Effective learning pathways

A student’s learning pathway is the journey that the student takes through the curriculum as they learn and grow and as they prepare for their future. Guidance from schools, family, and whānau helps them to make good choices along the way.

Many secondary schools are stepping up to design a school curriculum that gives students a clear sense of purpose and direction. The research study Student Perspectives on Leaving School, Pathways and Careers (Vaughan, New Zealand Council for Educational Research, 2008, page 64) found that 20 percent of respondents were not satisfied with their subject mix and 30 percent wanted better advice on subject selection, which suggests that support in clarifying learning pathways is timely.

Reviews of learning pathways need to focus on students’ talents, needs, and aspirations, take account of employer needs, and make the most of available resources and professional knowledge. Particular attention is needed to ensure successful outcomes for Māori and Pasifika students and for those with special education needs.

The case studies in this Update illustrate some of the ways in which different schools have strengthened their students’ learning pathways. Guiding questions (he pātai) are included with each case study. You can use these during professional discussions within your school or to guide reviews of learning pathways.
Reviewing learning pathways

Learning pathways are one of several considerations in each school’s ongoing process of curriculum design and review (The New Zealand Curriculum, page 41).

“Learning pathways” refers to what and how students learn as they move towards their learning and career goals. As well as the subjects they choose, this learning includes the key competencies and the ability to manage learning and career choices.

As educators, you support students on the journey, building on their prior learning and using assessment to help them identify next learning steps.

The goal is for your students to become self-directed learners, able to articulate the links between their learning and their goals for tertiary study, careers, and life. Worthwhile qualifications and a readiness to be lifelong learners are important outcomes of secondary education.

Your school’s review of learning pathways may trigger action at different points in the school. Senior managers with responsibility for curriculum, and middle leaders, such as heads of department and specialist classroom teachers, will likely have key roles in the review. Other teachers, deans, and support staff may also be involved.

Possible points of action

<table>
<thead>
<tr>
<th>Support for new students</th>
<th>Using transition data to plan teaching and to build in support for student needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental planning</td>
<td>Investigating and designing course structures that show different ways of approaching learning</td>
</tr>
<tr>
<td>Whole-school planning</td>
<td>Creating coherent coverage of learning areas and reviewing senior programme design and choices</td>
</tr>
<tr>
<td>Careers education</td>
<td>Providing age-specific learning experiences and linking curriculum learning to career pathways</td>
</tr>
<tr>
<td>Student support</td>
<td>Ensuring communication between deans, learning support, and classroom teachers so that students, including those with special learning needs, are supported</td>
</tr>
<tr>
<td>Evaluation of pathways</td>
<td>Tracking student achievement, identifying priorities for learning, evaluating programmes (including through student feedback), and monitoring the outcomes for school leavers</td>
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The importance of pathways

As students journey from early childhood through secondary school and, in many cases, on to tertiary training or tertiary education in one of its various forms, they should find that each stage of the journey prepares them for and connects well with the next. Schools can design their curriculum so that students find the transitions positive and have a clear sense of continuity and direction.

The New Zealand Curriculum, page 41
While year 9 students may be new to your school, they’re already well along a learning pathway that starts in the home and includes early childhood and primary education. Research shows that most students make a positive transition from year 8 to year 9.

The report Students’ Achievement as they Transition from Primary to Secondary Schooling (Sharon Cox and Shelley Kennedy, Ministry of Education, 2008) shows that achievement initially drops in year 9 mathematics and plateaus in year 9 reading and writing. Achievement in all three subjects improves markedly by the end of that same year. Year 9 students may also express less positive attitudes towards some subjects as they respond to different teaching styles, particular topic content, and social or extra-curricular pressures.

Transition is more a process that an event. In the report The Case of Emily: A Focus on Students as They Transition from Primary to Secondary Schooling (Ministry of Education, 2008, page 13), Kennedy and Cox emphasise the importance of taking account of a “range of measures, factors, and perspectives” for transitioning students, particularly student perspectives “and at an early stage” (ibid, page xv).

The summary brochure A Study of Students’ Transition from Primary to Secondary Schooling (Research Division, Ministry of Education, 2008) suggests that a significant minority of students (around 10 percent) find the move to year 9 academically or socially challenging. Emotional or family issues may compound this challenge. Sharing professional considerations with contributing schools and making use of their student data can help you to guide such students through transition and keep them on track to achieve worthwhile qualifications.

