

Introduction to Design-Based Collaborative Learning

Design-based collaborative learning or in short DBCL is an approach that can be used for innovative and creative idea generation and solution-finding. DBCL as an approach is both constructive and teamwork driven. It works along a design and development process which leads to a concrete product, service and/or prototype and is applied to facilitate joint learning.

The approach in its conceptual composition has been developed and tested within various European educational projects. Since 2020, the REVEAL group has extensively used and perfected design-based collaborative learning during more than 30 events, including ERASMUS days and 5-day workshops, with sometimes more than 100 participants.

When researching design-based collaborative learning, one may also come across similar approaches with slightly different names, for example, design-based learning:

"Design-based learning (DBL) is an educational approach that incorporates hands-on, authentic, multidisciplinary design tasks to identify problems and design solutions".

J. Streator in Collaborative Systems for Design-Based Learning, 2017

But what does design-based collaborative learning even mean?

As the name already suggests, it is made up of two main sub-elements. There is the "design-based" part and the "collaborative learning" part.

Does that mean I have to know about design?

Don't panic, design skills are not necessary. In this context, design-based stands for the elements that are integrated from design thinking into the development process. As a participant, all you have to do is follow the steps and tasks indicated.

Design thinking is a systematic approach to complex problems. Unlike conventional approaches, DT is a human-centric approach used to solve problems or needs with innovative solutions.

Creativity and innovation stand at the centre of the design thinking process and are accompanied by input and varied creativity methods.

A total of six phases can be identified during the design thinking process:

1. Empathise: Conduct research to understand the user
2. Define: Use the research to observe needs and current problems
3. Ideate: Brainstorm ideas and highlight opportunities for innovation
4. Prototype: Build real, tactile representations of your best ideas
5. Test: Conduct testing with your users and iterate according to feedback
6. Implement: Document the final solution and put the vision into effect

Design Thinking is an iterative process that makes it possible to return to previous process steps and make adjustments as needed. In addition, divergent and convergent thinking play an important role during the process. Initially, thinking is done broadly and many different ideas are collected. Even crazy-sounding ideas are encouraged. Afterwards, these ideas are sorted and selected. This makes sure that out-of-the-box ideas are also taken into account and that new possibilities for solving the given problem can emerge.

Design Thinking refrains from linear thinking in regard to problem-solving, and instead encourages lateral thinking while focusing on creativity, a change of perspective and, above all, on working together in multidisciplinary teams.

During the design-based collaborative learning process, you will also run through the first four Design Thinking phases, as Empathising, Identifying challenges or problems, Ideating and Prototyping are also elementary steps of DBCL. Also, different creativity methods and techniques are used. Popular methods for example are brainwriting, brainstorming, thinking hats, creating personas, sketching and building physical models using lego.

The second important part that makes up design-based collaborative learning is, you guessed it, collaborative learning. It's an umbrella term for a variety of educational approaches involving joint intellectual efforts by students, or students and teachers together.

Research shows that the adequate use of collaborative learning settings may contribute to the learning quality while shifting away from the typical teacher-centred or lecture-centred settings. Instead, the focus is on learning together, from and with each other. Collaborative learning activities vary widely, but mostly they are centred on exploration. Thus, roles of teachers and students are also redistributed, redirected or given a different meaning. This means that learners and learning are in the focus and especially teachers are confronted with new functions and role descriptions.

Collaborative learning is a central concept of design-based collaborative learning because we believe that it helps to make everyone's experience and background valuable and enriching to the learning process. Through different knowledge, experiences and so on, further ideas can be generated and new innovative solutions can emerge.

Design-based collaborative learning environments can be facilitated in all educational contexts by using various methods and tools, concepts and approaches. It inspires and motivates learners to develop their projects and their competences in their own contexts.

Hence DBCL promotes Learning and Development!

While DBCL was originally created as an offline approach, latest developments have shown that it can easily be transferred online and be facilitated through digital learning spaces. Digital DBCL is planned and delivered in a suite of asynchronous platforms (e.g. Moodle and Mahara), synchronous communication tools (e.g. zoom, Go-To or any other conferencing software) and design-based online collaboration tools (e.g. MIRO, MURAL). It's also possible to blend the online and offline aspects and use digital tools during face-to-face workshops.

So let's recap: Design-based collaborative learning takes aspects from Design Thinking and combines them with Collaborative Learning, which makes the approach suitable for meeting challenges and problems with new ideas and finding innovative solutions while working in interdisciplinary groups.

Now you are as ready as you can be. Get excited for your first design-based collaborative learning experience!