

SAILeR

Streamlining AI in Learning Reimagination

RESEARCH PROTOCOL

WP2: Vision of Learning Design

Version 1.0 date: 28.11. 2025. – Prepared by FOI, with contributions from all partners

Version 2.0 date: 5.12.2025. - Coordination meeting

Version 3.0 date: 17.3. 2025. - After monthly meetings, preparing focus groups

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1. Introduction and Purpose of the Research Protocol

This research protocol defines the methodology, instruments, data collection procedures, participant profiles, analysis plan, and ethical considerations for WP2 *Vision of Learning Design*.

Its purpose is to ensure consistent and high-quality research carried out across all partner institutions and to support the achievement of the specific objectives of WP2:

- **SO2.1**: Investigating the state-of-play and educators' perspectives on forming a course vision.

- **SO2.2**: Upgrading the BDP tool with a storytelling storyboard and a plug-in for learning outcomes (LO) weighting.

The protocol will be discussed and approved by the Quality Assurance Committee (QAC) and Project Steering Committee (PSC).

May be updated after Activity 2.3 (Focus Groups Preparation).

2. Research Objectives

Overall WP Objective

To bring learning design (LD) closer to educators by enabling them to create a guiding vision of their course using a storytelling environment integrated into the BDP tool.

Specific Research Objectives

SO2.1 Understanding educators' perspectives

- Explore how educators conceptualise the vision of a course, including pedagogical approaches, student characteristics, disciplinary context, goals and constraints, and course redesign motivations.

- Investigate current practices in formulating and prioritising learning outcomes.
- Collect their needs to support educators, but also be sure to understand constraints (impairments)

SO2.2 Supporting the BDP upgrade

- Provide evidence-based insights to guide the development of a *storyboard* for course visioning.

- Provide requirements for a *learning outcome prioritisation plug-in* using simple and multi-criteria decision-making (MCDM) methods.

3. Research Questions (RQs)

To address SOs and to support the provision of the main results, the following RQs are set:

- RQ1 How and for what purposes can storytelling and storyboard-based approaches be used in learning design in higher education?
- RQ2 Which methods are most suitable for supporting educators in determining the relative weights of learning outcomes in learning design for higher education?

3.1 Literature Review - first draft

Scopus and WoS + AI tools to help

1. How is the concept of course learning design vision defined in existing literature?
    a. before teaching, focus on teachers' professional development

2. What storytelling and storyboard methods are used in education and design thinking?
    a. theoretical foundation, design based research, design for learning, pedagogical design,

3. Which methods are suitable for **defining LOs and prioritising** or weighting learning outcomes (e.g., heuristics, MCDM)?

4. To what extent are these approaches implemented in current LD tools?
    a. technology used, including AI

    Team Hanni - Blaženka, Katarina, Egle, Marcelo, Lourdes, Michael, Alexander, Julia, Nikola, Pirjo, Mirza

    Team Nikola - Blaženka, Dijana, Barbi, Mirza, Tom, Dino

    Deadline: Feb 28, 2025

3.2 Focus Groups

3.2.1. Questions to discuss

1. How do educators currently develop a vision for their course?
2. What challenges and support needs do they encounter?
3. Do they use storytelling in the creation of a course vision? How do they perceive the usefulness of storytelling or storyboards in LD?
4. How do educators formulate learning outcomes?
5. How do they prioritise or assign importance to learning outcomes? (Do educators consider that LOs have different importance?)
6. What features would they expect in an LO prioritisation tool?
7. Where and to what extent to use AI support?
8. Course vision vs study program vision?

3.2.2. Scenario for a focus group delivery:

Consent for recording, privacy notice

Focus group duration: around one hour.
Concent: All participants are asked to sign a consent form agreeing that their anonymised discussion can be used for research purposes within the Erasmus + project SAILeR. The focus group will be recorded, but after the transcript and report are made, the recording will be deleted.

1 page explanation (Goethe) - **Suggestion:**

Thank you for your willingness to participate in the focus group. During the group interview, we would like to clarify the following questions:

- To what extent do teachers develop an overarching pedagogical vision for their courses?
- How do university teachers use this vision and storytelling approaches to determine their learning outcomes and to plan their teaching?

To help you prepare, we have provided brief definitions of what we mean by the terms “vision” and “storyboarding” in the context of this focus group. These definitions were derived from the results of a systematic literature review that examined how these terms are used internationally in higher education.

A: Vision

A vision for a course is a forward-looking idea of what teaching and learning could be. It is not just about planning a syllabus, it’s about imagining what kinds of learning experiences, skills, and values a course should cultivate in the future.

It takes shape across three interconnected levels:

- Macro level: the broader institutional or curricular goals that define the purpose and identity of academic programs. At this level, a vision aligns course design with long-term educational values, such as democracy education, inequality, climate problems or ethical practice.
- Meso level: the program or course design level, where teaching teams translate institutional ambitions into coherent learning experiences, pedagogical models, and assessment strategies.
- Micro level: the level of individual sessions and activities, where learning interactions, materials, and tools give concrete form to the envisioned experience according to the learning outcomes and ideas.

