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# iLed

Innovating Learning Design  
in Higher Education

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Enhancing competences of teachers related to innovative digital pedagogies and tools and innovating higher education curricula by using LD, in line with innovative digital pedagogies and promoting flexible learning pathways: Research protocol (draft)

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## Study title

*Teacher workshops for enhancing competences of teachers related to innovative digital pedagogies and tools and innovating HE curriculum*

## Study investigators

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Investigators:

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## Introduction

Learning design (LD) is a student-centric development of pedagogical processes, based on contemporary science of learning and aiming for better learning outcomes (Huhtanen, 2019). LD focuses on determining learning conditions, activities and their sequences with conceptual and technological support (Divjak et al., 2022). Student-centered LD concept and tool provide possibility to analyze and visualize learning activities (Toetenel & Rienties, 2016) and to innovate higher education curriculum, by focusing on learning outcomes and student workload, aligning study program and course level learning outcomes, ensuring constructive alignment and assessment validity, enhancing LD (Rienties & Toetenel, 2016).

In this research teachers will be invited to participate in workshops built to introduce and utilize LD concept and tool for the design and improvement of courses in higher education. Teachers will have an opportunity to learn about the concept of LD and to practically work with the BDP tool which was built on the concept of LD. The LD concept and tool are based on contemporary research findings and theory to support balanced LD planning of curriculum in HE (Divjak et al., 2022).

This activity is a part of Erasmus+ iLED (Innovating Learning Design in Higher Education , <https://iled-project.eu/>) project, work package 4. The project is coordinated by the University of Zagreb (FOI) and partners are: University of Zagreb School of Medicine, Goethe University Frankfurt, Open University London, and University of Oulu.

This research further builds on the previous work packages (WPs) in the iLED project. Specifically, the design of a workshop for teachers is based on recommendations for implementing learning design in authentic learning situations (R2.2) and pilots (R2.3) in WP2. Workshop design will be prepared in the BDP tool (Divjak et al., 2022), which was researched and updated in the WP2. Teachers will be invited from each partner institution and the participation in the workshops will be voluntary. The teacher will take part in a local workshop, which will aim to support teacher competences in digital pedagogies and tools, and the LD concept. The LD tool will be used in the workshops. An initial and final self-evaluation of digital pedagogy competencies will be carried out as part of teachers' reflection.

Workshop refers to "an arrangement whereby a group of people learn, acquire new knowledge, perform creative problem-solving, or innovate in relation to a domain-specific issue" (Ørngreen & Levinsen, 2017, p.71). Workshop as a recognized research methodology has been successfully used in the context of online education (Darsø, 2001; Lakkala et al., 2025; Phaal et al., 2007). Teacher workshop in the iLED project will have a limited number of participants, which will provide participants



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with personal attention, and additionally, expected outcome of the workshop will be reported change in teachers' skills in digital pedagogies and innovation in higher education curriculum. These features correspond to the common practices in workshop design (Ørngreen & Levinsen, 2017).



## Background

This research is conducted within Erasmus + project iLed Innovating Learning Design in Higher Education (<https://iled-project.eu/>).

It is part of WP4. WP4: Using LD to support the implementation of innovative digital pedagogies in course restructuring/enhancement/improvement.

The specific objectives of WP 4 related to this research:

SO3.1. Empowering teachers for the use of innovative digital pedagogies and tools

SO3.2. Innovating selected HE curricula through meaningful implementation of LD

SO3.3. Fostering flexible learning pathways and (virtual) mobility by supporting modular approaches and promoting trust in micro-credentials

## Aims of the study

This research will support innovation of HE curricula through meaningful implementation of LD, enabling flexible learning pathways.

## Objectives

Based on the results of the workshops, new knowledge will be created regarding use of learning design concept and tool (BDP tool). This knowledge will further contribute to continuing the design cycle in terms of involving more teachers in innovating selected curricula and empowering new competence in the use of digital pedagogies and tools and finally renewing of HE curriculum in the digital age.

## Research questions

The study will focus on the following research question:

RQ1: What are common challenges teachers encounter in their learning designs?

RQ2: How do teachers' digital pedagogies competencies develop though working with the BDP tool, (design and analysis of curriculum)?

RQ3: What feedback participants provide for learning designs with support of the BDP tool and how does feedback match the identified challenges of learning design?

RQ4: How do students describe their experiences of updated and implemented HE curriculum?

