

The New Zealand Curriculum

Update



Research into Practice

In this issue:

02

Future-oriented views of knowledge and learning
Six themes for a future-oriented learning system

04

Views of knowledge
What we know about learning

Welcome to *The New Zealand Curriculum Update*

Curriculum Updates support school leaders and teachers as they work to design and review their school curriculum in line with the New Zealand Curriculum and with current knowledge and understandings about effective classroom teaching.

Curriculum Updates are published in the *Education Gazette* and are available online at:
http://nzcurriculum.tki.org.nz/curriculum_updates

This Update looks to the future in education. It outlines key themes that will underpin future-oriented learning for young New Zealanders. It is based on a recently released research report available at:
www.educationcounts.govt.nz/publications/schooling/109306



Future-oriented learning and teaching

Twenty-first century education must be future oriented and adaptable to meet the learning demands of an increasingly complex world.

The New Zealand Council for Educational Research (NZCER) recently drew together more than ten years of national and international research on the future of learning, including new data on the practices of innovative school leaders and teachers.

The research identified key themes for a connected and coherent future-oriented learning system. These themes include a commitment to personalising learning, a curriculum that uses knowledge to develop learning capacity, the rethinking of learners' and teachers' roles, and the forging of new partnerships with the wider community.

The capacity for innovation already exists in our education system. *The New Zealand Curriculum* and *Te Marautanga o Aotearoa* are flexible and enabling frameworks. The vision, values, and principles of these documents provide a strong foundation for teachers and school leaders to take a future-oriented approach to learning and teaching.

Many schools have adopted such an approach. The challenge is to identify how today's most effective and innovative practices can be integrated throughout the education system.

Future-oriented views of knowledge and learning

While future-oriented educational thinking is underpinned by many key ideas, there are two that stand out. The first is a shift in how we view knowledge (table 1, page 4), and the second is the need to redesign educational approaches based on what we now know about learning (table 2, page 4). Building on these two key ideas, NZCER’s research suggests six emerging and interconnected themes to underpin a future-oriented learning system.



Future-oriented learning and new technology

People sometimes link future-oriented or “twenty-first century” learning with developments in information and communication technology (ICT). However, future-oriented learning involves more than digital technology. ICT has the potential to transform how we learn and how we teach, but it can also be used to support outmoded teaching and learning approaches. The increased availability of new technology needs to be paralleled by opportunities for teachers and learners to develop practices that align with the six future-oriented themes. You could review your own school’s use of ICT to consider how well it supports the development of practices in relation to these themes.

Personalising learning

Personalising learning means reversing the “logic” of an education system so that the system is built around the learner. This means that we need to take much more account of who learners are, where they are, and to what and to whom they are connected in order to build the experiences and networks that strengthen every learner’s capacity. We need to consider how to deploy the usual resources for learning (teachers, spaces, time) more flexibly to meet learners’ needs, as well as how to support learners’ access to new resources beyond those that are traditionally part of the schooling system (for example, resources in the wider community).

What needs to happen?

A key challenge is how to take personalisation beyond the obvious response (reorganising teaching and the curriculum) to providing more choices and pathways for learners. Future-oriented learning should develop and strengthen learners’ connections to the people and resources around them as part of building their overall capability to act in and on their world. “Deep” – that is, transformative – personalisation has the potential to engage communities as collaborative partners in the goal of supporting every learner to develop to their full potential.

One of the key platforms of our belief is to really “understand who our learners are” – we refer to this as “personalising the learning journey for our students” ... we are aiming to break the model of “one size fits all”, as we know it actually fits no one.

Area school principal

Rethinking learners’

Twenty-first century learners need to be active participants in their own learning. This doesn’t mean that teachers should cede all power and responsibility to learners or that learners and teachers play the same role in the learning environment. Rather, it is about structuring roles and relationships between learners and teachers in ways that best support powerful learning.

I am no longer a teacher; I am a facilitator. I help students on their journey. I do not create their journey; I guide them on their path.

