

# **InnovateDesign: Workshop on Learning Design Analytics: Balanced Planning with an Innovative, Free-to-Use Software Tool**

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**ABSTRACT:** The aim of this half-day face-to-face workshop, organized in cooperation of three universities, is twofold. First, it will provide a platform for sharing of experiences, research and challenges related to the link between learning analytics (LA) and learning design (LD). Second, the workshop will enable participants to engage with an innovative, free-to-use LD tool (learning-design.eu), and create advanced learning analytics on LD using the tool. Participants will be invited to work collaboratively on LD of their own courses, reflect on the LA generated by the LD tool and improve the course LD accordingly. This will also contribute to the further development of the concept and tool, based on a pre-established research protocol. Participants will take away recommendations for improvement of their own courses, as well as know-how on how to use an innovative LD tool at their own institutions. Ahead of the workshop, if interested, participants will be invited to apply for a short presentation (5-10 minutes). They will also be asked to consider their courses and particular learning outcome(s) which could be redesigned at the workshop.

**Keywords:** learning design concept and tool, learning analytics, curriculum analytics, assessment

## **1 INTRODUCTION TO LEARNING DESIGN CONCEPTS AND TOOLS**

Learning Analytics (LA) has been increasingly used to support sound learning design (LD) (Rienties et al., 2017), in particular in ensuring constructive alignment between learning outcomes (LOs), teaching and learning activities and assessment (Divjak et al., 2022). LD has been defined as “the documented design and sequencing of teaching practice” (Lockyer et al., 2013, p. 1439), describing the order of learning tasks, resources and related support. LD has been presented by Conole (2013) as a methodology helping teachers and designers in more informed decision-making related to the design of learning activities, that is “pedagogically informed” and uses resources and technologies in an effective way. In essence, LD has two dimensions - a conceptual and a technological one. The concept of LD has been related to the notions of sharing and reusing: it helps make the design process “more explicit and shareable” (Conole, 2013) and aims at “reusability” in different educational contexts (Lockyer et al., 2013). It has been argued (Conole, 2013) that more explicit and shareable design enables more effective learning environments and teachers’ interventions, while enabling learners to understand their learning paths better. In terms of linking LD with LA, five main types of analytics have been identified in previous research: temporal, comparative, tool specific, cohort dynamics and contingency (Bakharia et al., 2016).

Considering the recognized benefits of LD in supporting and enhancing teaching and learning in a digital age and the HE teachers (Divjak et al., 2022), since 2020 a concept and a web-based tool

supporting the development of sound LD, strongly supported by LA, have been developed. The Balanced Learning Design Planning (BDP) concept and tool build on the current research, theory and practice related to LD, and the existing LD concepts, primarily the OULDI approach by the Open University UK (Conole, 2013; Rienties et al., 2017), and the ABC LD approach by the University College London (Laurillard et al., 2013). These approaches presented a valuable input for the development of the BDP concept and tool, but the BDP also aimed to introduce innovation in several ways. It also introduces innovation in terms of linking course LOs with the study program LOs, providing an institutional perspective. In relation to this, research has indicated that students benefit from long-term study program level planning (Raković et al., 2022). Furthermore, the BDP tool focuses strongly on ensuring constructive alignment between LOs, types of teaching and learning activities, assessment, feedback and student workload, supporting a student-directed approach. The BDP tool provides rich and deep analytics of course LD which can be used to further improve LD, in line with the intended - preferably innovative - pedagogical approaches (e.g., problem-based learning, flipped classroom). In particular, these analytics provide detailed analyses and visualizations of assessment, minding its alignment with the prioritization, level and weights of LOs. These analytics are provided in real-time, through a dedicated dashboard, and can be used during the design process as a valuable input directing the LD process. The tool enables collaborative work and sharing of LDs, as well as export of LDs. Finally, the tool can be used in a simple and advanced version, enabling different levels of planning and analytics, and both versions are free to use.

At present the BDP tool has been used in the design of more than 250 courses and MOOCs, by over 550 users from more than 20 countries, including within four European funded projects. Based upon the initial pilot testing (Divjak et al., 2022) further functional and design modifications have been made, and at LAK 2023 we aim to share some additional functionality in terms of LA features.

## 2 LEARNING OUTCOMES, WORKSHOP STRUCTURE AND WEBSITE

Based on the capacity-building at the workshop, participants will be able to (1) analyse the benefits of LA for improvement of LD, (2) effectively use a free-to-use LD tool, including an innovative approach to LD, and (3) upgrade initial LD based on available LA. The workshop, organized in cooperation of three universities, will be held face-to-face, taking half a day and consisting of the parts presented in the table below. The expected number of participants is 20, and the maximum 40.

**Table 1. The proposed agenda of the workshop**

<b>Duration</b>	<b>Description</b>	<b>Responsible</b>
10 min	INTRODUCTION	Organizer 1
	SHARING OF EXPERIENCES, RESEARCH AND CHALLENGES	Organizer 2
40 min	Presentations of participants' experiences	Organizer 2
20 min	Presentation of the BDP concept and tool	Organizer 1 & 2
30 min	BREAK	
	HANDS-ON COLLABORATION ON LEARNING DESIGN	
90 min	Collaboration on LDs in groups	Organizer 1, 2 & 3
30 min	Presentation of LDs and discussion	Organizer 2
20 min	FUTURE STEPS AND CONCLUSIONS	Organizer 1, 2 & 3

The workshop will be supported by a dedicated website, where all related information will be shared, and which will support pre-workshop data gathering and planning, including the application of participants. To recruit participants, along with the website, social networks and media will be used. After the workshop, the website and the social media will be used to support ongoing dissemination. The website will include the following sections: About, Background literature and material, Workshop agenda, and Submission area.

