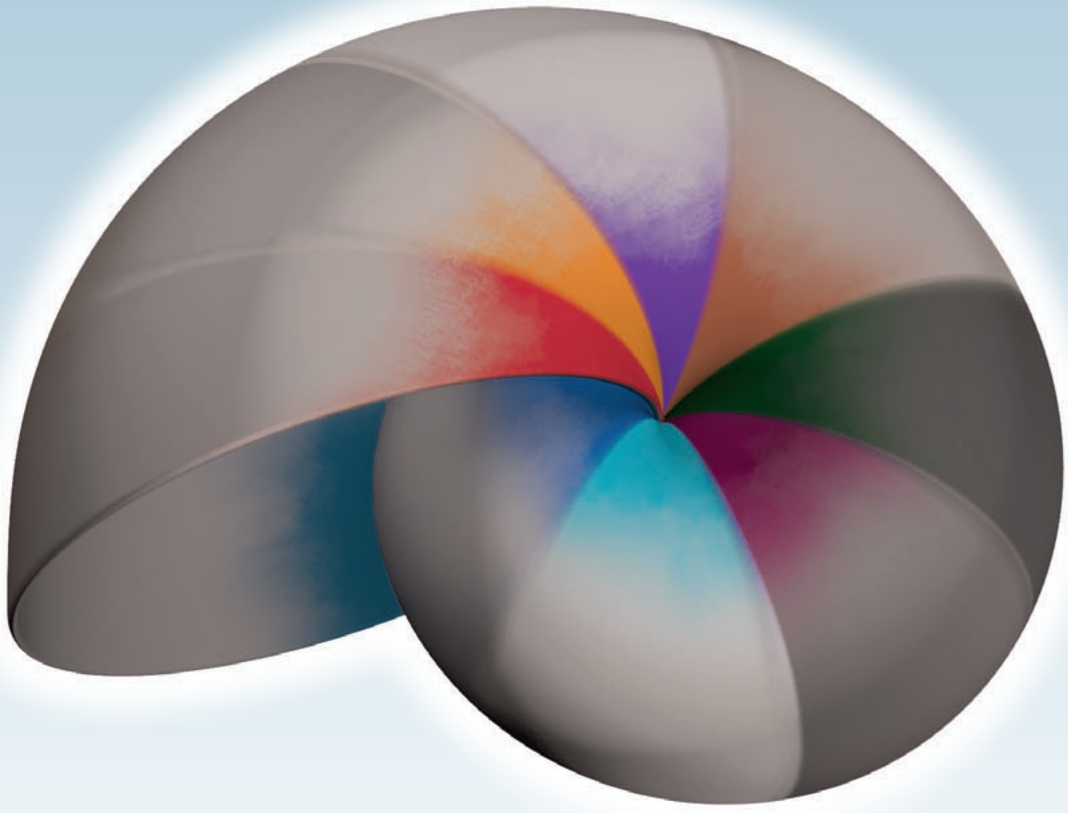
MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga

The New Zealand Curriculum

Draft for consultation 2006



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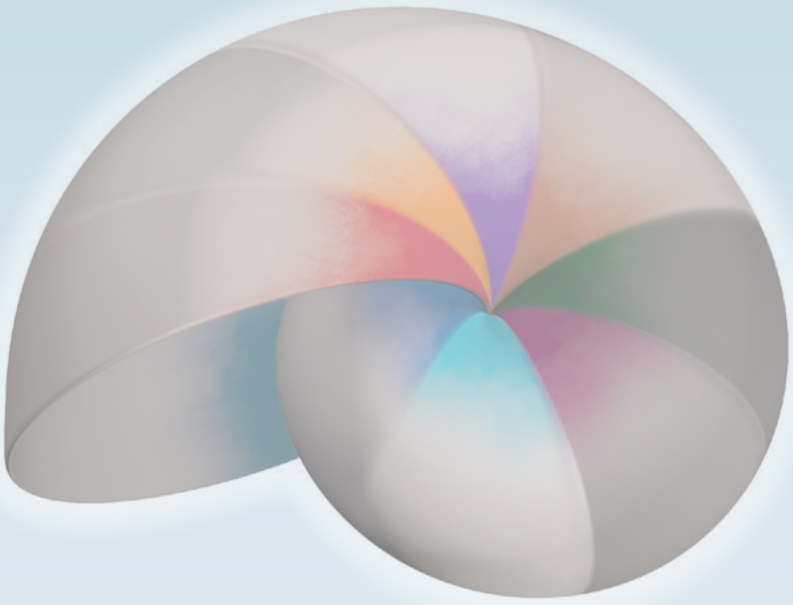


Foreword

We all want the very best education system for our young people; one that is known for its excellence in every respect. We want students to achieve to a high standard while at school and to leave equipped with the knowledge, competencies, and confidence that they will need for success in a constantly changing world. We want teachers to be motivated and to enjoy their teaching.

It is while they are at school that young people lay the foundations for future success. These foundations include literacy and numeracy skills and the competencies and attitudes that will enable and sustain a lifetime of learning. Particularly important is the ability to acquire new knowledge and skills.

Quality education is a shared responsibility of the state, the community, the family, and the individual. The New Zealand Curriculum sets national directions for education. It is expected that when schools develop their programmes, they will interpret these directions in ways that take account of the diverse learning needs of their students and the expectations of their communities. Schools and communities working in partnership can use this document as the starting point for creating exciting learning opportunities.

This revision of the New Zealand Curriculum, currently in its draft form, had its beginnings with the Curriculum Stocktake, a comprehensive review of the current curriculum that was completed in 2002. Following the publication of the Stocktake report, teachers and representatives of other interest groups met to discuss and consider the existing curriculum in the light of the report's recommendations.

Those taking part in this process recognised that many changes have taken place since the implementation of the existing curriculum began in 1992. These include changes in New Zealand society, changes in the economy, and the new opportunities opened up by information and communications technology (ICT), including the Internet. Increasingly, New Zealand is part of the global community and influenced by international events and trends. At the same time, there is a developing awareness of what is uniquely Aotearoa New Zealand. Māori are clearly articulating the desire to be both Māori and citizens of the world. There is increasing recognition that both the academic and social outcomes of education are important.

Those involved in the Stocktake concluded that the existing curriculum was well founded but that it should be revised to reflect changing needs and priorities. The report recommended:

- clarifying the principles and values on which the curriculum is based;
- clarifying how schools are intended to implement the intent of the document;
- restructuring the essential skills and attitudes as key competencies;
- ensuring that achievement objectives for each learning area are clear, appropriate, and future-focused;
- putting a strong emphasis on excellence and on improved outcomes for all students.

This revision of the curriculum emphasises the importance of effective teaching and learning. It looks to support and encourage strong home–school partnerships. It increases the profile and status of second language learning. It emphasises the importance of making stronger connections between what goes on in schools and the wider needs of communities, society, and employers. It aims to make curriculum more manageable for teachers by clarifying expectations.

This draft document has been developed in consultation with teachers, principals, advisers, academics, policymakers, boards of trustees, communities (including communities of interest), parents, and students. It is anticipated that these groups will continue to share in the ongoing evolution of the curriculum and to contribute to decisions about how it is used.

The audience for this document is all those who have an interest in the education and future well-being of our young people.

Howard Fancy
Secretary for Education

Consultation Timeline

2006 July/August

Draft New Zealand Curriculum (English medium) published for consultation and feedback.

Feedback form available at www.tki.org.nz/r/nzcurriculum for online completion or inside the back cover of this document for paper completion and mailing.

Feedback must be returned by **November 30**.

September/October

Independent survey carried out to gauge penetration and understanding.

September/October/November

Independent focus groups

November 30

All feedback and consultation completed.

2007 Draft Te Marautanga o Aotearoa published.

September

Proposed release of the revised New Zealand Curriculum

2008 Final Te Marautanga o Aotearoa published.

2008–2009

Implementation of the two partnership documents: the New Zealand Curriculum and Te Marautanga o Aotearoa.

Contents

Overview

The curriculum is given expression in two documents that will, when in their final form, represent a partnership for learning: this document, The New Zealand Curriculum, for English medium and Te Marautanga o Aotearoa for Māori medium. Together, these documents will set the direction for learning for all students while at school and will ensure that when they leave, they are equipped for life-long learning and for living in a world where continual change is the norm.