Secondary school languages teacher

Then
a fu
lea

New views of equity and diversity

A future-oriented view suggests that achieving equity is not just about bringing everyone closer to today’s standards of educational success. It’s also about future-oriented thinking that recognises diversity as a strength to be actively fostered. This means catering *for learners’ diversity* as well as preparing learners to work *with diversity*. The changing global environment requires learners to engage with people from many different backgrounds and world views. Learners also need to develop the ability to work with a diversity of ideas – to think outside existing knowledge paradigms in order to solve increasingly complex, real-world challenges.

What needs to happen?

Most schools are becoming attuned to working with the cultural diversity of their learners and communities, but the deeper implications of understanding diversity – in all its forms – as an engine for twenty-first century learning may be less familiar. Schools could begin by exploring these implications in parallel with the themes of personalising learning and of developing a curriculum that uses knowledge to foster learning capacity. For example, what unique and valuable learning opportunities can be developed because of the diversity of people and ideas in the community?

[We are] looking for solutions to issues within our school and local community – looking at our own internal strengths – what’s pumping in our blood.

Year 10 agriculture teacher

and teachers' roles

What needs to happen?

The challenge is to consider learning as being more than just “student centred” or “teacher driven” and, instead, to think about how learners and teachers can work together in a “knowledge-building” learning environment. New Zealand research shows that teachers and students can experience significant learning benefits by changing their roles and working in more knowledge-building ways. However, long-term, system-wide change is extremely difficult. It requires a culture shift in which the majority of teachers think in new ways, develop new skills, and embrace new understandings of themselves as professionals.

A culture of continuous learning for teachers and educational leaders

Future-oriented educational practices will be different from the ones that today's teachers, school leaders, and educational policy leaders experienced during their schooling. Neither past experiences nor top-down directives alone can provide sufficient guidance for developing “next practice”. Instead, educational professionals need to see it as part of their role to collaboratively co-construct new approaches to meet changing needs. This requires an attitude of openness and intellectual curiosity and a willingness to see things in new ways.

What needs to happen?

All educational professionals need access to learning support that helps them to develop an “inquiry habit of mind”¹. This professional learning must include opportunities for networking and collaboration with other educational professionals. Future-oriented school and policy leaders also need support to develop a more complex skill set in order to become strategic systems thinkers, change facilitators, and learning leaders who can support and sustain a culture of continuous professional learning.

¹ See <http://instep.net.nz/Inquiry-and-evidence-based-practice/An-inquiry-habit-of-mind>

Principles to underpin a future-oriented learning system

A curriculum that uses knowledge to develop learning capacity

Educationalists argue that we need to restructure school activities so that learning can happen through collaborative knowledge building. Disciplinary knowledge provides a context within which students' learning capacity can be developed. This approach does not minimise the importance of knowledge but places greater emphasis on finding ways for learners to access and experience the “deep” features of knowledge systems and disciplinary thinking.

What needs to happen?

To put these ideas into practice, we need to understand the changes in the meaning of terms such as “knowledge” and “learning” (see page 4) and how these changes affect the way a school's curriculum is implemented. Ideas from *The New Zealand Curriculum*, including key competencies, lifelong learning, education for enterprise, and education for sustainability have helped some schools to see through a new lens, thereby creating opportunities for coherent shifts in their learning, teaching, curriculum, school organisation, and school–community relationships.

We use an inquiry approach called thinking-based learning that explicitly teaches students how to think more skilfully ... to solve a real-world problem or as real a problem as the school's resourcing allows ... Students are challenged in their thinking by a fertile question which is open, undermining, rich, connected, charged, and practical ... Our teachers use techniques to make the students' thinking visible ... These “learning conversations” support collaborative knowledge building and allow the teachers to guide and challenge their students' thinking.

Intermediate school principal



New kinds of partnerships and relationships

Twenty-first century learners need access to a wider range of resources and expertise than in the past. Educational professionals will need to collaborate with other people and groups who can provide access to specific kinds of expertise, knowledge, or learning opportunities. The community or wider public will also need to be on board with new thinking about education in order to support schools to become more future oriented.

What needs to happen?

Some schools are engaging with people and groups from the wider community to support innovative learning for students. If this work is to be scaled up, it needs systemic support and to be underpinned by research. Educational professionals and partners from the wider community need support to work in the spaces between their different areas of expertise and to talk and listen to each other – across professional and/or cultural boundaries.