### 3 SHARING OF EXPERIENCES, RESEARCH AND CHALLENGES

The workshop will start with a few short presentations from participants or, alternatively, a few short presentations from the workshop organizers, focusing on the current research, practices and experiences in the use of LD. A special focus will be on how LA can support sound LD.

Therefore, participants will be invited to submit abstracts outlining short presentations (5-10 minutes) ahead of the workshop. The workshop organizers will review the applications and choose interesting and diverse examples. The presentations will be followed by a discussion of all participants, leading to open questions and challenges, providing introduction to the next phase of the workshop. Finally, the BDP concept and software tool will be presented by the workshop organizers.

### 4 HANDS-ON COLLABORATION ON LEARNING DESIGN

Ahead of the workshop, participants will be asked to consider their courses and particular LO(s) which could be redesigned at the workshop. At the workshop, participants will be divided into groups, based on their own preferences and similarity of courses/LOs they would like to work on.

The groups will be invited to access the BDP tool, open and design their courses and LOs (Figure 1). Furthermore, they will work on the detailed planning of teaching and learning activities, assessment, feedback, modes of delivery, etc. In the process, they will consult the analyses provided by the tool (Figure 2), in order to make immediate adjustments to their LDs, aligning them with the LOs and the planned pedagogical approaches. The hands-on part of the workshop will take approximately 2 hours

The screenshot displays the 'Teaching entrepreneurial competences' course page in the BDP tool. The interface is divided into several sections:

- Course details:** Includes a logo for 'DESK' and a table of course information:
 

MOCID	7
ECTS credits	05
Number of lessons	08
Mode of delivery	CATIA
Status	PLANNING
Course public access	RE
- Learning outcome:** A grid of 12 learning outcomes, each with a description, a weight, and a status icon.
 

<p><b>Learning outcome 1</b></p> <p>Describe pedagogical approaches, teaching and assessment methods that advance students' engagement to develop academic, entrepreneurial competences in online learning environments.</p> <p>05 10</p>	<p><b>Learning outcome 2</b></p> <p>Use appropriate technology to support varied pedagogical approaches that contribute to the development of students' entrepreneurial and problem-solving skills.</p> <p>05 10</p>	<p><b>Learning outcome 3</b></p> <p>Integrate the learning material available in the MOOC with other appropriate teaching and learning resources to foster engagement of competences and ethical and sustainable thinking.</p> <p>05 10</p>	<p><b>Learning outcome 4</b></p> <p>Identify what entrepreneurial competences students need in the contemporary world to solve real-world opportunities and meet challenges to generate value.</p> <p>05 15</p>
<p><b>Learning outcome 5</b></p> <p>Identify relevant pedagogical approaches to support students to emerge the impact of their opportunities, actions, social value and ethical implications in the selected real-world assessment.</p> <p>05 10</p>	<p><b>Learning outcome 6</b></p> <p>Evaluate individual and group strengths and weaknesses of students and staff regarding hybrid and digital teaching and learning about entrepreneurial competences.</p> <p>05 10</p>	<p><b>Learning outcome 7</b></p> <p>Evaluate the learning process and students' experience of learning resources related to entrepreneurial competences.</p> <p>05 10</p>	<p><b>Learning outcome 8</b></p> <p>Create interactive learning design and assess developing students' entrepreneurial competences, including students' own perceptions, possible resources and pedagogical techniques that advance students' engagement and evaluation.</p> <p>05 20</p>
- NEW LEARNING OUTCOME:** A section at the bottom with a plus icon and a total weight of 100.

Figure 1. Example of a course with LOs planned in the BDP tool

and each group will be supported by one of the organizers. After the collaborative part, in the plenary session, groups will be invited to share their LDs and mutually discuss their outputs.

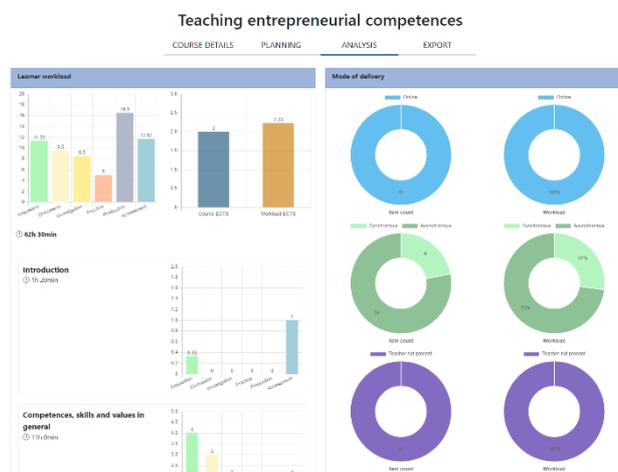


Figure 2. Example of a part of the analytics available in the BDP tool

## 5 FUTURE STEPS AND CONCLUSIONS

Finally, the participants will be asked to take part in the evaluation of the tool, prepared in line with the approved research protocol (ethically approved by one of the workshop organizers' universities). Conclusions of the workshop will be shared with the participants after the workshop, in the form of a workshop summary published on the workshop website. There will be a possibility to establish further collaboration to work on a project and/or a publication. All participants will be able to continue using the BDP tool, as well as share it with their colleagues, free of charge.

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