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EMBEDDING MĀTAURANGA MĀORI IN ARCHITECTURAL EDUCATION

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Abstract / Tuhinga Whakarāpopoto

The School of Architecture at Unitec | Te Pūkenga has developed a te reo Māori kuputaka (glossary). This resource is included in the first-year Bachelor of Architectural Studies content to help embed mātauranga Māori in pedagogy. The initiative reflects the determination on the part of Te Whare Wānanga o Wairaka Unitec | Te Pūkenga and the School of Architecture to honour te Tiriti o Waitangi (the Treaty of Waitangi) and meet programme aims.

This bicultural approach mirrors professional practice: in Ōtautahi Christchurch, after the 2011 earthquake, Indigenous sustainable practices were successfully integrated during the rebuild in collaboration with Ngāi Tahu and local hapū Ngāi Tūāhuriri; in Tāmaki Makaurau Auckland, Te Aranga Māori Design Principles recognise the authority of mana whenua and ensure Indigenous values are incorporated in the design of the built environment. Frameworks for the integration of te ao Māori sustainable values into Building Information Modelling (BIM) data are currently being developed to become a nationwide resource expanding and enriching the *New Zealand BIM Handbook*.

Including specific architectural vocabulary in te reo Māori sensitises all involved in the course to the interaction and layering of languages. The poetic and resonant qualities of te reo equivalents of English terms enrich the discussion of a more existential significance of architecture's concepts, components and acts. Cases in point are 'āputa whai take' – 'purposeful gap/space'; 'nōhanga hāneanea' – 'comfortable habitat/ergonomics'; and 'whare kiato' – 'compact house/tiny home'. This additional layer of meaning reflects our bicultural circumstances. In addition, the kuputaka introduces tikanga Māori in terms such as 'tapu' – 'sacred, set apart' – and 'noa' – 'common, ordinary' – as well as 'iwi', 'hapū' and other essential components of te ao Māori.

Introducing mātauranga Māori and a te reo Māori kuputaka creates foundations that successive years of architectural study can build on – this provides our graduates with essential skills and the instruments to engage effectively within professional practice and to shape our environment.

Keywords: Architecture, pedagogy, glossary, te reo Māori, mātauranga Māori, mana whenua

Embedding Mātauranga Māori in Architectural Education

The School of Architecture at Te Whare Wānanga o Wairaka Unitec | Te Pūkenga integrates te reo Māori to deliver first-year architectural design education. A kuputaka (glossary) of architectural terms in Māori and English supports students as they become conversant with the industry-specific vocabulary. These two official languages of Aotearoa also appear side by side on the course Moodle page and in studio briefs, which guide students in acquiring competencies.

Creating a bicultural platform in honour of te Tiriti o Waitangi (the Treaty of Waitangi) is a priority of Te Pūkenga.¹ This principle of partnership in education, along with the notions of participation and protection (of mātauranga Māori, values and other taonga), underlies the bilingual approach to pedagogy.

The commitment to te Tiriti o Waitangi is expressed at Te Whare Wānanga o Wairaka Unitec in te Noho Kotahitanga partnership document,² established in 2001. The partnership is underpinned by five core values: Ngākau Māhaki (Respect), Rangatiratanga (Authority and Responsibility), Wakaritenga (Legitimacy), Mahi Kotahitanga (Co-operation) and Kaitiakitanga (Guardianship). The document and values promote partnership between Māori and non-Māori and organically inform the approach to developing the glossary.

1 "Tētahi Tū Whakahaere Hou – A New Kind of Organisation," Te Pūkenga, accessed August 22, 2023, <https://www.xn--tepkenga-szb.ac.nz/our-work/>

2 "Our Partnership," Unitec | Te Pūkenga, accessed August 22, 2023, <https://www.unitec.ac.nz/maori/who-we-are/our-partnership>

