Problem Based Learning (PBL) is not a new pedagogical approach. It has been a topic of research and teaching practice for more than 50 years and has been widely used in very different fields as well as in different educational levels. Opposed to traditional teaching methods, PBL is an active instructional learner-centered approach that empowers learners to develop a viable solution to a defined problem (Savery-2006).

Due to its pedagogic potential for sustainability education, the European Commission has funded two Erasmus + projects (Citylab: Engaging Students with Sustainable Cities in Latin America region and in the Caribbean region). Both projects aim to innovate teaching by introducing PBL in Higher Education, in particular, related to sustainable issues, to foster interdisciplinary cooperation and to contribute to set up partnerships between universities and external actors, such as local governments and cities.

As part of the ongoing collaboration, the coordinators of Erasmus + projects and Columbus joined forces to spread training on PBL throughout Central, South America and the Caribbean, opening the possibility to Columbus network of members to participate in the Moodle courses on PBL.

Under the leadership of the Aalborg University (Denmark) and the University of Antwerp (Belgium), the online training course is designed for equipping teachers/lecturers and coordinators (people in charge of spreading PBL and academic innovation within Universities) with knowledge, strategies and practical tools on how to design and implement PBL courses, and how to integrate PBL into academic programs (departments), engage other teachers and ensure administrative support.

This course is for you,

If you are a teacher/lecturer desiring to engage students more actively in a problem-oriented way through your teaching approaches in ongoing or new courses or projects at the university level. During this course, you will find guidelines, literature, and videos that can both inform and inspire you on how to further integrate PBL-oriented ideas of teaching into the courses that you are running. You will learn PBL along the way of doing it.

Or/And

If you are a coordinator facing the challenge to create engagement among teachers for integrating PBL in their courses, strengthening the application of PBL within the University, building-up alliances with interdisciplinary groups and dealing with administrative support in order to sustain changes in teaching. During this course, you will find guidelines, literature, and videos that can both inform and inspire you on how to further integrate PBL. You should see the course as a resource bank, where you can find inspiration and support for taking new steps in how to enhance PBL at your institution.

We suggest that institutions build teams with coordinators and teachers to follow the training course. This would allow creating synergies towards shared goals, linking training with implementation and monitoring the results.
Methodology and content

The Moodle course was developed by the Aalborg University and the University of Antwerp. Certifications will be awarded on behalf of the University of Antwerp, the Erasmus + Citylab project’s coordinator.

The program is composed of two packages of modules, the PBL Experimentation Lab for teachers and PBL for coordinators. Each package contains 7 modules. Participants can decide either to follow just one package or both. The later should be indicated at the registration stage.

While the course targeting Teachers doesn't require prior experiences, as it functions as an introductory course, the course for Coordinators requires knowledge about PBL, as it functions as an advanced course. Should the participant need to learn more about PBL, we suggest to self-enroll in the PBL Experimentation Lab, which is a more introductory PBL course intended for course teachers.

The packages are based on the principle of self-directed learning, where the online training material provided by the Citylab project provides a platform for inspiration and reflection. The course is based on PBL principles, which implies that trainees are expected to carry out self-dependent project work with an emphasis on the real-life situation of integrating PBL in a selected course. The trainees can provide peer-feedback to each other through the forums in the online training course.

PBL Experimentation Lab for Teachers

Learning goals and modules

After having passed the course, the academics-lecturers should be able to:

1. Interpret how PBL principles can be applied in a course, in order to support learning objectives oriented towards high order levels of learning (e.g. design, application, and critical reflection).
2. Define learning activities which allow student-driven problem-solving in an interdisciplinary perspective.
3. Reflect on PBL teaching strategies with other teachers and external stakeholders (involved in the development of a course) in order to ensure broader contributions to professional and societal developments within the given field.
4. Facilitate students’ learning processes during the course starting in a restrained teaching position. Set up appropriate assessment activities to measure the accomplishment of learning objectives.
5. Adjust course content based on regular evaluations of student learning outcomes.