## Study design

The study will be led by the University of Oulu and co-led by the Open University and will be implemented by all project partners.

The study design started with discussion at the project partner meeting (October, 2023, Oulu, Finland) and followed by the preparation of the research protocol to be discussed and approved by partners.

The pilot workshop will be conducted at the University of Oulu. The structure and delivery of the pilot workshop will be analyzed and the study design will be upgraded to make the study design as easy as possible for research participants.



This is followed by engaging relevant stakeholders (teachers) at each of the partner institutions (at least 40 in total), who will participate in workshops.

Once the workshops are realized, collected data will be analyzed.

Based on teacher involvement and enhanced competences, at least 10 curricula will be innovated and revised using the methods and the BDP LD tool introduced in the workshops. Peer review of revised curricula will be organized to support competence consolidation and reflection on the LD of the selected curricula. After the implementation of proposed changes to curricula, at least 5 innovated curricula (courses) will be delivered during the timeframe of the project. At the end of course delivery, student representatives will evaluate the courses (based on new LDs) from the learner perspective and contribute to their further enhancement.

## Overview of the activities:

R.3.1. Enhanced competences of at least 40 teachers related to innovative digital pedagogies and tools

A.3.1.1. Design of a workshop for teachers (lead: Oulu, participating: all partners)

A.3.1.2. Implementation of workshops for teachers (lead: Oulu, participating: all partners)

R.3.2. Innovated at least 10 curricula by using LD, in line with innovative digital pedagogies and promoting flexible learning pathways

A.3.2.1. Identifying at least 10 curricula to be innovated (lead: Oulu, participating: all partners)

A.3.2.2. Revising the curricula using the LD tool (lead: Oulu, participating: all partners)

A.3.2.3. Peer-review of the revised curricula (lead: Oulu, participating: all partners)

A3.2.4. Student evaluations of the LD implementation for at least 1 innovated curriculum per partner (lead: Oulu, participating: all partners)

Lead: University of Oulu								Activity lead
Month	9-10/23	11/23	1-2/24	1-5/24	6-9/24	10/24-2/25	1-9/24	
Project month	M12-13	M14	M16-17	M16-20	M21-24	M25-M29	M16-M24	
3.1.1. Design of the workshop for teachers								Oulu
3.1.2. Implementation of the workshop for teachers								
3.2.1. Identifying at least 10 curricula								
3.2.2. Revising the curricula using LD tool								
3.2.3. Peer review of the revised curricula								
3.2.4. Student evaluation of the LD implementation								Oulu
3.3.1. Preparing the catalog of metadata								OU

## Study setting

The study will be conducted in an international context, at five higher education institutions (project partners). All the data collected from participants will be anonymized whenever possible and no direct identifiers will be used for reporting or publishing of the research results.

The participants will be provided with Participant Information Sheet, which will explain in detail the aims, procedures, and timelines of the research. Participants will be asked to sign Informed Consent form for participating in research.



## Study population

The study will include participants from the following user groups: teachers, lecturers, learning/instructional designers, study program coordinators, education and IT services staff. The participants will participate in iLED workshops (at least 40 teachers) and its related activities (working with the BDP tool, creating, and analyzing learning design, providing, and receiving feedback).

Additionally, study will include at least 200 students as participants from courses of the implemented curriculums.

## Eligibility criteria

The participants will:

- belong to one of the following groups in project partner institutions: teachers, lecturers, instructional designers, curriculum developers, PhD students or other relevant groups.
- be involved in designing and implementing higher education curriculum either by creating a new curriculum or by updating /restructuring an existing curriculum.
- will be able to participate in workshops, work with the BDP tool and implement the changes in the curriculum during the timeline of October 2023 – 2024.

For the reporting and/or research publication the participants will be described in terms of the said criteria, without mentioning additional identifiers.