Starting points

<table>
<thead>
<tr>
<th>Review data from previous schools.</th>
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<tbody>
<tr>
<td>Is the data enough for you to get a picture of each students’ needs, interests, and abilities? Are special learning needs evident and clear?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Find out how your year 9 students view their learning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeing their learning as too hard or too easy can affect students’ attitudes towards learning areas and motivation and achievement. Use such information to plan appropriate starting points.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Review your levels of professional exchange with contributing schools.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find ways to improve teacher communication between schools, focusing on curriculum and effective pedagogy.</td>
</tr>
</tbody>
</table>

Onslow College

Using evidence of prior learning

Wellington’s Onslow College collects data on its incoming students, covering: literacy and numeracy achievement; social, emotional, and family issues that may require intervention; cultural practices; and special learning needs. Staff also talk to teachers at contributing schools, to the students themselves, and to their families.

Listening to their year 8 colleagues talk about their leaving students gives Onslow teachers a head start in creating strong relationships with the incoming students.

Achievement data provides some very useful information on a student but, through an interview with that student’s teacher, we can ask the “so what does that mean?” question.

Peter Leggat, Principal

All students fill out a form about themselves, and around 70 percent of parents choose to attend an enrolment interview.

The Learning Support Department holds a transition day for students on the Ongoing and Reviewable Resourcing Scheme (ORRS) or with moderate learning needs to ease them into the college environment. The day is also an opportunity for parents to contribute to individual education plans.

A student management system holds the gathered data. Records of prior learning help staff to see who is likely to need extra support in year 9. Alerts are placed on these files. Deans give form teachers a class set of information. Individual student profiles remain available to teachers in subsequent years. Teachers use the information to differentiate their approach to targeted students, especially with literacy learning. Professional development on how to use the data effectively is ongoing.

Guiding questions He pātai

- Do we get enough information from contributing schools, new students, and families?
- Who needs to be part of the team that manages our transition process?
- How do we support teachers to use transition data in their planning and teaching?
CASE STUDY

North Canterbury collaboration

Primary and secondary teachers collaborating on curriculum

A North Canterbury cluster (Rangiora High School and nineteen contributing schools) is progressing towards a more aligned curriculum in years 7–10.

Peggy Burrows, the Principal of Rangiora High School, wanted the cluster to develop an education community based on a “partnership and not mother ship” approach. The schools view their cluster as working together on five areas bridged through effective practice (see diagram).

The schools are focusing on teaching and learning through a principals’ network, a teacher buddy system, and school action plans. Leaders acknowledge the time and effort teachers have put into this collaboration.

Shared curriculum planning is reducing gaps and overlaps in successive years. This year’s joint-planning focus is science, technology, and literacy.

Some twenty-five secondary teachers have buddied up with primary colleagues, attending workshops and observing practice in each other’s classrooms. The teachers all report a better understanding of expectations, of the teacher–student relationship, and of what leads to best learning.

Rangiora High School teachers also work on pedagogy in professional learning teams. The same teams collaborate on planning so that year 9 students experience clearer links between learning areas. The teams track student progress and share knowledge of student needs.

Guiding questions He pātai

• In what ways do we share professional knowledge with contributing schools?
• How can working towards a seamless curriculum support our work to lift student achievement?

Building bridges

Wellington High School

Competencies guiding students’ paths through the junior years

When Wellington High School teachers ask year 9 and 10 students how they are doing, conversation revolves around the learning goals the students each keep in a portfolio. The key competencies, which both enable learning and are a focus for learning, are crucial to realising these goals.

The school aims to help students become self-directed learners who can manage their own progress along learning pathways.

Thinking about my own learning has got way easier now that we do it more often.

Year 9 student

Wellington High School gives academic mentoring special emphasis in junior classes. Since 2009, year 9 classes integrate English, mathematics, science, and social sciences in an approach called Tukutahi (connected to learn). Teams of four teachers share their knowledge of students, which leads to stronger relationships in the classroom, and the teams co-ordinate support for the students. As a result, the teachers report knowing more about the students’ learning needs and behaviours and how to respond more effectively.

Students also lead discussion with parents and teachers during twice-yearly learning conversations centred on learning goals. (These have been extended into year 11.)

The school evaluated the performance of the first Tukutahi cohort of 50 students against a control group, which was adjusted for prior learning levels, age, and ethnicity. The first cohort showed marginally better results in NCEA level 1, fewer incidents requiring pastoral intervention, and higher participation in co-curricular activities. Further evaluation is planned, now that all year 9 classes experience Tukutahi.

We’re educating students for their future, not our past.

Prue Kelly, Principal

The Tukutahi integration of learning areas is also beginning to influence design of blended courses at senior levels. These courses include painted word (art history and English) and sonic arts (electronics and music).