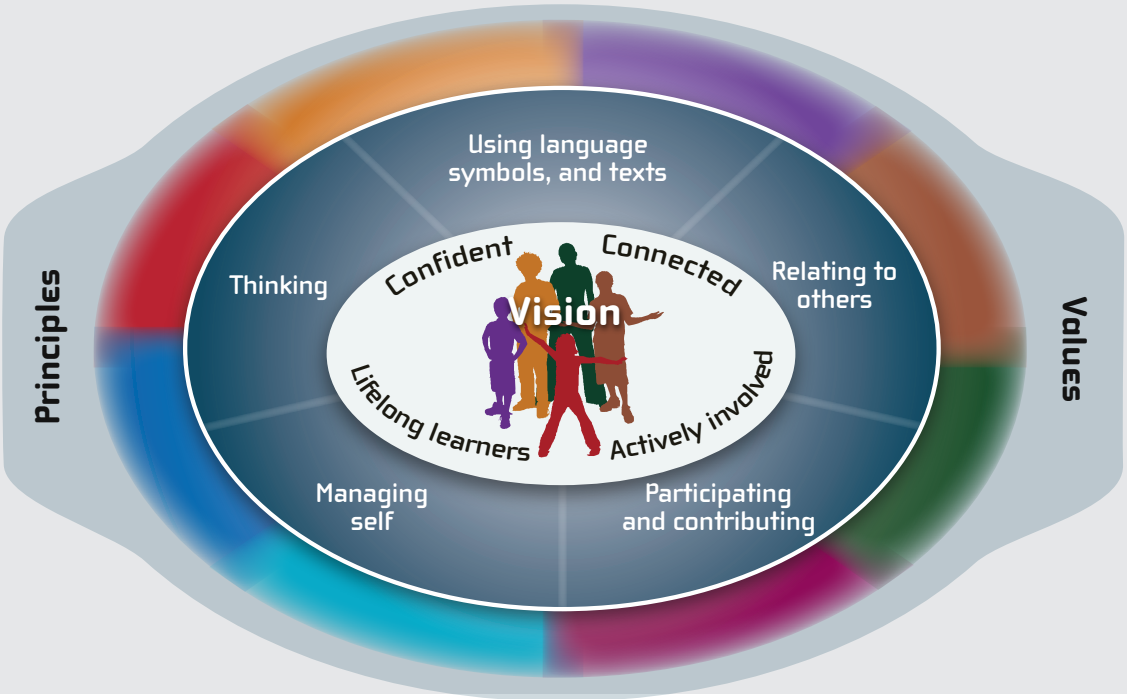
The New Zealand Curriculum applies to all school students, irrespective of gender, ethnicity, belief, ability or disability, social or cultural background, or geographical location within New Zealand.

This document is in three sections:

1. The first section (pages 8–25) outlines the key elements of the national curriculum:
   - a **vision**;
   - the core **principles** on which the curriculum is based;
   - **values** that New Zealanders expect schools to model and foster;
   - **key competencies** for learning and life;
   - brief descriptions of the eight **learning areas**;
   - **pedagogy** that creates the conditions for effective learning.

   The vision, principles, and values collectively guide and underpin curriculum decision-making. The key competencies are important generic capabilities needed by all young people, and the learning areas provide a structure and suggest contexts in which these competencies can be developed, using appropriate pedagogy.

   While this document focuses on these elements one at a time, they are parts of a whole. Each influences and is influenced by the others.
2. The second section (pages 26–33) discusses a number of considerations for designing a school curriculum.
3. The third section (pages 34–end) sets out the achievement objectives for each learning area in a series of fold-out charts. The achievement objectives for learning languages are found on the final chart.



A Vision

Education has a vital role to play in helping our young people to reach their individual potential and develop the competencies they will need for further study, work, and lifelong learning. It is by developing these competencies that they are equipped to participate fully in New Zealand society and contribute to the growth of its economy. Education is the key to sustaining our nation's development and to its successful transformation into a knowledge-based society. Education empowers our young people to stand tall as New Zealanders, seize opportunities, overcome obstacles, and make a difference.

Our young people will be ...

Confident

Positive in their own identity
Motivated and reliable
Entrepreneurial
Enterprising
Resilient

Connected

Able to relate well to others
Effective users of communication tools

Lifelong learners

Literate and numerate
Critical and creative thinkers
Active seekers, users, and creators of knowledge
Informed decision makers

Actively involved

Participants in a range of life contexts
Contributors to the well-being of New Zealand – social, economic, and environmental

Principles

Principles are beliefs that guide practice. The New Zealand Curriculum is based on the broad principles set out below. The same principles should guide each school as it designs and implements its own curriculum.

Excellence

All students are empowered to learn and achieve to the best of their abilities and to seek personal excellence regardless of their individual circumstances.

Learning to learn

All students experience a curriculum that enables them to become active, confident, creative, and innovative learners and thinkers.

Cultural heritage

All students experience a curriculum that reflects New Zealand's bicultural heritage and its multicultural society. Students who identify as Māori have the opportunity to experience a curriculum that reflects and values te ao Māori.

Equity

All students' identities, cultures, languages, and talents are recognised and affirmed. Their learning needs are identified and addressed.

Connections

All students experience a curriculum that makes connections with their lives and engages the support of their families and communities.

Coherence

All students experience a curriculum that provides a range of coherent transitions and pathways to further learning.

Values

Values are deeply held beliefs about what is important or desirable. They are expressed in the ways in which people think and act.

Every decision relating to curriculum or programmes and every interaction that takes place in a school reflects the values of the individuals involved and the collective values of the institution.

The values outlined in this curriculum are those that the New Zealand community supports because they enable us to live together and thrive in a diverse, democratic society in the twenty-first century.

New Zealand students are encouraged to value:

- **excellence**, by aiming high and by persevering in the face of difficulties.
- **innovation, enquiry, and curiosity,** by thinking creatively, critically, and reflectively;
- **diversity**, as found in our different cultures, languages and heritages;
- **respect** for themselves, for others, and for human rights;
- **equity**, which means fairness and social justice;
- **community and participation** for the common good;
- **care for the environment** (the Earth and its interrelated eco-systems);
- **integrity**, which involves being honest, responsible, and accountable and acting ethically.

The specific ways in which these values find expression in an individual school will be guided by dialogue between the school and its community. They should be evident in the school's philosophy, structures, curriculum, classrooms, and relationships. When the school community has developed strongly held and clearly articulated values, those values are likely to be expressed in everyday actions and interactions within the school.

Through their learning experiences, students will learn about:

- their own values and those of others;
- different kinds of values, such as moral, social, cultural, aesthetic, and economic values;
- the values on which New Zealand's cultural and institutional traditions are based;
- the values of other peoples and cultures.

Through their learning experiences, students will develop their ability to:

- express their own values;
- explore, with empathy, the values of others;
- critically analyse values and actions based on them;
- discuss disagreements that arise from differences in values and negotiate solutions;
- make ethical decisions and act on them.

Key Competencies

Key competencies are the capabilities people need in order to live, learn, work, and contribute as active members of their communities. Competencies are more complex than skills. Capable people draw on and combine all the resources available to them: knowledge, skills, attitudes, and values.

Opportunities to develop competencies occur in social contexts. People adopt practices that they see used and valued by those closest to them, and they make these practices part of their own identity and expertise.

Competencies continue to develop over time, shaped by interactions with people, places, ideas, and things. Students need to be challenged to develop their competencies in contexts that are increasingly wide-ranging and complex.

The New Zealand Curriculum identifies five key competencies:

- managing self
- relating to others
- participating and contributing
- thinking
- using language, symbols, and texts.

Managing self

Managing self involves self-motivation, a "can-do" attitude, and the ability to establish personal goals, make plans, and set high standards for oneself. It is about students knowing who they are, where they come from, and where they fit in.

Students who can manage themselves are enterprising, resourceful, reliable, and resilient. They act appropriately and are aware of the effects that their words and actions may have on others. They have strategies for meeting challenges and know when and how to follow someone's lead or to make their own, well-informed choices.

