

Strategies to implement the 2007 curriculum in your school

The teachers featured here come from varying backgrounds and disciplines. All share a dedication and passion for Technology as a subject and have, through perseverance and initiative, used both the old and new curriculums to produce impressive results in Technology classrooms. All have taken an active role in making the curriculum work for them.

For teachers looking to make the shift, there are a number of strategies to keep in mind to make the transition rewarding and achievable for both you and your students.

In Malcolm Howard's experience, there are several key elements that can help with implementation. "It's so important for a school that you bring the various areas of Technology together as one faculty. For teachers, I suggest getting together with other Technology teachers to share ideas and make sure that you familiarise yourself with the huge amount of resources that are now available for Technology teachers."

It's important that students have lots of chances to make mistakes without it being a big issue, so I go round to local businesses who are always keen to help with free materials.

Steve Jeffares feels that Technology can tap into the skills and knowledge of any teacher no matter how diverse or unrelated they may seem to the classroom

"I think it's a career where you use everything you've learnt. To new teachers I would say: Use your entire breadth of knowledge within the classroom – for

example, if you're into the guitar maybe one year your students could make acoustic guitars."

My advice is to stop teaching students and start mentoring them. Never believe that students can't do something, because they can do amazing things as long as you don't hold them back.

Steve also believes regular professional development is essential in keeping up with such a dynamic teaching area and can help immensely in keeping up with the interests of the students.

"We need to be able to identify where students are at, so we can see which doors to open and guide them, adding specialist knowledge when they need it."

Steve acknowledges that different schools require different approaches and recommends adapting projects to the specific demographics and interests of particular groups of students to capture their enthusiasm. For those with limited resources, he recommends being creative with what you have.

"It's important that the students have lots of chances to make mistakes without it being a big issue, so I go round to local businesses who are always keen to help with free materials."

For those new to Technology or introducing it to a school, Diana Eagle recommends starting slowly. "Take baby steps, don't think that you can do the whole thing well all at once, just concentrate on your

strengths and bring that to the Technology curriculum to get that going first. Also be connected to your students enough to know what they can cope with. So think carefully about how you present materials to students so that you can bring them on board and keep them motivated and interested in what you're trying to present to them."

Ian Watson also emphasises the importance of the teacher/student relationship and how it has changed with the new curriculum.

"My advice is to stop teaching students and start mentoring them. Never believe that students can't do something, because they can do amazing things as long as you don't hold them back. The other thing is to always keep it real. If they ask a question, don't give them the answer but ask them to research and find out for themselves."

In summary, to implement a successful Technology programme:

- Work with your existing strengths and those of your school and colleagues.
- Actively seek PD and support from the wider community.
- Communicate with other schools and teachers to share ideas.
- Put your name forward to be an external assessor.
- Join support networks in your area such as: Technology Education New Zealand (TENZ); New Zealand Graphics and Technology Teachers Association (NZGTTA); Home Economics and Technology Teachers Association New Zealand (HETTANZ); New Zealand Association of Computing and Digital Information Technology Teachers NZACDITT.

Find out more...

To find out more about building a successful Technology programme, a good starting point is the curriculum support section on the Techlink website:
www.techlink.org.nz/curriculum-support

Subject association links:

www.tenz.org.nz

www.hettanz.org.nz

www.nzgtta.co.nz

nzacditt.org.nz

Teacher Talk 2



Implementing the Technology curriculum – then & now

The Technology curriculum was gazetted in 1995 and evolved over time to keep up with new teaching ideas and attitudes. To gain some insight into that evolution, Techlink talked to four teachers about how the 1995 curriculum brought about challenges and encouraged breakthroughs, and on the changes the 2007 curriculum has brought since.

We hope their experiences help provide a way forward for Technology teachers in translating some of the concepts within the curriculum into successful classroom practice.

The impact of the 1995 curriculum

Malcolm Howard was the HoF of Katikati College when the 1995 curriculum was released and he found it challenging to implement for a number of reasons. "It was quite a radical change for schools in

terms of introducing a new curriculum into a very traditional school structure. It was such a vague document with nowhere near the level of support we now have behind it. We also had the weird situation where

the seniors were under the old system of Design Technology and Home Economics, while we tried to teach Technology to the juniors, so implementing the new curriculum with these factors was very hard work."

Other teachers and schools shared these concerns. Diana Eagle felt comfortable with the old Technicraft and manual practices and was apprehensive about making the significant change to the 1995 curriculum. She also found that her school was reluctant to make the move.

"At that point, Technology was being introduced across all the subject areas and it became clear very early on that it wasn't going to work. Everyone else was very busy with their own subject and didn't see Technology as something they really needed to look into. So because people didn't get on board, it didn't really catch on."

