Wonderful world of science at your fingertips

JO EARP LOOKS AT NEW INITIATIVES LIKE THE COMPASS PROGRAM, THAT ARE BRINGING INTERACTIVE LESSONS TO ALL YEAR LEVELS.

GREAT science teachers inspire students with lessons that live long in the memory — I’m sure we can all recall learning from our time at school, and they don’t come much cooler than your first glimpse of liquid nitrogen in action.

‘Ah, if only I could take liquid nitrogen into my classroom,’ I hear you say. But letting students sample the best of science and experiment with cutting edge technologies is now very much a reality, with a little help from outside organisations.

Partnerships are springing up across Australia and proving that teachers don’t have to deliver rich learning experiences on their own. Just one example is scientists from the University of Sydney teaming up with 12 local primary schools.

As part of the Compass Program to introduce youngsters to university, 600 Year 3 students took part in a range of exciting activities last month, including interactive science lessons.

“We approached schools and said ‘we’re interested in working with you, what sorts of areas are you interested in...’ science was one of the subjects they came up with,” director of social inclusion, Annette Cairnduff, explains.

In high schools the issue is they just don’t have the facilities and equipment that we have. In the primary schools I think you’ve got a dual issue — one is facilities but the other is about a confidence amongst teachers to teach science and engage kids.

“These learning experiences [through the Compass Program] offer staff and students opportunities to do things they just wouldn’t have chance to do in their classroom, and then we build some professional development things in around that too.”

Public Point Primary School principal, Helen Wardenga, says the Compass partnership helps broaden their students’ learning experiences.

“The additional opportunities afforded staff to participate in targeted professional learning are very valuable and also refresh our awareness of our own key position of influence in raising student expectations,” she adds.

Staff and students from Revesby South Public School are also benefitting from their link with the university. “Some of the resources that it’s opened up for us have been great. Students have been involved... also some teachers have done professional development through the program and found that helpful,” assistant principal Lorraine Kilo comments.

Using outside organisations to help with professional development appears to be an important part of boosting teachers’ confidence in the classroom. Even so, science in the curriculum is facing a different pressure — time.

“We’re saying it’s important [in schools] but the reality is very different. When you look at the time given to science in the primary classroom it comes stone motherless last,” Anna Davis, president of the Australian Science Teachers Association points out.

“I know that one of the assumptions that a lot of secondary schools have is that pretty well they [new students] haven’t done much in primary. Imagine if we could say, we don’t have to make that assumption, we can actually assume that they understand the basics of scientific method, that they have some basic science knowledge about the world.”

Consultations are still taking place over content outlined in the draft science curriculum. Davis, head of curriculum at Sydney’s Casimir College says it’s important that teachers are listened to.

“All we can do is put in our feedback, be as constructive as we possibly can. There’s no point tearing something to shreds — we’ve got to believe in the process and then keep a very close eye on it to make sure that it is happening.”

She adds that, although a national curriculum will play an important part in the future of the subject in schools, professional development of teachers should be the major priority.

“We’ve got a lot of teachers out there now and we need to work with them. We can’t just say it’s the next generation,” Davis says. “Think about a car company that puts in a new assembly line, they don’t just expect the workers to walk in there the next day and know how it all works. But that’s what happens with teachers in the classroom.

“I don’t know if there’s enough time to do [the professional development before the new curriculum comes in] but we’ve got to start at some stage. We actually need to say ‘we value these people... we need to make sure that everyone is skilled up.”

As well as encouraging links with outside organisations, another way of ‘skilling up’ teachers could be the development of school-based centres of excellence. Darwin High School has recently been chosen to become a centre of excellence for science and engineering, with part of its remit to share good practice with teachers across the Northern Territory.

“We’ve got some great, very experienced and skilled teachers here,” Darwin High School head of science Tony Copland says. He’s looking forward to sharing that expertise and the impressive lab facilities on offer at the school.

However, Copland too emphasises the importance of developing links with outside organisations.

“It depends where you are — if you’ve got a school sitting in the shadow of an oil refinery it will be easier than if you’re somewhere far away from industry,” he adds.

Whichever route schools choose to go down in an effort to expose primary and secondary students to those long lasting science memories, it’s clear that doing it alone is thankfully becoming a thing of the past.