"Prior to the NBN, our internet access was slow and with frequent dropouts making it hard for teachers.

"Over the network, the special needs teacher has been able to provide tailored learning experiences for staff and students where the curriculum remains primarily the same, but is differentiated for our special needs students."

She said the technology allowed them to demonstrate their learning not by producing written information but through the production of a film clip, a blog or a keynote presentation.

At PLC, an independent girl's school in northern NSW and the first school to be connected to the NBN, the network has similarly transformed learning in and outside the classroom. A spokesperson from NBN Co said PLC students were connecting with staff at the University of NSW Museum of Human Disease. By using HD video-conferencing students were able to see dissections of healthy and diseased hearts.

"Following the [pilot] course, PLC is now moving to a more autonomous learning style, tailored to individual student's strength. In year 7 and 8, teachers have trialed a "matrix" approach to delivering content," the spokesperson said.

Richard Olsen, ideasLAB assistant director, said the teachers are reporting that the NBN is allowing them to teach in ways that they never imagined were possible.

Olsen used to be the ICT co-ordinator at Concord School in Victoria. "The NBN is helping break down the walls of the classroom," he said. "We found that online, collaborative learning supported by fast, ubiquitous broadband is motivating our children to become even more engaged and successful in the subjects they learn."

He said having high-speed broadband at school and at student's homes ensures that Australia could complete transition to 21st century learning.

"This really marks a new age for teacher professional learning, one that is more suited to individual needs and therefore more relevant."