Diana felt that her Home Economics background gave her a good grasp of

The teachers we interviewed...

Malcolm Howard

Malcolm has taught Technology for 16 years specialising in Year 7-13 ICT but also teaching in other areas of Technology at a junior level. Malcolm was made Head of Faculty at Katikati College in 1996 and was responsible for establishing a Technology faculty in line with the new curriculum guidelines. Malcolm was also a member of a Beacon Practice partnership with Hillcrest High School that focused on teaching ICT within Technology. Malcolm has a Bachelor of Engineering from Canterbury University and is currently an advisor in Technology at Waikato University



Ian Watson

Ian was a tradesman for Air NZ before training as a teacher at Auckland Secondary Teachers' College. Starting at Manurewa High School before moving to Otumoetai College in Tauranga in 1999, Ian has over 27 years teaching experience in the field of Technology and has followed the changes in this area closely from the original 1995 document through to the 2007 curriculum. Ian has also worked as an external assessor for schools, which he feels gave him invaluable experience and insight into the different ways Technology can be taught.



Diana Eagle

Diana Eagle was a Home Economics teacher at Tararua College for ten years before the introduction of the new curriculum in 1995. While Diana admits to having difficulties with the document initially, she persevered to become a pioneer in making the transition from Home Economics to Food Technology. She has played a key role as a lead teacher in curriculum and qualifications related professional development initiatives and has considerable experience in both internal and external assessment for NCEA.



Steve Jeffares

Originally a builder, Steve moved into architectural design before training as a teacher at Waikato University in 1995. His first position was at Whakatane High School where he was the HOD Technology until 2004, when he left to complete a diploma in Technology education from Massey University. He now teaches at Edgecumbe College and also works with provincial rural schools, helping them make the shift from manual training to a more broad Technology approach.



technological practice, but there were other elements within the 1995 document that she thought weren't easily applied to her work in the classroom.

"I found the Technology document hard to read and understand. As for the examples, I felt they didn't relate well to the classroom and I couldn't see how you could really bring it in very easily, often they were just one-off ideas that couldn't be used for a programme."

It wasn't until the introduction of NCEA that Diana felt the school really embraced Technology, with teachers attending NCEA professional development days. Initially this raised more concerns for Diana and her fellow teachers as many unfamiliar concepts were introduced.

"Of course we'd talked about Technology before, but when they started talking about 'plan of action' and 'formulate a brief' I remember thinking 'What the heck! What is this all about?' So while it was intimidating, it did push me into going away and being proactive about finding out how to do things I wasn't sure about. So I just got stuck in and started developing units of work."

At the time, teachers reacted to the document in different ways, with some seeing it as a step in the right direction, some criticising its lack of direction, and others ignoring it altogether. However, there seems to be general agreement that in those first years the support for teachers attempting to implement the curriculum was insufficient.

Ian Watson also tried hard to implement the curriculum. "I felt pretty comfortable with the old Design Technology, so when the new curriculum came along there wasn't much direction and I felt the professional development was quite poor. Without that support in place I had a real fear of not being able to perform for the students, as I didn't know what to do to get them to pass or to gain excellence."

The introduction of the 1995 curriculum had differing responses from many teachers. With any new initiative there are bound to be teething problems and while many teachers felt overwhelmed by the new document there were also positive responses to the underlying ideas within it, with some seeing the potential more immediately than others.

Approaches to the 1995 curriculum

While many teachers felt intimidated by or had problems with the curriculum, many took a proactive approach. Malcolm Howard was pragmatic about the challenge of implementing the new curriculum within a larger framework and set about the task of marrying the old structure with the new.

"It was a long, slow process and took a lot of perseverance. One of the key strategies of implementing the 1995 curriculum was trying to pull together the various historical areas that were all part of Technology – such as Workshop Technology, Home Economics and Computing – to make one designated Technology faculty. Another important factor was negotiating with the curriculum committee to get space on the timetable for Technology."

To deal with her concerns, Diana Eagle tried to do whatever it took to make her existing strengths work within the curriculum and to improve her knowledge in areas she felt were lacking.

"I just got stuck in and started developing units of work. As I had no degree, the science and food chemistry side was difficult for me. So I contacted a food technologist to help me with those aspects. This gave me room to concentrate on my strength which was classroom practice, going out and finding stuff like standards of production. Because I was unfamiliar with Food Technology and technological practice it was basically learning on the job. This was quite a shift for my students as well, but I kept it pretty basic and they handled it well."



Diana also became involved in external assessment which gave her access to other Technology teachers with successful ideas and practices that she could apply in her own classes.

Venturing further afield than his own classroom also helped Ian Watson to address any concerns he was having with applying the new curriculum to the classroom.