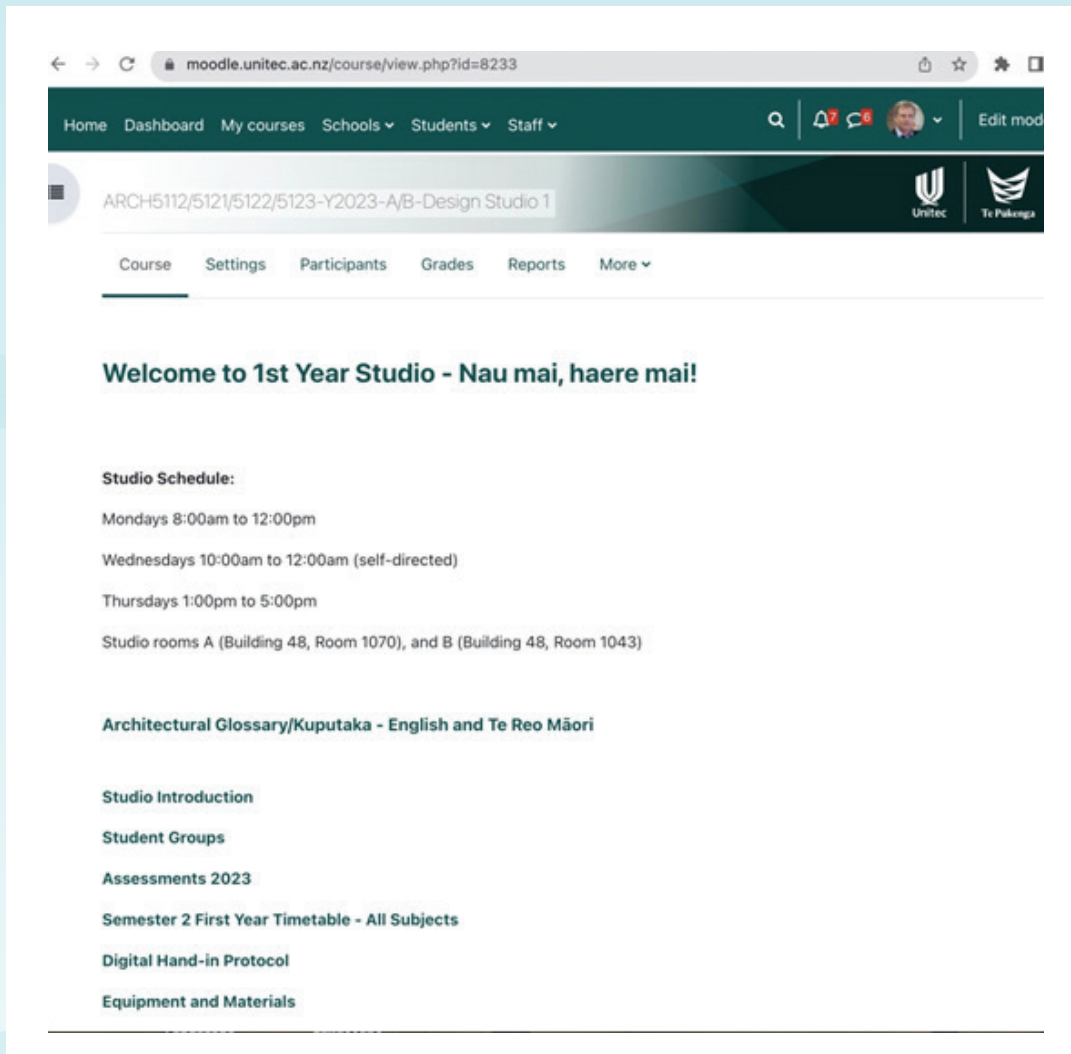


Figure 1. ARCH5112 Moodle page.

Within Unitec's School of Architecture, embedding mātauranga Māori assists in meeting programme aims.³ These are: grounding in the historical and theoretical foundations of our disciplines; knowledge of professional, social and environmental responsibilities; development of appropriate communication skills; and an overview of taha Māori, te Tiriti o Waitangi, and Māori perspectives as they relate to our disciplines.

Architectural education in Aotearoa, as indeed also architectural practice, has been dominated by a Eurocentric lens in both study and professional

practice. While architecture has its roots as a discipline in Vitruvius,⁴ Leon Battista Alberti⁵ and others, te Tiriti o Waitangi enables educators and architects to include, embed and align a South Pacific cultural dimension into everyday practice.

The recent history of Aotearoa New Zealand vernacular architectural models and projects, in the form of The Group⁶ and many other practising architects, particularly in the twentieth century, has evidenced the desire to engage with and produce a 'local' and relevant architecture that is specific to place.

3 Unitec | Te Pūkenga, *Programme Document: Bachelor of Architectural Studies (BAS)*, October 2007; Updated Programme Document Ver:3.2 (June 2021), 14–15.

4 Vitruvius Pollio and Morris Hicky Morgan, *Vitruvius: Ten Books of Architecture* (London: Humphrey Milford, Oxford University Press, 1914), v.

5 Leon Battista Alberti, *Leon Battista Alberti: Master Builder of the Italian Renaissance*, The 1755 Leoni Edition (New York: Dover Publications, Inc., 1986), publisher's note, 7.

6 Julia Gatley, *Group Architects: Towards a New Zealand Architecture* (Auckland University Press, 2010), 1.

Academics have also engaged with the relevance of ‘luogo’ – the Pacific location and the cultural relevance of place in cultural and architectural content. Architect and author Mike Austin, amongst others, has critically studied and presented Indigenous practice as central and potent in understanding place and practice.⁷

Architectural Terminology

Every field of endeavour, by definition of its specialised investigation, creates a specific operative vocabulary. In architecture, during the teaching of design, students are introduced to the vocabulary of the basic concepts and tools of the architectural world. An introduction to the specific language of architecture allows the student to understand elemental, conceptual, developmental, material and practical conventions. As a result of ongoing pedagogical engagement, essential terminology can be defined over time.

Introducing this vocabulary is a primary learning outcome of a foundation course such as ARCH5112 Design Studio One. Acquiring a familiarity and understanding of architectural definitions prepares the student for effective communication with fellow students, educators and, eventually, when engaged in practice, with the operative architectural world.

