



Shining a Light on Collaboration

“Working on a project where we get to decide who does what and I also felt like I found apart of myself that I have not seen before and this quality that I found has made me happier as a person.”

– Student

At Hills Grammar, northwest of Sydney, Year 7 participated in a STEM project with a difference. Students worked on a solar challenge as part of an interdisciplinary project where they needed to work in teams to design a working solar water heater. We collapsed normal classes for the week so that students could focus entirely on STEM and collaborate in mixed groups. The program was launched with an introduction from Hills Grammar parent and YouTuber David L Jones, who introduced the big idea of the unit and stimulated thinking.

The New Pedagogies for Deep Learning assisted our thinking and led to some fundamental shifts in design and practice. While the masterclasses involved direct teaching of concepts from Science, Mathematics and Design and Technology, the emphasis was on inquiry and the application of knowledge to a real world problem posed in our introduction: how using renewable energies might reduce costs and improve sustainability outcomes. In addressing this challenge, students had agency in designing their solar solutions as a team.

Rather than being a by-product or an afterthought, we placed an equal focus on the development of skills in Collaboration alongside content. One important aspect of our preparations as teachers was to reflect on Collaboration skills ourselves and develop our own teamwork behaviours to model throughout the unit. Students completed a pre self-assessment on the dimension: ‘Working interdependently as a team’. They commented on this dimension in reflections: “We learned the importance about team-work and collaboration.” “I enjoyed the building and planning. It was interesting to hear the other group members really creative ideas and sharing my own.” Students used Office 365 OneNote to chart their progress on collaborative learning and to collate their work during the guided inquiry showing the design choices and evolution of their solar heater. Showcasing their working solar water heaters to parents, teachers and peers at the end of the week challenged teams to ensure their creative designs actually worked.

Teachers acted as coaches to foster the development of competencies. This had a big impact – adding a new lens to teaching; developing student skills in the “6Cs”; and making inquiry in student and teacher learning a genuinely collaborative process. Some of our successes during the week involved students who ordinarily might keep to themselves and find social interaction to be difficult and challenging. Key to this was noticing student behaviour, and guiding students towards their collaborative goals when any issues emerged. Both students and teachers kept track of progress in collaboration through a daily collaboration log. The sense of progress was measured at the end of the unit through a second self-assessment, with considerable gains in the number of students moving up a level on the progression. Teachers observed improvements not only in collaborative behaviour but also in the ability of the students to articulate their strengths and areas for development in team related skills.

[#AISNSWdeeplearning](https://www.instagram.com/aisnswdeeplearning)