Relating to others

Relating to others is about interacting effectively with a diverse range of people in a variety of contexts. The competency includes the ability to listen actively, recognise different points of view, negotiate, and share ideas.

Students who relate well to others are likely to be open to new learning and able to take different roles in different situations. They know when it is appropriate to compete and when it is appropriate to co-operate.

Participating and contributing

Participating and contributing is about participating actively in local, national, and global communities. These communities may be based on kinship, interest, or culture and may be drawn together for purposes such as learning, work, or recreation. The competency includes a capacity to respond appropriately as a group member, to make connections to others, and to create opportunities for including people in group activities.

Students who have developed ways of belonging in a range of contexts will have the confidence to participate and contribute actively in new roles. They understand the importance of balancing rights, roles, and responsibilities and of contributing to the quality and sustainability of social, physical, and economic environments.

Thinking

Thinking is about using creative, critical, metacognitive, and reflective processes to make sense of and question information, experiences, and ideas. These processes can be applied to research, organisation, and evaluation for all kinds of purposes – developing understanding, making decisions, shaping actions, or constructing knowledge. Intellectual curiosity is at the heart of this competency.

Students who have well-developed thinking and problem-solving skills are active seekers, users, and creators of knowledge. They reflect on their own learning, draw on personal knowledge and intuitions, ask questions, and challenge the basis of assumptions and perceptions.

Using language, symbols and texts

Using language, symbols, and texts is about working with and making meaning of the codes in which knowledge is expressed. Languages and symbols are systems for representing and communicating information, experiences, and ideas. People use languages and symbols to produce texts of all kinds: written, spoken, and visual; informative and imaginative; informal and formal; mathematical, scientific, and technological.

Students who are competent users of languages and symbols can interpret and use words, number, images, movement, metaphor, and technologies in a range of contexts. They recognise how choices of language and symbol affect people's understanding and the ways in which they respond to communications. They use ICT confidently to overcome barriers to communication, access information, and interact with others.

Each learning area has its own language or languages. By learning to use them, students become able to think in different ways, access new areas of knowledge, and see their world from new perspectives.

Mathematics is one of these languages. By learning it, students are able to discover, express, and explore the relationships to be found in quantities, space, and data. Numeracy is the ability to understand and communicate information and ideas using this language.

For each learning area, students need specific help from their teachers as they learn:

- the specialist vocabulary associated with that area;
- how to read and understand its texts;
- how to communicate knowledge and ideas in appropriate ways.

The English language is the medium for most learning in the New Zealand Curriculum, which means that the importance of literacy in English cannot be overstated.

Learning Areas

Learning areas are broad groupings of knowledge. The New Zealand Curriculum specifies eight that are considered essential for a general education: arts, English, health and physical education, learning languages, mathematics and statistics, science, social sciences, and technology.

Arts

What are the arts about?

Learning in, through, and about the arts stimulates creative action and response by engaging the senses, imagination, thinking, and feelings. Arts education explores, challenges, affirms, and celebrates artistic and aesthetic expressions of self, community, culture, and our unique environment.

How is the learning area structured?

This learning area comprises the four disciplines: dance, drama, sound arts – music, and visual arts.

Each discipline is structured around four interrelated strands: **understanding the arts in context, developing practical knowledge** in the arts, **developing ideas** in the arts, and **communicating and interpreting** in the arts. The achievement objectives for each discipline reflect that discipline's distinct body of knowledge and practices.

Dance

Dance is expressive movement that has intent, purpose, and form. Through engaging in dance education, students discover how to integrate moving, thinking and feeling. They explore and use dance vocabularies and practices to express personal, group, and cultural identities, convey and interpret artistic ideas, and to strengthen social interaction. Students develop literacy in dance as they learn about, choreograph, perform, view, and respond to dance across a range of genres and contexts.

Drama

Drama is the expression of ideas, feelings, and human experience through the realisation of role and the use of movement, sound, and visual images. By engaging in drama education, students discover how to link imagination, thoughts, and feelings with drama practices and histories in ways that give expression to our cultural diversity. Students investigate the forms, styles, and functions of drama, recognising its power to affirm or challenge attitudes and values. They become increasingly literate in drama as they work with the elements of role, action, time and space, tension, and focus. They learn to use dramatic conventions and technologies to structure these elements. They also learn to combine dramatic conventions and technologies with techniques of voice and physical expression to create imagined worlds.

Sound Arts – Music

The sound arts are expressive ideas and forms practised in natural, acoustic, and digital sound environments. By learning to make sense of sound, students can appreciate and value the aesthetic qualities of music and express feelings, ideas, and identities. Students develop literacy in worlds of sound by listening and responding, singing, playing instruments, and creating music; by reading and recording sound, symbols, and notations; and by analysing and appreciating musical forms. Students draw on cultural practices, musical histories, theories, technologies, and structures as they develop skills and knowledge. They learn to communicate imagination and personal understandings as they connect aural thinking, perceptions, and musical practices.

Visual Arts

The visual arts use materials, processes, and conventions to create static and time-based representations and abstractions in response to human experience, concepts, and needs. Through engaging in visual arts education, students learn how to discern, participate in and celebrate their own and others' visual worlds. Students develop visual literacy and aesthetic awareness as they manipulate and transform visual, tactile, and spatial ideas to solve problems, communicate personal stories, and comment on social issues. They develop knowledge and understanding of cultural, historical, and contemporary visual arts practices. The visual arts include drawing, sculpture, design, painting, printmaking, photography, and the moving image. Students also learn about the histories and theories of art, architecture, and design.

English

What is English about?

English is the study, use, and enjoyment of the English language and its literature, communicated orally, visually, and in writing. Learning English encompasses learning the language, learning through the language, and learning about the language.

By studying English, students learn to engage with and enjoy the English language for different purposes and in a variety of text forms. Understanding and creating oral, written, and visual texts of increasing complexity is at the heart of English teaching and learning. By engaging in text-based learning activities, students become increasingly skilled and sophisticated speakers and listeners, writers and readers, and presenters and viewers.

Why study English?

Success in English is fundamental to success across the curriculum. All learning areas (with the possible exception of languages) require students to receive, process, and present ideas or information using the English language as a medium.

Success in English gives students access to the knowledge and skills they need in order to participate fully in the social, cultural, political, and economic life of New Zealand and the wider world. To do this, they need to be effective oral, written, and visual communicators who are able to think deeply and critically. Students who understand how the language works are equipped to make appropriate and systematic language choices in a range of contexts.

By studying English, students gain an appreciation of the heritage of English literature and of world literature available in translation. In this way, English contributes to each student's developing sense of identity and of their place in the world.

How is the learning area structured?

English is structured around two strands, each encompassing the oral, written, and visual forms of the language. The strands differentiate between the modes in which users are primarily:

- making meaning of ideas or information they receive (**listening, reading, and viewing**), and
- creating meaning for themselves or others (**speaking, writing, and presenting**).

The achievement objectives within each strand suggest the progression of knowledge, skills, and understandings that most students move through as they become more effective oral, written, and visual communicators. The objectives focus particularly on:

- processes and strategies;
- language purposes and audiences;
- ideas within language contexts;
- language features that enhance texts;
- the structure and organisation of texts.

Students need to practise the same sets of skills for *making meaning* and *creating meaning* at each level of the curriculum. This is reflected in the way that the achievement objectives are structured. As they progress, the students use their skills to engage with tasks and texts that are increasingly sophisticated and challenging, and they do this in increasing depth.

Health and Physical Education

What is health and physical education about?

In health and physical education, the focus is on the well-being of students, other people, and society, through learning in health-related and movement contexts.

Four interdependent concepts are at the heart of this learning area:

- Hauora – a Māori philosophy of well-being that includes the dimensions taha wairua, taha hinengaro, taha tinana, taha whānau*, each one influencing and supporting the others.
- Attitudes and values – a positive, responsible attitude on the part of students to their own well-being; respect; care and concern for other people and the environment; and a sense of social justice.
- Socio-ecological perspective – a way of viewing and understanding interrelationships that exist between individuals, others, and society.
- Health promotion – a process for developing and maintaining supportive physical and emotional environments that involves students in personal and collective action.

How is the learning area structured?

The learning activities in health and physical education arise from the integration of the above concepts, the following four strands and their achievement objectives, and seven key areas of learning.

