



# iLed

Innovating Learning Design  
in Higher Education

---

Validating LD in authentic online and blended L&T environments, based on LOs and  
using LA inventory (methods & tools): Research protocol  
23/8/2023

Proposed by: Blaženka Divjak; Tanja Šestan-j-Perić

Updated:  
Bart Rienties 24/8/2023  
Blaženka Divjak 28/8/2023

## Content

Study title .....	3
Study investigators .....	3
Introduction.....	3
Background.....	4
Aims of the study.....	4
Objectives .....	4
Research questions .....	4
Study design .....	4
Study setting.....	5
Study population .....	5
Eligibility criteria.....	5
Study outcomes.....	5
Study procedures and forms .....	6
Data analysis.....	7
Data management and ethical considerations .....	7
Outcomes and significance.....	7
References.....	7

## Study title

*Focus groups on identifying and describing authentic learning situations in virtual and blended learning environments*

## Study investigators

Principal investigator:

Prof. Bart Rienties (OU)

Investigators:

Prof. Alexander Tillmann (Goethe), Prof. Blaženka Divjak (FOI), Prof. Mirza Žižak (SoM), Prof. Hanni Muukkonen-van der Meer (Oulu)

Other research and technical staff:

Michael Eichhorn, Julia Schmitt, Angela Rizzo (Goethe), Tanja Šestanji-Perić (FOI)

## Introduction

While a lot of LD approaches use manual coding of teachers' decisions of LD, this inevitably leads to substantial workload for both teachers and those who code these decisions (Macfadyen et al., 2020; Neelen & Kirschner, 2020). By identifying at least 10 authentic learning situations commonly used across the four partner institutions we aim to identify common LD patterns across learning contexts (R.2.1.). This will lead to efficiency gains when designing new courses as effective templates will be identified (R.2.2). Furthermore, by linking how teachers design their practices with what actually students do we hope to start building approaches that would (semi-)automatically identify common LD templates. The way teachers design blended and online courses varies substantially based upon discipline, digital expertise, teacher beliefs, the respective student population, and the learning objectives. In order to ensure that our LD tool is fit for purpose and can be used across a range of disciplines and contexts, it is important to validate the LD in a range of different authentic online and blended environments.

We consider authentic learning as instructional approaches and teaching and learning scenarios that activate students, and allow students to explore, discuss, and meaningfully construct concepts and relationships in contexts that involve real-world problems and projects that are relevant to the learner (Donovan, S., Bransford, J., & Pellegrino, 1999; Rodríguez-Triana, 2021).

There are a wide variety of teaching and learning student-centered strategies focused on connecting what students are taught to real-world issues, problems, and applications. (Sawyer, 2006).

"Focus groups can be used to collect shared understanding from several individuals as well as to get views from specific people. A focus group interview is the process of collecting data through interviews with a group of people, typically four to six. The researcher asks a small number of general questions and elicits responses from all individuals in the group. Focus groups are advantageous when the interaction among interviewees will likely yield the best information and when interviewees are similar to and cooperative with each other." (Creswell, 2014).

## Background

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

It is part of WP3. WP3: Validating LD in authentic online and blended L&T environments, based on LOs and using LA inventory (methods & tools)

The specific objectives of WP 3:

SO2.1. Identifying and describing authentic learning situations in virtual and blended learning environments which can benefit from innovative pedagogies enhanced by the LD concept

SO2.2. Engaging relevant stakeholders in the co-creation process of providing recommendations for implementing LD in authentic learning situations (different levels: course, study program; delivery mode: blended, online; student body: heterogeneous, homogenous)

SO2.3. Piloting the scaffolding of at in an open LMS using the LD tool and using LA to support further development of a particular LD

## Aims of the study

This research will support co-creating and orchestrating LD implementation in authentic learning situations in virtual and blended learning environments in order to support effective learning and meaningful implementation of innovative pedagogies and tools.

## Objectives

To prepare recommendations that will be used for implementing LD in an LMS for authentic learning situations, based on the results of focus groups with the relevant stakeholders (teachers, instructional designers, curriculum developers, decision-makers, employers, career development services, students), for each authentic learning situation identified.

## Research questions

The study will focus on the following research question:

**RQ1:** Which authentic learning situations in virtual and blended learning environments and in what way can benefit from innovative pedagogies enhanced by the LD concept?

## Study design

The study will be led by the Open University and co-led by the Goethe University and FOI (University of Zagreb, Faculty of Organization and Informatics).

The study design starts with discussion at the project partner meeting (May, 2023, Frankfurt) and followed by the preparation of the research protocol to be discussed and approved by partners.

The pilot focus group was conducted in July 2023 by Goethe University. The structure and delivery of the pilot focus group was analyzed and the protocol was upgraded.

This is followed by engaging relevant stakeholders (teachers, instructional designers, curriculum developers, decision-makers, employers, career development services, PhD students and external experts at least 25 in total) at each of the partner institutions, who will participate in focus groups.

Once the focus groups are realized data collected will be analyzed. The recommendations will be prepared by the Goethe University.