"I talked to a lot of my peers and made contact with other technical teachers around the place whom I saw as being successful," says Ian. "I also had a really good look at the programmes that had already succeeded to see what they were doing right. Eventually I was chosen to become an external assessor for school for NCEA and that gave me invaluable insight into what other people were doing around the country which I thought was great professional development."

Steve Jaffares dealt with his concerns about the clarity and delivery of the curriculum by concentrating on the essential elements that he agreed with and translating his understanding of these to the students.

"My original view of the curriculum was that it was a good problem solving machine that differed from the old curriculum's 'build this' approach," says Steve. "So we made sure that we promoted the philosophy and intent of the curriculum as I had summed it up and condensed it down to what we thought was the critical direction of it – what we thought was really good for the students' problem solving."

Thoughts on the 2007 curriculum

As seen from the four teachers' comments, initial reactions to the 1995 curriculum document were varied. As with any new endeavour, the Technology curriculum had to find its feet and has certainly had its problems within those first few years.

Fourteen years have passed since then and that original document has been refined and changed to address many of the issues faced at first, as well as to keep up with current developments in Technology and in teacher practice.

In 2007, the new Technology curriculum was introduced, revitalising an area that has sometimes been taken for granted within school infrastructures.

Malcolm Howard is impressed with the changes it has brought.

"It's really 'chalk and cheese' when you compare the introduction of the 2007 curriculum with the 1995 one, where you didn't really know what was required at each level. The new curriculum is so much more specific, with measurable objectives where you can see the progression up the curriculum levels. The support around it has improved too."

"I just love it! I absolutely love it. It's just so dynamic and exciting. I just feel energised by the whole curriculum..."

"This time around we got layer after layer of support material for introducing the curriculum, with things such as the curriculum support material, teaching strategies resource and case studies on the Techlink website. The other hugely significant difference is the fact that our seniors will have the opportunity to be doing courses out of the Technology curriculum at the same time as the juniors, so that's going to be a significant advantage."

Left: Ian Watson and his Year 11 students making a dirt surfer – see www.Dirtsurfer.com.

Steve Jaffares has always had very clear ideas about what was wrong with the old curriculum but is happy to report that many of those concerns have since been answered. "The new curriculum is superb and I think it is quite remarkable how it has evolved and been refined with all the bad stuff taken out of it."

"This time around, we got layer after layer of support material for introducing the curriculum, with things such as the curriculum support material, teaching strategies resource and case studies on the Techlink website."

Ian Watson was also apprehensive about the 1995 curriculum due to its lack of direction and unfamiliarity but has since become a full convert to Technology education within the 2007 curriculum.

"I just love it! I absolutely love it. It's just so dynamic and exciting. I just feel energised by the whole curriculum and that's because I've done the hard yards, asked the hard questions and got off my bum and talked to people who know the answers."

"With the 2007 curriculum you could suddenly do Technology that was real and I think that was a big thing. If the students decided what they wanted to make and did the research or the technological background on that project, then it became real, and once it was real they got really hooked."

While Ian was reluctant to leave Design Technology behind he is positive about the new direction.

"Design Technology was more teacher directed so it was impossible to create that level of student involvement and enthusiasm for making a real product. Whereas Technology is more student directed, so my role now is more like mentoring than teaching."

For Diana Eagle the key competencies as laid out on the front end of the document have created opportunities for teachers to

work to their individual strengths.

"I like the new curriculum because it has brought all the different subjects together on the same page and you're finding your focus from the key competencies, values, principles and the pedagogy rather than just ticking all the boxes within your area. With the three components, I like it that people will be able to find their strengths, where if they're really good at the Practice stuff they can say 'ok I'll do mostly that in this unit and dabble in Knowledge and maybe a little Nature.'"

Diana also believes that many of the problems she and other teachers faced in 1995 in translating the curriculum to the classroom may be a thing of the past.

"The new curriculum is a lot more user-friendly and realistic for teachers, and, because of that, students benefit and aren't put into situations where they have no idea what is expected of them. I know that it is still evolving, but I'm pretty impressed with what I've seen so far."

"The new curriculum has brought all the different subjects together on the same page and you're finding your focus from the key competencies, values, principles and the pedagogy rather than just ticking all the boxes within your area."

It's this evolution that Steve Jaffares believes is integral to making a sustainable document that works with the necessary developments within Technology.

"One thing I think we've all learnt is that we can't lock it in for so long. What is valid pedagogical understanding of the curriculum in 1995 is not going to be the same in 2000. This discipline is in a state of flux and it's always going to be like that because it's a changing world and a changing landscape."

"Even those purists who were saying 'technical skill has no place in a technology curriculum' are now saying 'hang on a second, maybe it actually strengthens and underpins our Technology curriculum'. So there's been a shift in many camps."