The four strands are:

- **Personal health and physical development** in which students develop the knowledge, understandings, skills, and attitudes that they need in order to maintain and enhance their personal well-being and physical development.
- **Movement concepts and motor skills** in which students develop motor skills, knowledge and understandings about movement, and positive attitudes towards physical activity.
- **Relationships with other people** in which students develop understandings, skills, and attitudes that enhance interactions and relationships with others.
- **Healthy communities and environments** in which students contribute to healthy communities and environments by taking responsible and critical action+.

The strands are divided into sub-strands, each with its own group of achievement objectives.

The seven key areas of learning, which reflect current learning needs, are:

> mental health, sexuality education, food and nutrition, body care and physical safety, physical activity, sport studies, and outdoor education.

Health and physical education encompasses three different but related subjects: health education, physical education and home economics. These subjects share a conceptual framework and achievement objectives.

Why study in this learning area?

Through learning and by accepting challenges in health-related and movement contexts, students reflect on the nature of well-being and how to promote it. As they develop resilience and a sense of personal and social responsibility, they are increasingly able to take responsibility for themselves and contribute to the well-being of those around them, their communities, environments, and society.

This learning area makes a significant contribution to the well-being of students beyond the classroom, particularly when it is supported by policies, procedures, and the actions of all people in the school community.

* In this learning area, the use of the word *hauora* is based on Mason Durie's *Te Whare Tapa Wha* model (Durie, 1994). *Hauora* and *well-being* though not synonyms, share much common ground. *Taha wairua* relates to spiritual well-being; *taha hinengaro* to mental and emotional well-being; *taha tinana* to physical well-being, and *taha whānau* to social well-being.

Health education

In health education, students develop their understanding of the factors that influence the health of individuals, groups and society: lifestyle, economic, social, cultural, political, and environmental. Students develop competencies for mental wellness, reproductive health and positive sexuality, and for safety management. They also develop understanding of nutritional needs. Students build resilience through strengthening their personal identity and self-worth, through managing change and loss, and through engaging in processes for responsible decision making. They learn to demonstrate empathy and develop other skills that enhance relationships. Students use these skills and understandings to take critical and collective action[+] for personal, interpersonal, and societal well-being.

Physical education

In physical education, students focus on movement and its contribution to the development of individuals and communities. By learning in, through, and about movement, they come to understand that movement is enjoyable, enhances peoples' lives, and is integral to human expression. They learn to understand, appreciate, and move their bodies, relate positively to others, and demonstrate constructive attitudes and values. This learning takes place as they engage in play, games, sport, exercise, recreation, adventure, and expressive movement in diverse physical and social environments. Physical education encourages students to engage in movement experiences that promote the development of physical and social skills. It fosters critical thinking and action and enables students to understand the role and significance that physical activity has for individuals and society.

Home economics

In home economics, students develop an understanding of the factors that influence the well-being of individuals and families within the home and community, and the actions people take to enhance and sustain those environments. In the context of food and nutrition, students evaluate current issues and theories of nutrition, identify and reflect on factors that influence people's choices and behaviours, and use this knowledge to make informed decisions. Through the processes of selecting, preparing, cooking, and serving food, students develop their creativity and experience a sense of accomplishment at the same time as they develop personal and interpersonal understandings and skills that contribute to well-being.

[+] *Critical action* in this context is based on *critical thinking*. Critical thinking is the examining, evaluating, and challenging of taken-for-granted assumptions about issues and practices.

Learning Languages

What is learning languages about?

Languages are forms of human communication and are inseparably linked to the social and cultural contexts in which they are used. Language and culture play a key role in shaping our personal, group, national, and human identities. Every language has its own distinctive features and its own intrinsic value.

Te reo Māori is unique to New Zealand and is a source of our nation's self-knowledge and identity. New Zealand Sign Language (NZSL) is the language of Deaf New Zealanders. Pacific languages are spoken throughout New Zealand as well as in their countries of origin. Classical languages provide access to the origins of thought and civilisations. Other world languages link us globally.

He taonga ngā reo katoa. All languages are to be treasured.

Why study a language?

By learning an additional language and its related culture, students come to appreciate that languages and cultures are systems, which are organised and used in particular ways to achieve meaning. This learning increases their understanding of their own language(s) and culture(s). As they move between, and respond to, different languages and different cultural practices, they are challenged to consider their own identities and preconceptions. Through these interactions, they gain new ways of thinking about, questioning, and interpreting the world and their place in it. They acquire knowledge, skills, and attitudes that equip them for living in a world of diverse peoples, languages, and cultures.

By learning a language, students gain respect for the power of language. They discover new ways of learning, new ways of knowing, and more about their own capabilities. By being able to communicate in an additional language, they gain access to broader fields of knowledge and so extend their creative and critical literacies.

How is the learning area structured?

Learning languages is structured around three strands: language, culture, and communication. The communication strand is paramount: the learning that takes place in the language and culture strands gives students the knowledge and skills that they need in order to communicate.

In the **language** strand, students learn to identify, explain, apply, and compare language features, conventions and patterns and to understand languages as systems. Students develop their understandings and skills as they progress from one curriculum level to the next, challenged by increasing complexity and more demanding tasks, and as they learn to rely less on structured support.

In the **culture** strand, students learn to recognise, compare, apply, reflect on, and analyse cultural features, conventions, and patterns and to understand cultures as systems. As with the language strand, cultural understandings and skills are developed at each successive curriculum level, the difference being in the degree of complexity, the demands of the task, and the nature of the support provided.

In the **communication** strand, students learn to recognise and respond to different linguistic and cultural clues by comparing, interpreting, and negotiating meaning. Increasingly, they use their knowledge of language and culture to understand and convey meaning effectively, confidently, and responsibly in a range of contexts. To do this, they use the receptive skills of listening, reading, and viewing and the productive skills of speaking, writing, and presenting or performing.

Mathematics and Statistics

What is mathematics and statistics about?

Mathematics is the exploration and use of patterns and relationships in quantities, space, and time. Statistics is the exploration and use of patterns and relationships in data. These two disciplines are related but different ways of thinking and of solving problems. Both disciplines equip students with effective means for investigating, interpreting, explaining, and making sense of the world in which they live.

Mathematicians and statisticians use symbols, graphs, and diagrams to help them find and communicate patterns and relationships, and they create models to represent both real-life and hypothetical situations. These situations are drawn from a wide range of social, cultural, scientific, technological, health, environmental, and economic contexts.

Why study mathematics and statistics?

By studying mathematics and statistics, students develop the ability to think creatively, critically, strategically, and logically. They learn to structure and to organise, to carry out procedures flexibly and accurately, to process and communicate information, and to enjoy intellectual challenge.

By learning mathematics and statistics, students develop other important thinking skills. They learn to create models and predict outcomes, to conjecture, to justify and verify, and to seek patterns and generalisations. They learn to estimate with reasonableness, to calculate with precision, and to infer with an appreciation of variation.

Mathematics and statistics have a broad range of practical applications in everyday life, in other learning areas, and in workplaces.

How is the learning area structured?

The achievement objectives are presented in three strands. It is important that students can see and make sense of the many connections within and across the strands.

Number and algebra. Number involves calculating and estimating, using appropriate mental, written, or machine calculation methods in flexible ways. It also involves knowing how and when to use approximation and discerning whether results are reasonable. Algebra involves generalising and representing the patterns and relationships found in numbers, shapes, and measures.

Geometry and measurement. Geometry involves recognising and using the properties and symmetries of shapes and describing position and movement. Measurement involves quantifying the attributes of objects, using appropriate units and instruments. It also involves predicting and calculating rates of change.

Statistics involves identifying problems that can be explored by the use of appropriate data, designing investigations, collecting data, exploring and using patterns and relationships in data, solving problems, and communicating findings. Statistics also involves interpreting statistical information, evaluating data-based arguments, and dealing with uncertainty and variation.

Science

What is science about?

Science is a way of investigating, understanding, and explaining the natural, physical world. In order to develop scientific knowledge, understanding, and explanations, people generate and test ideas, make observations, carry out investigations, and construct models. Scientific progress is the result of logical, systematic work and creative insight, guided always by a respect for evidence. Current scientific knowledge has its origins in many different cultures and periods of history.

