of prototyping, testing, and refining — essential for developing sustainable and adaptive impact ventures.

6. Focus on Sustainability and Systems Innovation

PBL's alignment with sustainability themes directly advances impact-focused entrepreneurship goals:

- Circular economy, SDG alignment, and sustainability marketing appear as core pedagogical foci across LAB, Laurea, ARCH, and Thomas More. Students learn to integrate environmental stewardship and social value creation into business innovation — the very essence of impact entrepreneurship.

7. Outcomes for Impact-Focused Entrepreneurship

Across institutions, PBL-based courses have shown that students:

- Gain firsthand entrepreneurial experience by co-developing solutions with real clients or communities.
- Build networks with companies, NGOs, and public actors that often continue beyond the course.
- Learn to balance economic, social, and environmental value in their projects.
- Develop leadership, innovation, and problem-solving competencies essential for driving systemic change.

Problem-based learning supports education for impact-focused entrepreneurship by transforming students from passive recipients of knowledge into active creators of sustainable solutions.
It:

- Grounds entrepreneurship in real-world social and environmental problems.
- Develops practical, transferable skills through experiential collaboration.
- Encourages cross-sector, cross-cultural thinking.
- Embeds reflection, ethics, and sustainability at the heart of innovation.

Thus, within the Co-LIFE consortium, PBL serves as the pedagogical bridge between academic learning and impact-driven entrepreneurial practice, thus

empowering students to design and implement solutions that generate measurable positive change in their communities and industries.

Utilizing Consortium HEIs' Approaches in the Development of the Pilot Course on Impact-Focused Entrepreneurship

The benchmarking conducted among consortium higher education institutions (HEIs) provides several pedagogical models and practices that can be effectively utilized in developing the pilot course on impact-focused entrepreneurship for the Co-Life project. These approaches emphasize experiential, problem-based, and collaborative learning, all of which align with the Co-LIFE project's goals of fostering socially and environmentally responsible entrepreneurial competence.

1. Learning by Developing and Real-Life Project Integration

One of the most transferable practices identified in the consortium is the Learning by Developing (LbD) model implemented at Laurea University of Applied Sciences. This model integrates learning, research, and development into a single, practice-oriented process. Students engage in authentic projects with real organizations, communities, and public actors, thereby merging theoretical study with applied innovation.
In the pilot course, a similar structure can be employed by collaborating with companies, NGOs, and social enterprises that present genuine entrepreneurial challenges. Students will act as co-developers, applying theoretical frameworks to create implementable, impact-oriented solutions. This approach ensures that learning outcomes are directly connected to the realities of impact entrepreneurship.

2. Design Thinking and Service Design as Pedagogical Frameworks

Several European HEIs, including Laurea and Thomas More University, have successfully integrated design thinking and service design within problem-based learning environments. These methods offer structured, iterative processes—such as the Double Diamond model (Discover–Define–Develop–Deliver)—for tackling complex real-world challenges.
Incorporating design thinking into the pilot course will enable students to frame entrepreneurial problems through user-centered research, ideate and prototype innovative solutions, and validate their ideas with stakeholders. This aligns with the Co-LIFE vision of cultivating creative, sustainable, and socially conscious entrepreneurs.

3. Interdisciplinary and Multicultural Collaboration

Courses such as LAB University of Applied Sciences' NordBiz program and Winter School demonstrate the value of cross-disciplinary and cross-cultural teamwork. These initiatives bring together students from multiple academic backgrounds and countries to co-create solutions to sustainability challenges.
The pilot course can adopt a similar collaborative framework by forming mixed student teams—potentially combining participants from Indian and European institutions or from diverse academic disciplines. Such collaboration mirrors the complexity of global entrepreneurial ecosystems and enhances intercultural competence, systems thinking, and innovation capacity.

4. Stakeholder and Ecosystem Engagement

Across consortium HEIs, collaboration with external stakeholders—companies, NGOs, and community organizations—is central to learning design. For example, LAB University integrates sustainability-oriented company cases, while Goa Institute of Management and ISDM embed live projects and community immersions within their curricula.
The pilot course can apply this principle by ensuring continuous stakeholder involvement throughout the learning process. Partner organizations can provide case challenges, mentorship, and feedback, allowing students to ground their entrepreneurial ideas in real-world contexts and develop solutions with tangible societal and environmental impact.

5. Reflection, Mentoring, and Continuous Learning

Reflection and feedback processes play a vital role in consortium HEIs' pedagogical practices. Laurea's LbD model, ISDM's immersion projects, and Thomas More's service design courses emphasize reflective practice as a means of deep learning and personal growth.
In the pilot course, scheduled reflection sessions, peer feedback, and mentor guidance should be embedded throughout the project cycle. These mechanisms will support students in assessing their own learning, teamwork, and impact orientation—essential attributes for responsible entrepreneurship.

6. Hybrid and Blended Learning Models

Several consortium institutions, such as ARCH College of Design & Business and Laurea UAS, have adopted hybrid or blended learning approaches that combine intensive in-person workshops with ongoing online collaboration. This model fosters community building and continuity in project development.
For the pilot course, a blended structure can be adopted: an initial intensive week for orientation, team formation, and ideation, followed by an online development phase where teams refine and implement their projects with

remote supervision. This flexibility allows students to manage real-world engagements effectively while maintaining international collaboration.

Summary of Transferable Approaches

Approach	Origin (HEI)	Key Features	Application in Pilot Course
Learning by Developing	Laurea UAS (Finland)	Real-life R&D projects, co-development with partners	Use authentic entrepreneurial challenges as learning platforms
Design Thinking / Service Design	Laurea, Thomas More	Double Diamond, iterative prototyping	Structure course around problem definition, ideation, testing, and delivery
Multicultural & Interdisciplinary Teams	LAB UAS, NordBiz network	Cross-country collaboration	Form diverse teams to foster global and systems-level thinking
Stakeholder Engagement	LAB UAS, GIM, ISDM	Industry, NGO, and community partnerships	Integrate stakeholders as case providers and mentors
Reflective and Mentored Learning	Laurea, ISDM, Thomas More	Structured reflection and feedback	Embed regular reflection points and mentor support
Blended and Mobility-Based Learning	ARCH College, Laurea	Hybrid structure combining on-site and online phases	Implement intensive start-up phase followed by online project development

Conclusion and Next Steps

The development of a new impact-focused entrepreneurship course in collaboration with Indian and European institutions should draw on these innovative approaches. By integrating real-life projects, promoting international collaboration, focusing on sustainability, and fostering experiential learning, the course can equip students with the necessary skills to become impactful, socially responsible entrepreneurs. Incorporating these elements will ensure the course is both practical and visionary, preparing students to address the complex global challenges of today's entrepreneurial landscape. The benchmarking process provided concrete suggestions for how to develop the curriculum and learning

materials for the pilot courses in Co-life. The benchmarking report will be read by all consortium members and the insights utilized in the Work Packages that are related to learning materials development, curriculum development and creating the pedagogical ecosystem.

This report utilized the following AI tools in compiling and clarifying the text, and searching for sources: CHAT GPT and Keenious Plus.

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