Competencies and ECTS

2 ECTS for accomplishing the ‘PBL Learner’ Competences and 5 ECTS for accomplishing the ‘PBL Designer’ Competences.

PBL “Learner” Competencies: a 2 ECTS course which corresponds to a workload of 60 working hours.
- 40 hours’ for reading course material and watching the inspirational links and videos.
- About 20 hours to reflect on how these principles can be applied in their own course.

For the examination, it is expected active participation through completion of reading guidelines and literature and looking at inspirational videos and links in the Moodle course room, as well as passing the final quiz.
PBL “Designer” Competencies: a 5 ECTS course which corresponds to a workload of 150 working hours.

- 40 hours’ for reading the course material and watching the inspirational links and videos.
- to perform 80 hours learning activities for each module in the course (in connection to preparation of their University course/project revision/development).
- 30 hours should be used on dialogue and feedback together with students and colleagues.

For the examination, besides passing the final quiz, it is expected active participation through completion of reading guidelines and literature, looking at inspirational videos and links and upload of the results of the learning activities to each module forum in the course Moodle room.

The certificate is granted by the University of Antwerp, once the course has been passed.

PBL Course for Coordinators

Learning goals and modules

After having passed the whole course, the participant should be able to:

1. Formulate PBL missions, not only for specific courses but also for other courses related to education for sustainable development.
2. Define real-life projects or other learning activities that allow for student-driven problem-solving in an interdisciplinary and authentic perspective.
3. Structure the content of a course in order to address key PBL challenges during the lifetime of the course.
4. Map PBL based teaching strategies together with students, other teachers, external stakeholders and administrators in order to ensure involvement and support for PBL initiatives.
5. Facilitate PBL integration processes in relation to specific courses, urban development programs and the institution in order to create momentum for change.
6. Navigate institutional challenges for the implementation of PBL in relation to specific courses, urban planning programs and the institution in general.
7. Adjust the change management process to ensure an iterative approach, where momentum for the integration of PBL within the institutional setting is built up over time.

Competencies and ECTS

Each of 7 learning goals is linked to a specific module. The combination of learning goals leads to the acquisition of competences according to the following classification:

- **Empowering PBL Leader**: Learning goals and modules 1 and 4
- **Visionary PBL Planner**: Learning goals and modules 1, 4 and 5
- **PBL System Designer**: Learning goals and modules 2, 3 and 4
- **Connected PBL Learner**: Learning goals and modules 4, 6 and 7
- **PBL Champion**: Learning goals and modules 1 to 7

For each of the competencies (Empowering PBL Leader’, ‘Visionary PBL Planner’, ‘PBL System Designer’ and ‘Connected PBL Learner’) we expect a workload of 30 working hours.

- 10 hours to read the course material and watching the inspirational links and videos.
• 10 hours on performing the learning activities for each of the relevant course modules.
• About 10 hours to actively engage in facilitation and dialogue processes with peers in order to fully understand how to address implementation challenges.

The 'PBL Champion' represents a 5 ECTS course, which corresponds to a workload of 150 working hours.
• About 40 hours for reading the course material and watching the inspirational links and videos.
• 80 hours on performing the learning activities for each module in the course (in connection to preparation of their course revision/development).
• 30 hours should be used on dialogue and feedback together with students and colleagues.

A certificate is granted by the University of Antwerp, once the course has been passed.

**Practical Information**

• **Estimated Duration**: The Moodle course will be open until **October 2019**. The estimated duration of each package is 4 months.

• **Languages**: English

• **Only available for Columbus member universities** (free of charge)

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**Launching Videoconference for Confirmed Participants**

**Wednesday 29th May 2019**

16:00 (Brussels Time) / 9:00 (Bogotá time)

Citylab coordinators and Columbus will run an introductory videoconference for participants to ensure a successful experience in the online course, to access the Moodle platform and to solve the questions that may arise before starting the program.

In order to participate in the videoconference you should register first in the training course.

**REGISTRATIONS** open until Friday May 24th 2019

[https://forms.gle/iqJ425C1wG3STbF07](https://forms.gle/iqJ425C1wG3STbF07)