Guiding questions He pātai

• How do our junior students develop the competencies they need to succeed in further study and employment?
• How can we evaluate the impact of our teaching on their progress?
Reviewing senior pathways

During the senior secondary years, students consolidate the skills and knowledge that they will need for further education or work. Previous years of teaching have laid the foundation.

Heads of department, other middle leaders, and senior managers should continue to review how pathways through senior learning programmes support student success. An indicator of system-wide success will be an increase in the number of students achieving NCEA level 2 or above – with Māori and Pasifika students a priority.

The New Zealand Curriculum allows for students to have choice and opportunities for specialisation in their learning. They may take programmes that run across or outside learning areas.

The alignment of NCEA standards ensures that assessment and qualifications match the student outcomes in the curriculum. Rather than using NCEA standards as a starting point for curriculum design, schools can focus on the curriculum achievement objectives and how the vision, principles, key competencies, and values can enrich students’ pathways.

Areas to consider in reviewing senior pathways

Programmes
- What courses do we offer and why? What do we not offer? What are our particular areas of strength?
- What principles guide our programme decisions?
- What enables or limits the choices on offer?

Students
- What are our students’ expectations and preferences?
- What do parents, employers, and education providers expect in terms of students’ knowledge, skills, and competencies?
- What do the students’ engagement, participation, and achievement suggest about the strengths and weaknesses in our provision?

Resources
- How can we best use:
  - our teacher expertise
  - expertise in our community
  - other providers
  - agencies
  - new technologies
  - professional development?

Systems
- How can timetables, resources, and information systems enable effective senior programmes?
- How is decision making structured to support change?

Mount Maunganui College

Student-centred learning

Year 11 science students at Mount Maunganui College have a say in what they learn. They also use planning sheets to map out the year’s learning, with suggested time frames and possible assessments.

For the science department, this change from teachers making all the decisions about what is taught represents a response to the curriculum vision of connected and actively involved lifelong learners.

The resulting learning programme is unique and draws together all the science strands within a theme of Survival at the Mount. Concepts are taught through authentic local contexts rather than as isolated information.

This holistic approach helps students to see the relevance of science to the wider world and to their place in it. Science topics include genetic engineering, the evolution of kiwifruit, and local options for energy generation.

To design this senior science programme, teachers began planning within each science strand. They considered the “big ideas” that are at the centre of science learning at levels 7 and 8 of the curriculum. They then explored links between the strands and examined how science is applied in industry and business.

All science staff on a teacher-only day went into two local industries and listened to presentations about the science involved in the processes that were relevant to the businesses.

Michelle Ballard, specialist classroom teacher

In 2010, a cross-section of year 10 students were asked which aspects of science they wanted to learn about in year 11, ensuring a sense of ownership from the outset.

Their teachers liaised with other departments, checking for overlap in achievement objectives between, for example, earth science, and geography. Staff consider that more cross-curricular planning of senior learning programmes may be possible.

At a more informal level, the science and other departments share senior curriculum knowledge through professional learning groups focused on aspects of teacher practice.

Guiding questions  He pātai

- Do our senior students see the relevance of what they learn to their own lives?
- How can we give students choice in what they learn?
- What needs to be in place for departments to plan collaboratively across learning areas?

Supporting resources

> Teaching and Learning Guides
http://seniorschecondary.tki.org.nz

Guides for most senior school subjects offering ideas on how to create programmes that focus strongly on valued learning and student outcomes

> NCEA assessment resources on TKI
www.tki.org.nz/e/community/ncea/alignment-standards.php
Assessment resources for level 1 achievement standards

> NCEA
www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/
Support for the achievement standards
Career education – strengthening pathways

Teachers can help students learn to manage their own educational and career pathways by taking opportunities to introduce career topics and concepts relevant to the learning area being covered.

Career education is best planned to include age-specific learning experiences so that each student develops “career management competencies”. These are the attitudes and skills that students need to make sound decisions about what they should learn and how they will prepare for their future career. International research and practice identifies three such competencies:

- developing self-awareness
- exploring opportunities
- deciding and acting.

You’ll find year-level learning outcomes for each career management competency in Career Education and Guidance in New Zealand Schools (Careers Service, 2009). This guide also suggests career-based activities for each learning area.

A whole-school approach to career education ensures that classroom teachers have professional support. Senior managers, deans, form teachers, heads of department, and careers staff can consider:

- how teachers are helped to understand the career management competencies
- when and how teachers will address the competencies within the context of their subject
- how well student needs are met by career education.

Getting whānau involved

Students’ families are key participants in career decision making. A pilot project (the Whānau Decision-making project) by Careers New Zealand, the Ministry of Education, and Te Puni Kōkiri examined what helps Māori whānau.

