

## Managing group work SCALE-UP style



In SCALE-UP, students learn through active participation in group activities. The layout of a SCALE-UP classroom is designed so that larger classes can learn effectively in small groups.

### Choosing appropriate activities

Tasks vary in length and form, and are structured to emphasise collaborative, active learning. Different activity types will lend themselves to certain configurations such as groups of 3, whole tables, whole class.

- Activities particularly suited to group work include: brainstorming, problem-solving and decision-making, role-play, simulations, games, comparing and justifying stances or exploring lines of inquiry.
- Staff at NTU have noted that group work is most successful when the group is asked to produce something: e.g. a mind map, a written paragraph, a resource for others, a poster (physical or digital), a video/podcast.
- SCALE-UP originator Bob Beichner thinks of group activities as “tangibles” (short hands-on activities) or “ponderables” (interesting questions to consider). These categories are particularly useful in STEM but could be used in any subject.

### Monitoring group work

**BEFORE:** To ensure group activities are successful, give explicit instructions verbally and/or in writing; you could ask ‘what’ and ‘how’ questions to check task understanding before work begins.

**DURING:** Monitor group progress by circulating among the tables. In this way, you can address common misconceptions, identify effective approaches and answers, and provide realtime feedback.

Rather than telling students the right answer, encourage them to help each other: for example, groups who finish a task early can help groups who are struggling.

Cross-fertilisation of ideas may happen organically as the SCALE-UP room is designed to facilitate cross-table discussions.

**AFTER:** Groups can project to a large screen via mirroring technology or write on the white boards to display their work and obtain feedback in plenary.

Use follow-up questions to develop students’ thinking further and to link to the next activity.



Suggest students try the **GOAL** framework for problem-solving:

**Gather information:** look for key phrases, get a “big picture” view of the situation, estimate the final answer, etc.

**Organise your approach:** classify the problem and agree on a plan of action.

**Analyse the problem:** calculate and note answers.

**Learn from your efforts:** reflect on what worked/didn’t work and consider how to approach a similar problem next time.

#### Five required characteristics of successful group-based instruction

- Individual accountability: each member is responsible for doing their share of the work and for mastering the material
- Positive interdependence: team members have to rely on each other
- Face-to-face interaction: some or all of the group effort must involve working together in person
- Interpersonal skills: members learn about and practice leadership, decision-making, communication and conflict-management
- Regular self-assessment of group functioning: groups evaluate how well their team is functioning, where they could improve, and what they should do differently in future.

Beichner (2005) found that **“not incorporating all these aspects is a recipe for failure, at least as far as group functioning is concerned”**.

**For further resources** including the SCALE-UP Handbook see: [SCALE-UP resources](#)

For further information or to get involved in SCALE-UP, contact [NTU SCALE-UP](#)