B: Storytelling/Storyboarding

Storyboarding connects these layers by turning the abstract vision into a visible sequence of learning moments. It´s the process of developing this vision step by step. Like in film or design practice, storyboarding helps make ideas visible and open to reflection: What learning activities, materials, or tools bring the vision to life, and how do they connect?

In this way, storyboarding is more than a planning or a LD, it is a way to think critically about why and how a course takes shape. It helps educators make their design choices transparent, discussable, and ready to evolve in response to (new) forms of teaching.

This focus group is being conducted as part of the ERASMUS+ project “Streamlining AI in Learning Reimagination” (SAILeR) . More information: https://sailer-project.eu/.

Presentation of topics and the BDP tool (as illustration) - do we need that? 5-7 minutes presentation to share

Two topics for discussion: creation of the vision of a course (storyboard/storytelling) and usefulness of LOs (defining and prioritising)

Where and to what extent to use AI support?

What are the differences and similarities between the course and study program?

Time: 45-60 min

Recording:

Ethical committee check - Y - FOI

General research protocol - short and concise (Lourdes - share the example, Blaženka will prepare it)

3.2.3 Interview guide

Vision

How do you currently develop a vision for your course or study program?

What inspires or informs your course vision (e.g., institutional strategy, student needs, learning outcomes)?

How does your educational ideal relate to the vision of your course or study programme?

How does your course vision (micro level) differ from that of the study program (meso and macro levels)?

Challenges and support needs

What challenges do you face when defining a clear course vision?

What kind of support or tools would make this process easier?

Storytelling

What role does storytelling play in implementing the vision in your learning design? How helpful would such an approach be in your opinion?

How do you implement the vision in your specific course planning (Learning Design)?

Learning outcomes

How important is the formulation of learning outcomes to you when planning your teaching?

How do you go about formulating specific learning objectives? (e.g. levels, areas: cognitive, affective, psychomotor...)

How do you prioritise or assign importance to learning outcomes?

What features would you expect from a tool that helps you prioritize LO?

Use of AI support

Did you already use AI as part of your course/lesson planning/LD ? If so, for what extent or aspects?

In which areas of lesson planning could you imagine using AI?

3.3 User Evaluation (BDP Tool Upgrades)

1. How intuitive, useful, and applicable are the new storyboard and LO weighting functions?

2. To what extent do the new features support the design of a course vision?

3. Do educators find the LO prioritisation methods helpful?

4. What improvements do users recommend?

4. Methodological Approach

WP2 applies a **mixed-methods design**:

- **Qualitative components**:
    - Literature review
    - The purpose is to first, identify key components of storytelling /digital storytelling by teachers or instructors in the literature. Second, based on that this is quite a novel approach in educational research, we use the outcomes of the analysis to transfer the storytelling and envisioning practices as conjunctures for learning design activity for teachers.

Possible keywords for lit review: RQ1 (addressed by search string in yellow, 135 results in Scopus) and RQ2 (in green, 84 results in Scopus).

TITLE-ABS-KEY ("learning design vision" OR "course vision" OR "instructional design vision" OR "pedagogical vision" OR "curriculum vision") OR TITLE-ABS-KEY ((storytelling OR "digital storytelling" OR storyboard OR story*) AND ("design thinking" OR "learning design" OR "instructional design" OR "curriculum design" OR "pedagogical design") AND ("higher education" OR university OR "tertiary education") AND (teacher OR educator OR instructor OR "learning designer" OR "instructional designer"))

Gives 219 results in Scopus. And removing “digital storytelling” does not change the results.

Scopus - Document search results

Limiting for 20 past years 2006-2025(6) and only to articles, conference papers and book chapters, and English **ends up in 167 documents** altogether. So it seems somehow more manageable.

Same search will be repeated in Web of science database

The number will be further narrowed down in screening Titles and abstracts in Oulu.

Inclusion criteria:

1. Publications focusing on teachers’ professional development and teachers’ perspective
2. Peer-reviewed articles, conference papers, and book chapters
3. Publications in English
4. Explicit discussion of learning design /instructional design vision or storytelling/storyboarding in educational context

Exclusion criteria:

1. Publications focusing on students. E.g., student generated stories or projects, student evaluations of stories or courses using storytelling
2. Purely technical papers without pedagogical context
3. Studies focusing on non-educational storytelling (e.g. entertainment)
4. Broad overviews on topics of e-learning, online learning, blended learning and similar broad topics
5. Publications focusing on very specific narrow topics. E.g., virtual reality, robotics, teaching for special education
6. Articles without full text available

Further steps for the whole group members to collaborate on the review:
Step 1. Identify if the article should be included / excluded based on the inclusion /exclusion criteria
Step 2. For analysis of final selected articles:

How is the vision defined in an educational context? a) to create a vision for the course, b) as a story during instruction or teaching, c) something else (what?)

How was the story used? a) to create a vision for the course, b) as a story during instruction or teaching, c) something else (what?)