Some key findings were:

- All whānau have career aspirations for their children and will strive to assist and encourage them to make positive decisions. Each whānau has different needs.
- If whānau have a relationship with a particular person or organisation, they expect to continue career planning through that relationship.
- Some whānau felt that a career practitioner with strengths in Māori cultural values was critical, while for others this was less important.

Rongotai College

Learning programmes with a career focus

Visitors to Rongotai College, a boys’ school in Wellington, find students working a coffee machine in one classroom and preparing kindergarten resources in another.

These students are gaining qualifications that can lead to apprenticeships or tertiary study. During the same classes, teachers bolster transferable skills sought after by employers. Through authentic learning, the boys develop skills in self-promotion, interviews, reflective writing, reliability, setting high standards, sticking to goals, and learning from mistakes.

The school’s philosophy is to let boys explore career opportunities while they are still in a supportive setting.

A father said to me, “Some of our boys need longer to grow into their skins”.

Staff member

The head of vocational studies oversees career education and builds relationships with other departments. These relationships help staff to support students to work towards their learning and career goals.

Programmes include automotive engineering (the technology department), retail studies (commerce), and 3D modelling (computer studies).

The school’s subject selection book shows students which subjects support each other, what career opportunities they lead to, and what further education and training is available.

Advice is given to individual students, and to groups, through community events. Pasifika boys and their families attend an NCEA induction day and career evenings. One such evening featured opera singer Ben Makisi, a Rongotai old boy.

He’s one of a number of Pasifika role models who come into our school to talk about their own life story and how they have become successful across a whole range of fields, from opera, to an academic focus, to government departments. They told how they developed their careers from when they were students themselves.

Kevin Carter, Principal

Guiding questions He pātai

- Does our school’s curriculum support the career aspirations of our students?
- In what ways can our teachers and senior staff share responsibility for career education?
- How can our school engage Māori and Pasifika families in their child’s career planning?
Increasing options through partnerships

Schools need to partner with the communities in which they are situated. For example, the new business studies curriculum for years 11–13 and the achievement standards for NCEA levels 1–3 specify a requirement for students to connect with a small business enterprise, philanthropic organisation, or larger business as a context for their learning.

Carefully chosen partnerships with external providers and programmes multiply students’ choices and increase the quality of learning pathways. Decisions on what you offer need to be made in light of overall curriculum goals and student needs.

When assessing students’ interests and goals, their engagement, and their achievement, you may pinpoint areas of unmet demand. The relevance of school programmes to the needs of industry and the availability of further education may be other triggers:

Pathways options include:
- trades academies
- customised in-school courses in partnership with industry training organisations
- Gateway workplace learning
- tertiary programmes delivered through the Secondary Tertiary Alignment Resource (STAR) funding
- distance learning programmes offered by other schools
- tertiary student places via the Youth Guarantee initiative.

Trades academies provide clear pathways for senior students to gain a head start in training for vocational qualifications and smoother access to employment. Academies combine secondary and tertiary learning through partnerships between schools, tertiary institutions, and industry. Many offer places on a regional basis, so find out what is happening in your area. Academy students continue to be enrolled at your school but spend some time off-site as they study towards NCEA level 2 and tertiary qualifications.

The Youth Guarantee is the government’s policy for addressing the ongoing issue of student underachievement, particularly focusing on the system as a whole and the role of schools, tertiary organisations and secondary–tertiary programmes in doing this. It is likely there will be changes at the secondary–tertiary interface, especially through the introduction of five NCEA vocational pathways available for both schools and TEOs. The policy seeks to build on the clear goal that all young people leave education with at least NCEA Level 2 or an equivalent qualification on the NZQF which will enable them to successfully progress to further education or skilled employment.

CASE STUDY

**Trident High School**

**Strengthening senior pathways through partnerships**

Whakatane’s Trident High School has been building partnerships since the 1990s, when it started its forestry programme. This programme attracts students who find conventional classrooms difficult. Many have gone on to successful trades careers or further study.

Forestry students spend four days a week learning skills such as pruning, thinning, and felling. To facilitate such learning, the school has built partnerships with forestry block owners, including farmers and iwi groups.

> It’s a partnership, and it provides a really good pathway for these students, which will lead to a job with a very good income.
> 
> Peter Tootell, Principal

The school became an accredited provider to the Forest Industries Training and Education Council, allowing students to gain unit standards directly relevant to forestry careers. For one day a week, the forestry teacher helps students with literacy and numeracy learning. A forestry tutor is also employed. Both staff members ensure that learning outcomes are broad.