Why study science?

Science contributes to and influences decision making in many areas of life. Our world is confronted by major challenges and opportunities that need to be approached from a scientific perspective, informed by social and ethical principles.

By studying science, students:

- develop a coherent understanding of the world, based on current scientific knowledge;
- learn that science involves particular processes and ways of developing and organising knowledge and that these continue to evolve;
- use their current scientific knowledge and skills for problem solving and developing further knowledge;
- use scientific knowledge and skills to make informed decisions about the application of science and its implications with regard to their own lives and the environment.

How is the learning area structured?

The achievement objectives for science are presented in five strands:

The nature of science is the over-arching, unifying strand. Through this strand, students learn what science is and develop the skills, attitudes, and values that provide a foundation for further study. They come to appreciate that scientific knowledge is at the same time durable and tentative; they learn how science workers carry out investigations, and they come to see science as a socially valuable knowledge system. They find out how science ideas are communicated and learn to make links between scientific knowledge and everyday decisions and actions. These outcomes are pursued through the four major contexts in which scientific knowledge has developed and continues to develop: the living world, planet Earth and beyond, the physical world, and the material world.

The living world. Biology explores living things and how they interact with each other and the environment. The emphasis is on the biology of New Zealand. Students develop an understanding of the diversity of life and life processes. They learn about where and how life has evolved, about evolution as the link between life processes and ecology, and about the impact of humans on all forms of life. As a result, they are able to make informed decisions about significant biological issues.

Planet Earth and beyond. This strand is about the cyclic processes and systems that occur on Earth and in space, and the interactions between them, particularly in relation to New Zealand. These systems provide the conditions for life. Life forms, especially humans, impact on them both positively and negatively. Students need to know and understand these processes and to appreciate that modifying them affects all living things.

The physical world. Physics is the study of matter and of the interactions between the basic components of the universe. Physics covers a wide range of phenomena, including light, sound, heat, electricity, magnetism, forces, and motion. These phenomena are united by the concept of energy, which is transformed from one form to another without loss. By understanding physics, people are able to design technological solutions in response to a wide range of contemporary issues and challenges.

The material world. Chemistry is the study of the properties and reactions of materials (substances) in terms of the particles that make up matter. Through their study of chemistry, students develop their understandings of the composition and properties of matter, the changes that matter undergoes, and the energy used or released when matter is changed. They learn that by studying observable changes, they can begin to understand causes that cannot be observed. By using their knowledge of chemistry, people can predict and control changes in matter, leading to technological advances and the possibility of a sustainable future.

Social Sciences

What are the social sciences about?

The social sciences learning area is about how people participate in society and how society operates. It has significance for people in their everyday interactions as citizens and members of communities in New Zealand and the world.

Why study the social sciences?

Through the social sciences, students engage critically with societal issues. They gain knowledge, skills, and experience that help them to understand, participate in, and contribute to the communities in which they live and work. The focus of the curriculum is on New Zealand contexts: its people, places, cultures, histories, and economic world. Students explore the unique nature of New Zealand society and its bicultural heritage. This enables them to identify their place and that of others in relation to their heritages and in relation to New Zealand's multicultural society and its global context.

How is the learning area structured?

Four conceptual strands provide the framework and achievement objectives for social studies levels 1–5 and create a foundation for the separate social sciences disciplines offered in the senior secondary school. The achievement objectives at levels 1–5 integrate the four strands to show the interconnections, and provide learning progression from the simple to the more complex concepts.

In the **Identity, Culture, and Organisation** strand, students learn about society and communities and how they function. They also learn about the diverse cultures and identities of people within those communities and about the impact of these on the participation of groups and individuals.

In the **Place and Environment** strand, students learn about how people perceive, represent, interpret, and interact with places and environments. They come to understand the relationships that exist between people and the environment.

In the **Continuity and Change** strand, students learn about past events, experiences, and actions and the changing ways in which these have been interpreted over time. This helps them to understand the past and the present and to imagine possible futures.

In the **Economic World** strand, students learn about the ways in which people participate in economic activities and about the consumption, production, and distribution of goods and services. They use this knowledge to understand their place in the economic world.

By integrating achievement objectives with the social inquiry process, students develop understandings of people's roles and identities as citizens of New Zealand and other societies. Contexts are drawn from the past, present, and future and from places within and beyond New Zealand. Students ask questions, gather information, and examine societal issues, ideas, and events. They explore people's values and perspectives and participate in social decision-making. They learn how societies work and how people, including themselves, can participate and take social action as critical, active, informed, and responsible citizens.

At levels 6–8, students are able to specialise in one or more social science disciplines, depending on the choices offered by their schools. Achievement objectives are provided for social studies, economics, geography, and history but the range of possible social science disciplines in schools is much broader, including, for example, classical studies, sociology, psychology, and legal studies.

Technology

What is technology about?

People use technology to expand their possibilities, intervening in the world through the development of products, systems, and environments. To do this, they apply available intellectual and practical resources. Technology is continually changing. It is influenced by and in turn impacts upon the cultural, ethical, environmental, political, and economic factors of the day, both local and global.

Why study technology?

The aim is for students to develop a broad technological literacy that will equip them to participate in society as informed citizens. To develop such literacy, students need to experience and explore a wide range of technologies in a variety of contexts. These include control, food, communications, structural, dynamic, and bio-related technologies, along with creative design processes and materials.

Technology education connects students with a range of employment opportunities, particularly those that are enterprising and innovative by nature.

How is the learning area structured?

Students develop their technological literacy by learning in three interrelated strands: technological practice, technological knowledge, and the nature of technology. A balanced teaching and learning programme for students will integrate all three strands, although specific units of work may focus on one or two at a time.

Technological practice. Students undertake practice and examine the practice of others. Outcomes may consist of conceptual designs, working models, prototypes, final outcomes, or multi-unit production. Where appropriate, students develop these in collaboration with other stakeholders. Technological practice includes:

- identifying and investigating issues, existing knowledge, and solutions;
- generating ideas, developing briefs, and organising and managing resources and time;
- carrying out informed and critical evaluations;
- developing and communicating outcomes;
- understanding and taking into account ethical considerations, legal requirements, protocols, the needs of and potential impacts on stakeholders, the development site, and where the outcome will be used.

Technological knowledge. Students develop an understanding of products, systems, and environments, including the way things work individually and together as part of an overall outcome. Technological knowledge includes understanding of:

- resources, their part in enabling the success of a technological outcome, and their current and long-term availability and viability;
- the way things work individually and together as part of an overall outcome;
- appropriate ethics, legal requirements, protocols, and the needs of and potential impacts on stakeholders and the site of the development and outcome location.

Nature of technology. Students explore the characteristics of technology as a field of human enterprise. This involves an understanding of:

- historical and contemporary technological developments in terms of their intellectual, social, technical, and environmental impacts and implications;
- the ways in which individual and group beliefs, values, and ethics can constrain or encourage technological development;
- the characteristics of technological knowledge;
- the integration and transformation of knowledge in the course of technological development.

Effective Pedagogy

Teachers use their expertise to establish a supportive learning environment, identify their students' learning needs, and make decisions on what to teach and how to teach it. In doing this, they draw on everything they know about their students, about the curriculum, and about good teaching practice and they work in partnership with families and communities.

Teaching is a complex and creative enterprise. Teachers work every day with groups of students from diverse backgrounds and cultures. They must continually respond to the needs of individuals while ensuring that their other students are constructively engaged in learning.

For example, new learners of English require specific kinds of help as they adapt to learning through the medium of English. Their teachers must combine the teaching of content with the explicit teaching of English vocabulary, word forms, sentence and text structures, and language uses and must clarify the specialist language used in each learning area.

Current research shows that students learn best when teachers:

- encourage reflective thought and action;
- make connections;
- provide multiple opportunities to learn;
- facilitate shared learning;
- enhance the relevance of new learning;
- create a supportive learning environment.

Encouraging reflective thought and action

Students need to develop the ability to stand back from the information or ideas that they have engaged with and think about these objectively. Reflective learners assimilate new learning, relate it to what they already know, adapt it for their own purposes, and translate thought into action. As they become increasingly reflective, students develop their creativity, their ability to think critically about information and ideas, and their metacognitive ability (that is, their ability to think about their own thinking).