The curriculum has allowed the students to focus their time on inquiry. With this comes a shift in focus towards them being curious about their world and understanding that they have the ability to go out and ask questions and find answers as a way of living their lives ... I believe that this view also breaks down students' understanding of what a classroom looks like and is hopefully breaking down barriers between school and the community.

Intermediate school teacher

Views of knowledge

New ideas about knowledge have largely emerged in the world outside education, driven in large part by enormous economic, social, and technological changes. These “knowledge age” ideas – although complex – are extremely important for thinking about the design of a future-oriented curriculum.

Table 1: Views of knowledge and their implications for schooling

In the past	Now
Knowledge was conceived of as something developed and known by experts, which could be passed on from teacher to student or manager to worker.	Knowledge is dynamic and key to the process of creating new knowledge. It comes into being “just in time” to solve specific problems as they emerge.
A school’s job was to transmit knowledge, and the students’ job was to absorb it in preparation for their lives after school. Curriculum development involved determining which knowledge students would need for their future roles and organising this knowledge into logical sequences of curriculum units that could be taught using step-by-step methods.	It is no longer possible to accurately predict exactly what knowledge people will need to draw on as they move through life. To support their ability to develop new knowledge, learners need opportunities to build their sense of identity – to become self-reliant, critical, and creative thinkers; to be team players; to learn to use initiative; and to engage in ongoing learning throughout their lives.
Education structures assumed a certain degree of stability and predictability in the kinds of jobs and social roles that people could move into once they left school.	The jobs and social roles that people move into once they leave school are constantly evolving as a consequence of social, economic, and technological developments. In an increasingly globalised, interconnected, and interdependent world, people who are able to work with knowledge are seen as a key resource.

What we know about learning

A future-oriented education system must be learning centred. Research clearly shows that people do not learn well as spectators – good learning requires active engagement. Although many educational professionals understand the concepts in the table below, current approaches don’t always align with the concepts and consistently demonstrate them in practice.

Table 2: What research tells us about learning

Learning is much more than acquiring new knowledge and concepts. It involves thinking, but learners need knowledge and experiences to think with.
Learners need to be actively engaged in ways that allow them to process, interpret, and adapt an experience.
Learners have to want to learn. They have to see a purpose to learning and how it will allow them to contribute to something beyond themselves.
Learners have to feel in charge of their own learning and to get a sense of flow and progress, with the right amount of challenge and feedback along the way.
Learners need to develop in-depth knowledge in some areas to help them keep learning.
Learners need to be encouraged to search, not for the right answer (focusing on surface features) but for the right approach to solving a problem (deep structures).
Learning involves interaction – trying out and testing ideas with others.
Learning usually needs structure. For example, adults play an important role in young children’s development by structuring their experiences and directing their attention to certain aspects of those experiences.
Learning needs to take place in a wide variety of settings so that learners can transfer their learning and use it in new contexts.
Intelligence is not fixed but is expandable through learning experiences. Expanding people’s intellectual capacity – and ability to keep learning – should be the key function of a future-oriented education system.

> Useful resources

Bolstad, R. and Gilbert, J., with McDowall, S., Bull, A., Boyd, S., and Hipkins, R. (2012). *Supporting Future-oriented Learning and Teaching: A New Zealand Perspective*. Wellington: Ministry of Education. <http://www.educationcounts.govt.nz/publications/schooling/109306>

Bull, A. and Gilbert, J. (2012). *Swimming out of Our Depth? Leading Learning in 21st Century Schools*. Wellington: NZCER. <http://www.nzcer.org.nz/research/publications/swimming-out-our-depth-leading-learning-21st-century-schools>

Egan, K. (2008). *The Future of Schooling: Reimagining Our Schools from the Ground Up*. New Haven: Yale University Press.

Leadbeater, C. (2011). *Rethinking Innovation in Education: Opening Up the Debate*. Melbourne: Centre for Strategic Innovation.

Guiding questions He pātai

- Which of the six emerging themes are currently the most developed and which are currently the least developed in your school’s practice?
- Which theme(s) could provide a focus for professional learning for your staff?
- How does – or could – ICT contribute to practices in your school that build on these emerging themes?
- What networks and collaborations could your school use to deepen your thinking and practice in relation to the emerging themes?

The New Zealand Curriculum
Update