> It’s attitudes, values and key competencies. Many of the students leave the programme for work, and what the employers want is students who are work-ready.
> 
> Peter Tootell, Principal

Graduates have moved on to a range of trades, and the school considers the graduates’ strong work ethic as their most important learning outcome.

Trident is building new partnerships as the lead school in the Eastern Bay of Plenty Trades Academy, which operates as a partnership between seven schools, Waiauki Institute of Technology, and Te Whare Wānanga o Awanuiārangi.

The learning model used in the academy has been influenced by Trident’s forestry programme.

Guiding questions  He pātai

- Do the choices we offer our senior students reflect their interests and local employment opportunities?
- What partnerships would help us diversify our learning programmes?
- Who needs to be involved in planning new partnerships?

Making it work

Keep in mind:
- the importance of processes for matching relevant options with students’ pathways
- how senior pathways align with the rest of the school curriculum
- how career education can help senior students manage themselves
- how the school can use available resources strategically for the best outcomes.
The importance of literacy and numeracy to learning

Secondary students use increasingly specific forms of written language and mathematics in the different learning areas, and they need to make sense of complex texts, diagrams, tables, and graphs.

Literacy and numeracy learning are vital if students are to be able to access the curriculum. In effect, every classroom specialist is a teacher of literacy and numeracy.

The New Zealand Curriculum (page 16) explains that students need specific help to learn the language of each learning area, including:

- the specialist vocabulary associated with that area
- how to read and understand its texts
- how to communicate its knowledge and ideas in appropriate ways
- how to listen and read critically, assessing the value of what they hear and read.

In the same way, students need help to develop understanding of the numeracy and mathematics contexts and requirements of each learning area. A co-ordinated, school-wide approach can support all students in learning and applying literacy and numeracy strategies. For example, sequencing teaching can ensure that students learn about graphs in mathematics before they use them in science.

Schools in professional development projects have used a teachers’ inquiry cycle to guide this kind of work. You can plan a similar process.

As you complete an inquiry cycle, you may find it leads to changes in teaching strategies, the level of communication and planning between departments, and how you use assessments to plan new learning. These changes can also help staff prepare to address the new NCEA literacy and numeracy requirements in effect from 2011 onwards.

Supporting students in making complex choices

Research shows that some students leave school unhappy about their subject choices. As cited on page 1 of this Update, the report Student Perspectives on Leaving School, Pathways and Careers (Vaughan, NZCER, 2008, page 64) found that 30 percent of students in a longitudinal study wished they had received better advice on subject selection.

Young people, concludes Vaughan, must deal with a proliferation of choices – and they need help and support from teachers and career advisors.

The study showed most students understood themselves to be the key decision makers in their lives, particularly when it came to pathways from school.

What does this imply for learning pathways in secondary education? Schools can be seen as working well when students gain not just knowledge or qualifications but also the competence and confidence to negotiate their own pathways when they leave school for the wider world.

While students saw the decision making aspects of leaving school positively, they also saw them as challenging. This was particularly so for pathway and career decision making. Students picked out establishing a career, working out what they wanted to do, and statements about managing time and money as the things they expected to find hardest when leaving school.

(Vaughan, NZCER, 2008), page 64

Helpful resources

- Easing the Transition from Primary to Secondary  www.educationcounts.govt.nz/publications/schooling/76381
- Career Services Rapuara  www2.careers.govt.nz/educators-practitioners

References for citations in this Update can be found with the online version at  http://nzcurriculum.tki.org.nz/curriculum_updates

The New Zealand Curriculum Update online survey prizewinner

Congratulations to Beverley Blake of Flaxmere Primary School for winning the $100 book voucher prize draw for taking part in the recent online survey.
References and additional bibliographic resources


Additional websites


Education for Enterprise (see particularly Business and Community, which helps schools build partnerships with the community) http://education-for-enterprise.tki.org.nz/Business-and-community

Literacy Online (see particularly Teacher Inquiry and Knowledge Building) http://literacyonline.tki.org.nz/Literacy-Online/Secondary-Literacy-Project

New Zealand Maths (see particularly the Secondary pages) http://nzmaths.co.nz

Social Sciences Online (see particularly the series Building Conceptual Understandings in the Social Sciences) http://ssol.tki.org.nz/

Technology curriculum support http://www.techlink.org.nz/


Te Kotahitanga: Making a Difference in Māori Education (see particularly Culturally Responsive Pedagogy of Relationships) http://teketahitanga.tki.org.nz/About/The-Development-of-Te-Kotahitanga

The whānau descion-making project http://www2.careers.govt.nz/educators-practitioners/archive/career-edge-april-2010/whanau-project-points-the-way-forward/

The New Zealand Curriculum Update