Description of:

1. Key elements of storytelling or vision in the publication
2. Theory or instructional framework behind the storytelling
3. Main used methods of storytelling (narratives, digital, written stories, etc)
4. Main aims of storytelling
5. How AI is used in storytelling/visions (this has not been reflected separately in the search, but we could maybe look into this, as it is also the focus of the project)

    - Focus groups (transcription + thematic analysis)

- **Quantitative components**:
    - Evaluation questionnaire (descriptive analysis, Likert scales)

This combination ensures both depth (educator insights) and breadth (evaluation of tool uptake).

5. Participants and Sampling Strategy

5.1 Focus Groups

- **Total expected participants**: minimum 20, across all partner institutions.
- **Profile**: university educators, programme coordinators, learning designers.
- **Number of focus groups**: 1-2 groups per institution, depending on institutional size and interest for participation
- **Group size**: 4 - 6 participants each.
- **Selection criteria**:
    - active involvement in teaching in higher education
    - interest or experience in learning design is preferable but not required
    - familiar with learning design concept and a tool is preferable but not required

5.2 Evaluation of BDP Tool Upgrades

- **Minimum 20 users** in total.
- Profiles include educators, learning designers, curriculum developers, and instructional technology specialists.

5.3 Research Team

- **Lead for research and analysis**: University of Oulu

- **Co-lead for focus groups**: Goethe University Frankfurt
- **Lead for concept development and software upgrades**: FOI
- **All partners** participate in data collection and validation.

6. Data Collection Instruments

6.1 Literature Review Framework

Databases: *Scopus, Web of Science, ERIC*

Key concepts:

- course vision; learning design vision
- design thinking; storytelling; storyboard
- Bloom taxonomy; LO formulation
- prioritisation; MCDM in education

A coding matrix will be used to extract:

- conceptual definitions
- methodologies
- tools/technologies
- gaps in existing practice
- implications for LD and software design

6.2 Focus Group Protocol

Focus groups will follow a semi-structured guide with topics such as:

- How educators currently conceptualise a course vision
- How they articulate the main pedagogical approach and learning goals

- Needs for support (guidance, tools, examples)
- Practices and challenges in formulating learning outcomes
- Methods for prioritising LOs
- Reactions to storytelling/storyboard approaches
- Requirements for a digital LO weighting tool

Focus groups will last **60–90 minutes**, be audio-recorded with consent, and transcribed.

6.3 User Evaluation Questionnaire

Likert-scale questions (1–5) will assess:

- perceived usefulness
- usability and clarity
- integration into existing teaching workflows
- satisfaction
- intention to use

Open-ended questions will gather recommendations.

7. Research Implementation Plan

Phase 1 – Preparation (A2.1–A2.3)

- Development of research protocol
- Review and approval by QAC and PSC
- Preparation of materials and moderators' training
- Pilot testing the focus group script

Phase 2 – Data Collection

- **Literature review (A2.2)**
- **Focus group implementation (A2.4)**
    - conducted online or in person
    - recruitment via partners' networks

Phase 3 – Data Analysis

- Thematic analysis of focus group transcripts using NVivo/Atlas.ti
- Structured synthesis of literature review
- Statistical analysis of questionnaire data

Phase 4 – Output Development

- **Overall report** (A2.5)
- **Conceptual development for tool upgrade** (A2.6)
- **Storyboard interface + LO weighting plug-in** (A2.7–A2.8)
- **User evaluation report** (A2.9)
- **Final research paper** (A2.10)

8. Ethical Considerations

All activities comply with institutional ethical guidelines and GDPR.

Key principles:

- voluntary participation
- informed consent prior to recording
- anonymity and confidentiality
- secure storage of collected data

- use of aggregated findings only
- deletion of raw data after project completion in accordance with institutional policies

To discuss: Do we need an ethical committee approval?

9. Expected Outputs (linked to R2.1 and R2.2)

1. **Research Report / Scientific Paper (R2.1)**
    - synthesising literature review
    - summarising educator perspectives from focus groups
    - presenting implications for storytelling-based LD and LO weighting
2. **Upgraded BDP Tool (R2.2)**
    - Storyboard environment (vision-building)
    - LO prioritisation plug-in (simple + MCDM methods)
    - video tutorial and written Help materials
3. **User Evaluation Report**
    - feedback from min. 20 educators
    - recommendations for refinement

10. Alignment with Indicators (I2.1 and I2.2)

The protocol ensures:

- ≥ 20 focus group participants
- ≥ 20 evaluation participants
- peer-reviewed outputs (report + paper)
- QAC and PSC approval

- functioning software upgrades

- research rigor and methodological transparency

11. Timeline

Aligned with the project Gantt chart:

- **M2–M3**: Preparation and kick-off
- **M3–M6**: Literature review
- **M5–M7**: Focus groups
- **M7–M9**: Analysis and reporting
- **M6–M12**: Concept + software upgrades
- **M12–M14**: User evaluation
- **M14–M16**: Scientific paper preparation