Making connections

Students need to be able to integrate new learning with what they already understand. When teachers deliberately build on what their students know, they maximise the use of learning time, anticipate students' learning needs, and avoid unnecessary duplication of content. Teachers can help students to make connections across learning areas as well as connections to home practices and to the wider world.

Providing multiple opportunities to learn

Students need sufficient time and opportunity to engage with, practise, and transfer new learning. This means that they need to encounter new learning a number of times and in a variety of different tasks or contexts. In providing multiple opportunities to learn, teachers plan coherent programmes that sequence their students' learning experiences over time and allow them to monitor their progress.

Facilitating shared learning

Students learn as they engage in shared activities and conversations with other people, including family members and people in the wider community. Teachers can facilitate this process by designing learning environments that foster learning conversations and learning partnerships, and where challenges, support, and feedback are readily available. As they engage in reflective discourse with others, students build the language that they will need as they take their learning further.

Enhancing the relevance of new learning

Students need to understand what they are learning, why they are learning it and how they will be able to use their new learning. Effective teachers design learning experiences that stimulate the curiosity of their students, that require them to search for relevant information and ideas, and which require them to use or apply what they discover in new contexts or in new ways.

Creating a supportive environment

Learning is inseparable from its social and cultural context. All students need to be able to accept one another, form positive relationships with both students and teachers, and become active, visible members of the learning community. Effective teachers foster positive relationships within a caring, inclusive, non-discriminatory, and cohesive classroom environment. They also build positive relationships with the wider school community, working with parents and caregivers as key partners who have unique knowledge of their children and countless opportunities to advance their children's learning. The classroom culture exists within and alongside many other cultures, including the cultures of the wider school and the local community, the students' peer culture, and the teacher's professional culture.

E-learning and pedagogy

Information and communication technology (ICT) has transformed the world in which young people live and e-learning (that is, learning supported by or facilitated by ICT) has similar potential to transform classrooms.

Using ICT, students can:

- enter and explore new learning environments, overcoming barriers of distance and time;
- join or create communities of learners that extend well beyond the classroom;
- experience customised learning that allows for individual, cultural, and developmental differences;
- use a range of tools to save them time and allow them to take their learning further.

Schools should explore not only how ICT can supplement traditional ways of teaching, but also how it can open up new and different ways of learning.

Designing a School Curriculum

While the New Zealand Curriculum sets the national direction for learning for all students, each school will design and implement its own curriculum in ways that will engage and motivate its particular students. Schools have considerable freedom in deciding exactly how to do this.

School trustees, principals, and teachers work closely with one another and with students and other members of the school community to plan the school curriculum. Careful planning results in a school curriculum that is connected, coherent, and balanced and that reflects the particular needs and interests of the school's students and community.

Curriculum design usually starts with the shared values and beliefs of the community or with an assessment of the learning needs of the students. It builds on existing good practice, interests, and strengths and utilises local opportunities, resources, and community support. Setting priorities and designing strategies to achieve the prioritised outcomes is an important part of the process.

Different schools will organise their learning programmes in different ways. Some will organise them in ways that integrate understandings, key competencies, and values across a number of learning areas. Others will organise them by learning areas but look for opportunities to link learning across the boundaries between those areas. The knowledge, skills, and attitudes that students need for addressing real-life issues and in real-life contexts are seldom found within a single learning area.

Significant themes offer schools opportunities for engaging students and integrating learning across the key competencies and the different learning areas. Such themes include:

- Sustainability: students investigate the long-term impact of social, scientific, technological, economic, or political practices and consider alternatives that might prove more durable for the economy, for society, and for the environment.
- Citizenship: students explore what it means to be a citizen. Through their participation in learning experiences in the school or community, they learn how to become active, informed, and responsible citizens who know how to contribute positively to the development and well-being of the society in which they live.
- Enterprise: students explore what it is to be innovative and entrepreneurial. Through their learning experiences, they develop the understandings, skills, competencies, and attributes that equip them to be innovative. They can identify, create, initiate, and successfully manage personal, community, business, and work opportunities, including working for themselves.
- Globalisation. In studies of Asia, for example, students explore what it means to be part of the global community as they learn about and connect with the peoples and cultures of Asia. Such studies can encompass both the diversity of the Asian region and the diversity of people from Asian backgrounds living in New Zealand.
- Critical literacies such as financial literacy, in which students build personal financial capability so that they are able to contribute to New Zealand's future economic well-being.

Some considerations

The following section (pages 28–33) highlights a number of considerations for schools when designing strategies to achieve the desired outcomes:

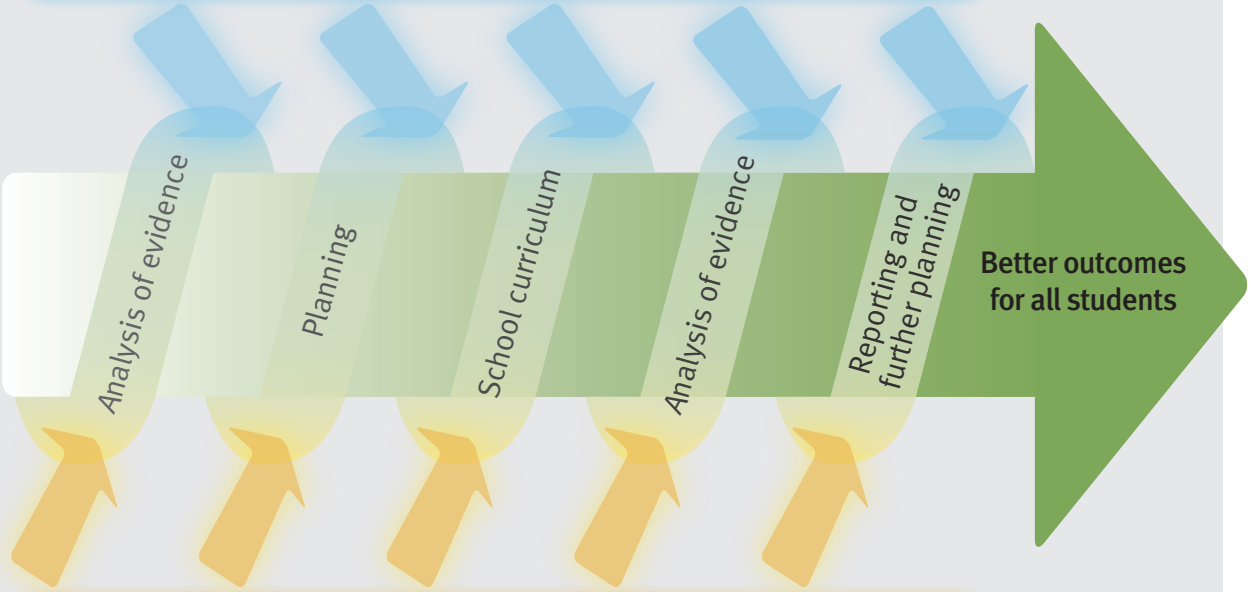
- Planning with a focus on outcomes
- Planning for the development of the key competencies
- Planning for purposeful assessment
- Planning for coherent pathways.

School Curriculum Links to the Schooling Strategy and National Education Guidelines

Schooling Strategy goal: *All students achieving their potential*

Strategic priorities:

- All students experience effective teaching.
- Learning is nurtured by families and whānau.
- Practice is evidence based.



National Education Guidelines

The New Zealand Curriculum ..... *Sets the direction for learning*
National Education Goals
National Administration Guidelines

Planning with a Focus on Outcomes

Note that the vision, values and principles are embedded in the key competencies, the learning areas, and the daily life of the school.

A focus on outcomes provides clarity for curriculum design. Clearly identified and prioritised outcomes give schools frames of reference to view the many ways in which resources (including staff, finance, time, and property) could be allocated. Prioritised outcomes give teachers guidance when developing programmes for their students.

Students are more task-oriented and motivated when they understand the outcomes they are working towards and know why these are important. Teachers, students, and parents find it easier to recognise, measure, and discuss progress when they have a shared understanding of the desired outcomes.