Overview of the activities:

### R.2.2. Recommendations for implementing LD in authentic learning situations

A.2.2.1. Identifying relevant stakeholder for LD for authentic learning situations (lead: OU, participating: all partners)

A.2.2.2. Focus groups with stakeholders (lead: Goethe, participating: all partners)

A.2.2.3. Preparing recommendations on LD for authentic learning situations (lead: Goethe, participating: all partners)

Lead: Open University					Activity lead
Month	7/23	8/23	9/23	10/23	
Project month	M10	M11	M12	M13	
2.2.1. Identifying relevant stakeholders					OU
2.2.2. Focus groups with stakeholders					Goethe
2.2.3. Preparing recommendations					Goethe

## Study setting

The study will be conducted in an international context, at five higher education institutions (project partners). All the data collected from focus groups participants will be anonymized and no personal data nor identifiers will be used for reporting or publishing on the central level.

The participants will be provided with Participant Information Sheet and asked to sign Informed Consent form.

## Study population

The study will include at least 25 participants in total from the following user groups: teachers, instructional designers, curriculum developers, decision-makers, employers, career development services, students.

The goal is to cover ten authentic learning scenarios.

## Eligibility criteria

The participants will:

- belong to one of the following user groups: teachers, instructional designers, curriculum developers, decision-makers, employers, career development services, PhD students and relevant external experts
- have expertise in the area of teaching, instructional design, curriculum development, educational leadership, educational research, or technical support for teaching and learning (not applicable to students)
- have work experience of at least three years relevant for the mentioned area of expertise (not applicable to students).

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

## Study outcomes

SO2.2. Engaging relevant stakeholders in the co-creation process of providing recommendations for implementing LD in authentic learning situations (different levels: course, study program; delivery mode: blended, online; student body: heterogeneous, homogenous)

I.2.2.1. Each of the 10 authentic learning situations paired with a list of relevant stakeholders

I.2.2.2. 5 FGs with stakeholders altogether with at least 25 participants

I.2.2.3. Recommendations for implementing LD in LMS for authentic learning situations

I.2.2.4. Paper on implementing LD in an LMS for authentic learning situations

R.2.2. - quality: relevant stakeholders for each learning situation identified (teachers, instructional designers, curriculum developers, decision-makers, employers, career development services, students); FGs in hybrid mode, each covering 2 learning situations; recommendations and a paper prepared based on the results; paper peer-reviewed and comments used to enhance the recommendations

## Study procedures and forms

The focus groups will be audio recorded so that the iLED project research team can make the best use of the information that participants provide.

During focus groups in August-September 2023, 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.

FG structure:

1. Introduction
2. Choice of exemplars (authentic learning situations) and instructions for further work
3. Work on chosen exemplars (use of predetermined questions)
4. Joint discussion at the end of session

List of predetermined prompts for each focus group session:

Objective level questions

- 1) Do you have any experience of teaching or being taught related to the exemplars?
- 2) Have you ever taught using or been taught by the methods described in the exemplars?
- 3) Are there approaches that you favour that is not captured in the exemplars?
- 4) Have you recognized learning outcomes you can achieve better with the exemplars?

Reflective level question

- 1) What excites you about the possible application of the approaches in the selected exemplar?
- 2) What doubts do you have about the possible application of the approaches in the selected exemplar?
- 3) What would make you more comfortable applying the approach described in the selected exemplar?
- 4) Have you ever experienced being taught/teaching with method explored within the selected exemplar?

Interpretive level questions

- 1) What do you think is the most common application of the approach described in the exemplar?
- 2) What do you (the group/individual) consider to be the most important elements of the approach (constructive alignment and learning design) when thinking about using it in your teaching or being taught using this approach?
- 3) What questions did the selected exemplar raise for you?

Decisional level questions

- 1) If you had to pick which exemplar would you use in your teaching or would you like to experience being taught/involved in and why?
- 2) Are the teaching approaches in the exemplar relevant to your area of teaching / discipline/learning outcomes? If not, why? If so, why?

- 3) What difference would it make in your context for an approach described by the selected exemplar to be used?

## Data analysis

Data collected via focus groups will be analyzed in the following ways:

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

## Data management and ethical considerations

The focus groups will be audio recorded and stored on iLED project research team servers. All the data will be anonymized by the respective partner institution, and then made available, in an anonymized form, to all the partners, aggregated and analyzed.

Informed consent will be asked from all the participants, and their data managed accordingly.

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

## Outcomes and significance

The study will result in the Recommendations for implementing LD in LMS for authentic learning situations. The recommendations will serve as the basis for further LD development, translating LD from the BDP tool to the LMS Moodle as well as to preparation of adequate professional development of HE teachers and other educators.

## References

- Creswell, J.W. (2014). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. Fourth Ed. Pearsons.
- Donovan, S., Bransford, J., & Pellegrino. (1999). How People Learn: Bridging Research and Practice. Washington, DC: National Academy of Sciences
- Rodríguez-Triana, M. J., Prieto, L. P., Dimitriadis, Y., de Jong, T., & Gillet, D. (2021). ADA for IBL: Lessons Learned in Aligning Learning Design and Analytics for Inquiry-Based Learning Orchestration. Journal of Learning Analytics, 8(2), 22-50. <https://doi.org/10.18608/jla.2021.7357>
- Sawyer, K. (2006). The Cambridge Handbook of the Learning Sciences. New York, NY: Cambridge University Press.