

# SciLifeLab Training Hub Guide to Creating Engagement through Collaborative Learning

According to Bloom's Taxonomy, understanding a topic is a much less cognitively complex process than applying or analyzing the same topic. Because of this, moving away from the traditional lecture format and incorporating collaborative learning and engagement into your courses, workshops, or lectures can help participants gain and retain the knowledge you are sharing. This guide is an introduction to creating engagement and collaborative learning experiences in both online and in-person settings.

This guide will cover examples of **collaborative learning techniques**, **facilitation techniques**, and what engagement looks like.

## Collaborative Learning Techniques

Collaborative Learning Techniques (CLTs) are ways to organize group learning experiences in order to get participants to work together collaboratively and productively. In contrast to traditional lecture formats in which information flows only from presenter to audience, CLTs promote knowledge sharing between all participants as well as the presenter.

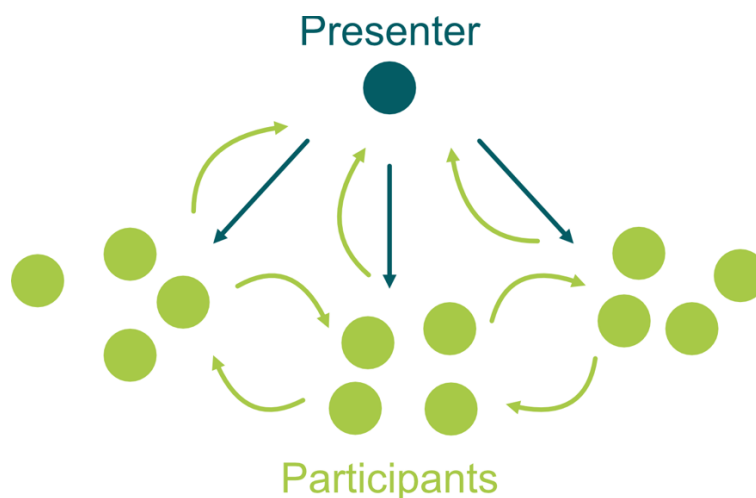


Figure 1: Collaborative learning allows the flow of information (arrows) to take other dimensions than presenter to participant.

CLTs are helpful because they can help learners exchange what they know, correct misconceptions, and bring together the sum total of their collective expertise to solve problems or discuss topics in greater depth. This fosters engagement through active participation.

There are a variety of CLT formats, but here are two example techniques that can be useful in increasing participant engagement, collecting discussions of a large, diverse audience, or providing a forum for group documentation or synthesis.

## Example A: Think-Pair-Share

A Think-Pair-Share strategy is useful when feedback, problem-solving, or group exchange is desired. It is typically structured as follows:

1. Think. Participants consider the question individually (2-5 mins)
2. Pair. Participants partner up and discuss the question together (5-15 mins)
3. Share. Pairs are then asked to share their discussion, solution, or feedback with either another group or everyone. Documentation or larger group discussion can provide insight into whether there is consensus or differences in opinion.

Think-Pair-Share is a great way to get all participants to explore a task or idea together in a low-pressure setting before sharing with the larger group. This format also allows for inclusive discussion by giving everyone a chance to participate. For the instructor, it can be useful to see whether there is consensus amongst the pairs, or whether there are differences in opinion or approach. This allows for further conversation, and helps the instructor learn where more instruction and clarification may be needed in the material.

**Digital Think-Pair-Share:** Zoom's breakout room feature can be very helpful in fostering smaller discussions. Having a co-instructor help with distributing participants into breakout rooms can be helpful.

## Example B: Jigsaw

A Jigsaw strategy is useful when discussion and feedback on different angles of a theme are sought from a large group. It can be structured as follows:

1. The facilitator assigns a different question to groups of 5-7 participants.
2. The groups discuss and document their process (15-20 mins)
3. One to two individuals from each group will report back to the main group on what they have discussed.
4. More discussion as a larger group may follow, accompanied by further conversation and/or documentation or editing.

The Jigsaw format can mobilize a very large group towards a problem, either to allow for focused work and discussion to take place in a short period of time, to help collect nuance and diversity to the way that the problem or problems could be addressed, or to address multiple facets of a larger issue.

**Digital Jigsaw:** Incorporate digital tools into group work by creating a shared slide deck with each question at the top, and ask the individual groups to record their discussions, ideas, etc. on their assigned slide.

## Beyond the examples

Be creative in how you hold your sessions – are there interesting questions in your material that don't have a clear answer? Can your groups work to synthesize or create something during this exercise? What kinds of learning experiences have you been part of that were especially successful in teaching you something?

## Facilitation Techniques

Facilitation Techniques are frameworks and strategies for how instructors can interact with participants and foster their interaction. Facilitation shapes the experience of participants and the flow of the session, keeping participants on task and managing time limits.

When facilitating, three points should be addressed:

### Set the Stage

Be intentional in creating an environment that invites questions, feedback, and respectful dialogue from all members. Present information, tasks, and instructions as clearly as possible, providing examples if needed. Provide a slide or material with the task as a visual aid to support discussions or working time.

### Active Listening

Intentionally participate in building an atmosphere of knowledge sharing by actively listening to group discussions and feedback. Offer encouragement, check in with groups and the workshop participants as a whole to gauge progress as well as any hindrances in understanding. Here it can be helpful to recruit a co-instructor to assist in facilitation.

### Manage Group Dynamics

Resist unbalanced group dynamics by suggesting or rotating roles so participants know how to engage with each other. When facilitating smaller groups, encourage silent or passive group members for their thoughts. When facilitating larger groups, ask questions like “Are there other perspectives? Does anyone have a point that we haven’t heard yet?”. When asking for different perspectives, it is important that you take responsibility for enforcing the [code of conduct](#) if problems arise.

It can be helpful to have facilitation support for managing group dynamics. With limited time and larger groups it can be useful to document feedback and discussion using tools such as **Mentimeter** or shared **Google Drive** documents to include a wider range of voices within the larger group.

## What Engagement Looks Like

Using active participation strategies can help participants think through and apply the workshop content at a deeper level than passive absorption of information. Asking participants to reflect, discuss, evaluate, brainstorm, or create not only provides the workshop instructor with valuable information, feedback, or content from a large group, but also enriches the experience of individuals by facilitating access to many minds. Engagement supports learning at the individual and group level, and positive experiences can have a ripple effect out into the organizational level.

Have questions? Connect with us at [traininghub@scilifelab.se](mailto:traininghub@scilifelab.se)

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