The curriculum assumes that all students can learn and succeed, but not necessarily on the same day, at the same time, or in the same way. It assumes that schools influence many of the conditions that directly affect the learning of their students. It imposes no limits on how many students can be successful, on how much they can learn, or how rapidly they can advance.

The learning time and effort needed when working towards achievement objectives varies. Influencing factors include students' prior learning, the learning context, and the complexity of the achievement objective. Some achievement objectives relate to discrete skills or understandings, while others are more complex. As a generalisation, the broader and more complex an outcome, the more significant it is likely to be for a student's learning.

In outcomes-focused programmes:

- Principals and teachers can articulate what it is that they want their students to achieve and how their curriculum is designed to achieve this. Schools can explain their curriculum priorities.
- All students are given appropriate and sufficient opportunities to learn. They are encouraged to build on their existing learning and take it to a higher level. Students with special needs experience quality learning opportunities that enable them to achieve, and gifted and talented students are given acceleration and/or enrichment challenges.
- The long view is taken: each student's ultimate learning success is more important than the covering of particular achievement objectives.

Planning for the Development of the Key Competencies

The key competencies provide a framework for designing learning environments and experiences. By using this framework, schools can ensure that their focus is on preparing their students for ongoing learning and successful living.

The beginnings of the competencies can be seen in very young children as they learn how to relate to others and make sense of their immediate world. As children use them, they continue to develop them. The development of the competencies is both an end in itself (a goal) and the means by which other ends are achieved.

In developing the competencies, as in all learning, "success breeds success". The challenge for teachers is to design learning experiences that will take students on from where they are. Such experiences may be built into units of work or arise out of the ways that classroom and school environments are structured.

The learning areas provide unlimited contexts for such experiences. Whatever tasks the students are engaged in, teachers can observe their progress in developing the key competencies at the same time as they observe progress on other aspects of their learning.

Information and communication technology (ICT) gives students access to a vast range of information and real-life contexts that have meaning for them and that can be used as a basis for learning experiences. Schools need to consider how they can use the opportunities offered by ICT as means for developing their students' competencies.

In practice, the key competencies are most often used in combination. For example, when researching an issue of interest, students are likely to need to:

- set personal goals, manage deadlines, and reflect and respond to the ideas they encounter (managing self);
- interact, share ideas, and negotiate with a range of people (relating to others);
- call on a range of communities for information and use that information as a basis for action (participating and contributing);
- formulate a range of possible approaches to the issue at hand (thinking);
- create texts that communicate ideas, using language and symbols appropriate to the relevant learning area(s) (using language, symbols and text).

Students need ongoing feedback and encouragement as they develop and use the key competencies in increasingly complex situations.

The competencies should be assessed in the context of tasks that require students to use their knowledge and skills in new ways. Students demonstrate the competencies when they adapt what they know and can do to meet the challenges presented by such tasks.

Where possible, students should be involved in gathering evidence and making judgments about their own progress (for example, through the use of learning stories, portfolios, reflection, or self- or peer assessment).

Planning for Purposeful Assessment

The primary purpose of assessment is to improve students' learning and teachers' teaching as both student and teacher respond to the information that it provides. With this in mind, schools need to consider how they will gather, analyse, and use assessment information so that it is effective in meeting this purpose.

An ongoing process

Assessment for the purpose of improving student learning is best understood as an ongoing process that arises out of the interaction between teaching and learning. It involves the focused and timely gathering, analysis, interpretation, and use of information that can provide evidence of student progress. Much of this evidence is "of the moment". Analysis and interpretation often take place in the mind of the teacher, who then uses the insights gained to shape their actions as they continue to work with their students.

Some characteristics of effective assessment

It benefits students. It clarifies for them what they know and can do and what they still need to learn. When students see that they are making progress, their motivation is sustained and their confidence increases.

It involves students. They discuss, clarify, and reflect on their goals, strategies, and progress with their teachers, their parents, and one another. This develops students' capacity for self- and peer assessment, which leads in turn to increased self-direction.

It supports teaching and learning goals. Students understand the desired outcomes and the criteria for success. Important outcomes are emphasised, and the teacher gives feedback that helps the students to reach them.

It is planned and communicated. Outcomes, teaching strategies, and assessment criteria are carefully matched. Students know in advance how and why they are to be assessed. The teacher's programme planning is flexible so that they can make changes in response to new information, opportunities, or insights.

It is suited to the purpose. Evidence is obtained by using a range of informal and formal assessment approaches. These approaches are chosen to suit the nature of the learning being assessed, the varied characteristics and experiences of the students, and the purpose for which the information is to be used.

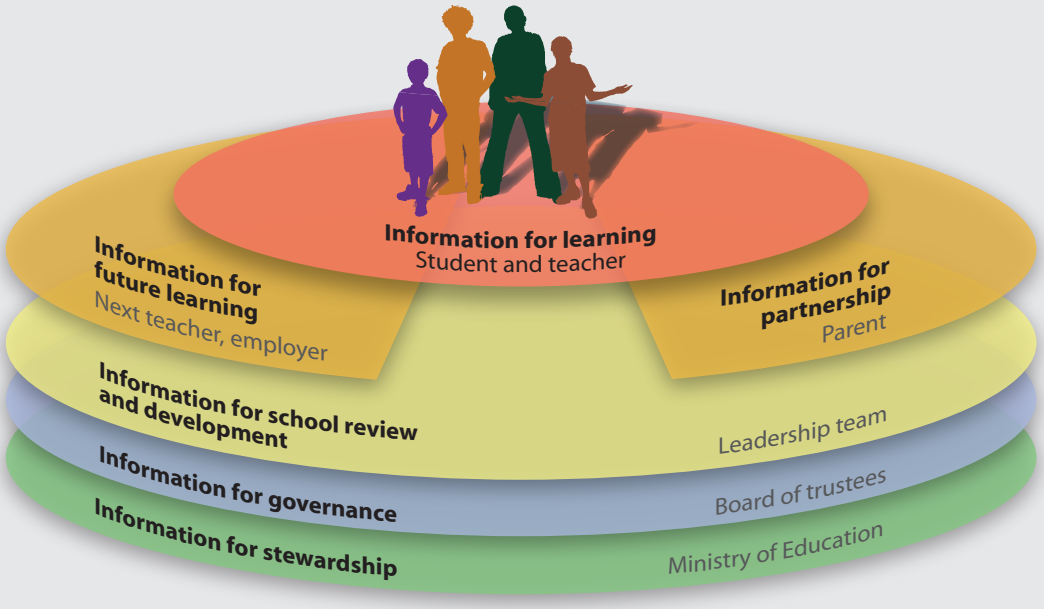
It is valid and fair. Teachers obtain and interpret information from a range of sources and then decide how to use the evidence it provides, based on their professional judgment. They can have most confidence in the validity of their conclusions when the evidence for them comes from more than one assessment.

School-wide assessment

Schools need to know what impact their programmes are having on student learning. An important way of getting this information is by collecting and analysing school-wide assessment data. Schools can then use this information as the basis for changes to policies or programmes or changes to teaching practices and also for reporting to the board of trustees, parents, and the Ministry of Education. Assessment information may also be used to compare the relative achievement of different groups of students or to compare the achievement of the school's students against national standards.

Uses of assessment information

The following diagram shows the different groups of people involved in supporting students' learning, the relationships between them, and the purposes for which they need assessment information.



Assessment for national qualifications

The achievement and unit standards registered on the National Qualifications Framework determine the focus and intent of assessments carried out for the purpose of awarding qualifications in years 11–13. These qualifications include the National Certificate of Educational Achievement (NCEA) and other national certificates offered by schools.

The Qualifications Framework has opened up new possibilities for schools. The modular nature of the assessment process supports flexible, school-based curriculum design and allows for integration of the key competencies with the learning areas.

Where particular parts of the curriculum cannot be assessed by the currently available standards, new standards may be written over time. Not all aspects of the curriculum need to be formally assessed, however. Schools should take care to avoid excessive high-stakes assessment in years 11–13. The flexibility of the qualifications system allows schools to keep assessment to levels that are manageable and reasonable for both students and teachers.

Planning for Coherent Pathways

The sum of a student's learning activities should form a coherent experience, with clear links between each phase of learning from early childhood through to tertiary education. Schools have a crucial role to play in making the transitions positive, ensuring that students have a sense of direction, and helping them to construct learning pathways that they are motivated to travel.