## Study outcomes

### SO3.1. Empowering teachers

- I.3.1.1. Workshop on innovative pedagogies and the LD concept and tool for teachers designed in the BDP LD tool
- I.3.1.2. At least 40 (preferably 60) teachers participating in LD workshops
- I.3.1.3. At least 40 teachers involved in an initial and final evaluation of competences in digital pedagogies through LD workshops

**R.3.1 - quality:** workshop for teachers co-created by partners using the BDP tool; workshops organized locally to ensure participation of teachers from all partner HEIs, include teachers working on the curricula redesigned within this WP, but also a wider audience; initial and final evaluation of teachers' competences to ensure the acquisition of Los

### SO3.2. Innovating selected HE curricula

- I.3.2.1. 10 curricula selected and improved in line with innovative digital pedagogies and flexible learning pathways, using the BDP LD tool
- I.3.2.2 Peer-feedback on LDs of improved curricula (at least 2 per curriculum)
- I.3.2.3. 200 student evaluation of the LD implementation in at least 5 courses

**R.3.2 - quality:** LA and LD support innovation of 10 selected curricula, in line with intended LOs; the quality of the curricula further enhanced through peer-review by other teachers, as well as student evaluation of LDs implementation (both should provide results related to expected LOs and their alignment with teaching and learning activities and assessment, accessibility for vulnerable groups of students, and student motivation)

### SO3.3. Fostering flexible learning pathways



I.3.3.1. Catalog of meta-data available in the BDP LD tool and an LMS published in an open-access format

**R.3.3 - quality:** development of EU initiative on microcredentials followed, to ensure project results are aligned with requirements; catalog of meta-data includes data which should be provided in the BDP or other LD tool and LMS as a basis for microcredentials; the meta-data serve as an input for creating the MOOC and basis for digital credentials for teachers in WP4

## Study procedures and forms

The pilot workshop will be video and audio recorded so that the iLED project research team can make the best use of the pilot experience of the workshop in preparation for workshops in their institutions.

During workshops the iLED project research team members will take notes, and may ask participants to make notes, which will be collated for the research team to review.

Textual data will also be gathered using specialized prepared templates and questionnaires:

- 1) for identifying common problems encountered by teachers in their learning designs.
- 2) for evaluating teacher competencies on digital pedagogies pre- and post- workshop.
- 3) for analyzing learning designs and providing feedback
- 4) for gathering student feedback from implemented courses with updated learning design.
- 5) outlines of the learning designs will be gathered as screenshots of the BDP tool.

Where available data will be gathered using established instruments. E.g., for evaluating teachers' digital competencies following publications will be utilized: Eichhorn, M. (2020); Eichhorn & Tillmann (2018); Eichhorn et al., (2017). When established instruments will not be available project members will create and use templates and questionnaires in line with WP4 goals and objectives.

Workshop structure overview:

1. Introduction to learning design and evaluation of curricula
2. Choice of curriculum / parts of curriculum to be updated. Identification of challenges in relation to current learning design.
3. Work on chosen curriculum using the BDP tool.
4. Presentation of the curriculum. Analysis of the curriculum, providing and receiving feedback.

Detailed plan available here: [Course details \(learning-design.eu\)](https://learning-design.eu)

## Data analysis

Data collected via workshops and other activities will be analyzed in the following ways:

- descriptive statistics (quantitative data)
- content analysis (qualitative data)

## Data management and ethical considerations

The pilot workshop at the University of Oulu will be audio and video recorded and made available for iLED project research team members for learning and implementation of workshops in project partner institutions. Recording of the workshop will not be shared outside of the project research group and will be destroyed after no longer needed for learning purposes.



All other iLED workshops will gather textual data using specifically prepared templates and questionnaires. Workshop data will be gathered in a common file shared by all participants and iLED project researchers, so that participants can also familiarize with different learning designs and learn from each other. Data collection will not include any sensitive or secret materials and will not include vulnerable individuals (e.g., children) in the research participant group. All research participants will be adults and their participation in research will be voluntary. Participants will be free to discontinue their participation without experiencing any negative consequences. Participants will be informed about the iLED project, aims, procedures and timelines of the workshop. Informed consent will be asked from all the participants, and their data managed accordingly.

Whenever possible the data will be anonymized by the respective partner institution, and then made available to all the partners to be aggregated and analyzed. When not possible to anonymize, each institution will try to minimize direct and indirect identifiers that could lead to identification for a single participant.

Ethical approval will be asked from the Ethical committee at the University of Zagreb FOI, including research protocol.

## Outcomes and significance

The study will result in the creation and implementation of a workshop on learning design. The workshop will serve as facilitator for enhancing teachers' competencies on digital pedagogies, upgrading HE curricular and creation of the metadata catalog which will support the quality of HE teaching and learning.

Additionally, the workshop will serve as a basis for MOOC development and further professional development of educators in higher education (Rienties et al., 2023).

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