Early childhood learning

Te Whāriki, the curriculum for early childhood education, provides children with a foundation for ongoing learning. It is based on four principles: empowerment, holistic development, family and community, and relationships.

Te Whāriki identifies five curriculum strands: belonging, well-being, contribution, exploration, and communication. These collectively provide a foundation for lifelong learning. They correspond closely to the key competencies identified in this document.

Learning in years 1–4

For any child, the transition from early childhood education to school is likely to be successful if the school:

- fosters the child's relationships with teachers and peers;
- builds on the experiences that the child brings with them and affirms their identity;
- considers the child's whole experience of school;
- is welcoming to the family and whānau.

An early emphasis on the key competencies will help students appreciate that this new stage in their learning journey is connected with the stage they have just completed. Teaching and learning programmes in the early school years focus on literacy and numeracy in addition to the key competencies. The competencies are developed through a wide range of learning experiences in all learning areas.

Learning in years 5–10

During these years, students move through the transitions from learning to read to reading to learn, from learning to write to writing to express what they know, from learning numeracy to applying numeracy skills in a range of learning areas and contexts.

Teaching and learning programmes in the Years 5–10 focus developing literacy skills in all areas of the curriculum, not just in English, Māori, or other language work. Similarly, students develop and apply their numeracy skills in other curriculum areas, including science, technology, and social studies. Students have opportunities to achieve to the best of their abilities across the breadth and depth of the New Zealand Curriculum in preparation for the specialised learning that takes place in the senior secondary school.

The key competencies play a vital role in these years as students continue to develop their ability to work independently and in groups.

Learning in years 11–13

The New Zealand Curriculum allows for increasing levels of specialisation as students enter their senior school years and begin thinking seriously about where their learning pathways might take them. Schools need to recognise and cater for the diverse abilities and aspirations of their senior students and enable them to keep open a range of options for future study and work. They also need to provide students with access to information and guidance that will help them make good decisions.

In their senior school years, students gain credits towards a range of recognised qualifications. Schools can extend this range by encouraging students to participate in programmes and study for qualifications offered by workplaces and by tertiary institutions. Credits that students gain from such learning experiences can often be transferred and contribute to their tertiary qualifications.

The key competencies gain new significance for senior school students as they become increasingly aware that these are the capabilities they will need as adults for ongoing education, work, and daily living.

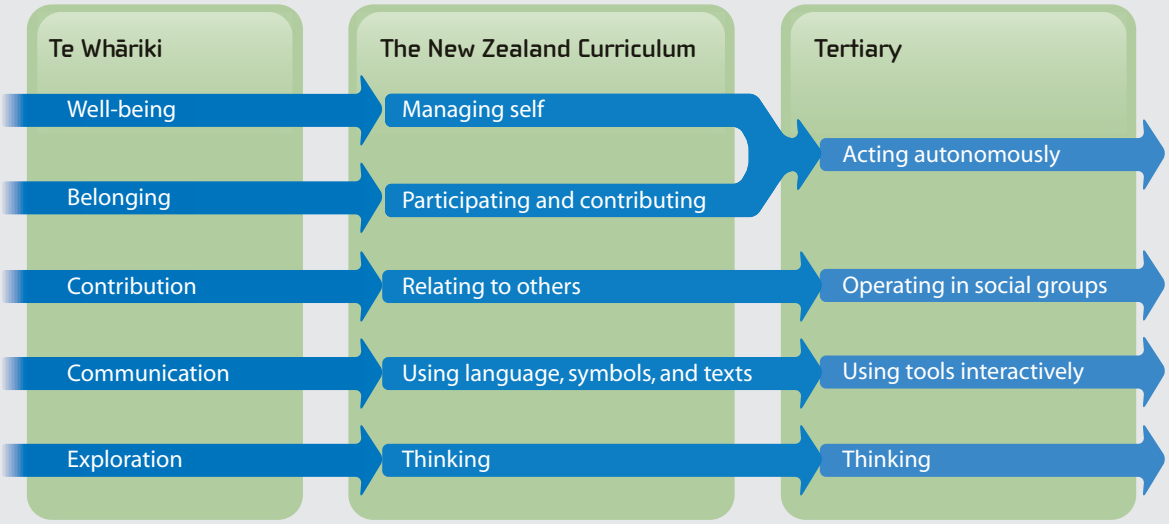
Tertiary education and employment

For increasing numbers of school leavers, tertiary learning is the next step. Tertiary education offers an expanded world of opportunities and specialisation. Tertiary courses build on the knowledge and skills that students bring with them from school, but a student's success also depends on the extent to which they have developed the key competencies. Recognising this, the tertiary sector has proposed four competencies: acting autonomously, operating in social groups, using tools interactively, and thinking.

Learning doesn't stop when formal education does. The key competencies are essential for lifelong learning and work. The skills and knowledge that young people need today are quite different to the skills and knowledge that they might have needed in the past. For its future economic growth and success, New Zealand requires workers who are highly skilled, able to respond to continually changing demands, and who can fill new kinds of jobs. A successful school leaver is prepared to face many economic challenges, global competition, and technological change.

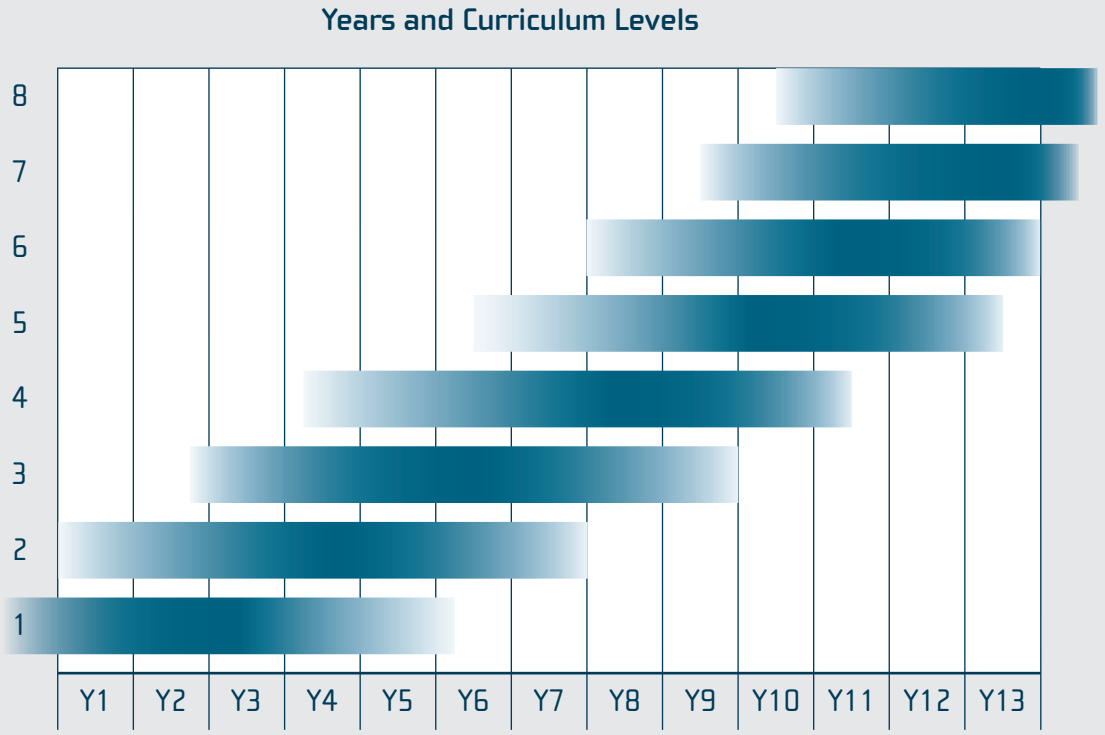
The key competencies: cross-sector alignment

This diagram suggests how the proposed tertiary competencies align with those of *Te Whāriki* and the New Zealand Curriculum:



Achievement Objectives by Level

The following fold-out charts give an overview of the achievement objectives, set out by learning areas within levels. This format facilitates cross-curricular collaborative planning and assessment. The achievement objectives are also available in a format that sets them out by levels within learning areas.



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