The evolving kuputaka at the School of Architecture at Unitec | Te Pūkenga emphasises conceptual notions that have a universal definition and significance in architectural practice, for example, ‘paepae’ – ‘threshold’, and programmatic typologies such as ‘nōhia’ – ‘inhabitation’. Terminology for architectural equipment such as the scale rule and the compass, and components with more erudite terms and significance, such as pilasters, keep their original names. The strength of the kuputaka lies in the more conceptual and universal human applications of architecture rather than its instruments. A refinement process ensures these concepts are carefully aligned with appropriate te reo Māori equivalents. These are then peer reviewed during conversation with the authors’ fellow kaihautū.

Establishing familiarity with terminology in te reo Māori and English in the initial stages of architectural study establishes a working comprehension and engagement as the foundation of developing student practice. This introduction is complemented in the first-year studio with an overview of Te Aranga Māori Design Principles⁸ and a requirement to generate a cultural map as a foundation for a design project

located at Tāwharanui Regional Park. As students transition to professional practice, this competency facilitates engagement with mana whenua to ensure Māori values and aspirations are integrated with the design process and outcomes.

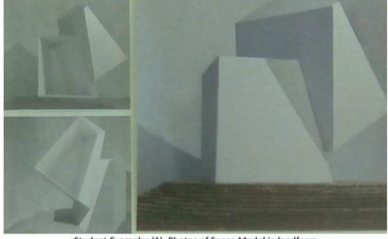
ARCH5112 Design Studio 1 2023

SEMESTER 1

Project 1 ARCHITECTURE & CONTEXT

Weeks 4 - 6 SPACE + STRUCTURE 26%
ĀPUTA WHAI TAKE + HANGATANGA

SPACE



Student Exemplar (1): Photos of Space Model in landform

"Architecture is the thoughtful making of space." - Louis Kahn

space *Āputa Whai Take – āputa – interval, gap, open space; whai take - to have a purpose, of use, useful*
- is the fundamental tool of architecture, being the air/place between 3D/2D/1D elements, both natural and fabricated. Space is perceived visually through the control and quality of light. Space is also perceived by the other senses through the qualities of sound, smell, touch and temperature.

Figure 2. ARCH5112 Studio brief.

Te Reo Māori in Architectural Practice

The kuputaka and applying kupu Māori (Māori words) to architectural terms illustrates how te reo Māori can provide broader interpretation and context. The kuputaka also facilitates a deeper understanding of important te ao Māori concepts such as pepeha (connections to tīpuna and whenua) and tohu whenua (landmarks), and their significance to Māori, which need to be considered within an architectural context that upholds Te Aranga Māori Design Principles⁹ and strengthens engagement with mana whenua.

Any architectural project, in practice, requires engagement with iwi and hapū through consultation and preliminary research to produce a cultural map of the site and context. The placement of te reo

7 Michael Austin, “Oceanic Architecture,” in *Last, Loneliest, Loveliest: The New Zealand Pavilion, 14th International Architecture Exhibition, La Biennale de Venezia*, ed. John Walsh (Wellington: New Zealand Institute of Architects, 2014), 18–25, <https://www.researchbank.ac.nz/handle/10652/2908>.

8 “Te Aranga Principles,” Auckland Design Manual, accessed August 22, 2023, https://www.aucklanddesignmanual.co.nz/design-subjects/maori-design/te_aranga_principles

9 Ibid.

Māori as a foundation for this practical application is instrumental in opening a dialogue of greater accuracy and significance.

Jasmax, one of the largest architectural practices operating in Aotearoa and Australia, demonstrates this determination to work collaboratively. The firm has a bicultural premise as an integrated component of its Manifesto:¹⁰

Our Culture

Our culture celebrates honesty and thoughtfulness. We respect the unique worldview of iwi Māori and acknowledge how te ao Māori influences our design practice.

We acknowledge tangata whenua's ancestral relationship with the natural environment as an essential source of wellbeing and identity.

We reflect and integrate Māori concepts of manaaki, tiaki and aroha (exchange, reciprocity and consideration) to celebrate the multi-culturalism of modern Aotearoa New Zealand.

Tō Tātou Ahurea

Whakamānawa ai tō tatou ahurea i te pono me te mākohakoha. Ki a mātou nei, he mea nui te tirohanga Māori me ōna pānga huhua ki ā mātou mahi whakahoahoa.

E mihi ana mātou i te hononga tūturu a te tangata whenua ki te taiao hei mātāpuna taketake o te ora me te tuakiritanga.

E mihi ana mātou i te tūāpapa o te tikanga-a-rua o Aotearoa e mau ana i te Tiriti o Waitangi.

Ka huritao mātou, ā ka kōkahu atu i ngā tikanga o te manaaki, te koha me te aroha hei whakamānawa i te kākano mahatanga o Aotearoa.

With this encompassing guide to practice in the company, the firm is structured into interdisciplinary teams: residential, commercial, education, health, civic, transport, sports and master planning. An overarching group that informs all the other teams is a cultural collaborative, Waka Maia, offering guidelines and research tools to uphold and maintain

engagement with mana whenua, which is appropriate and relevant to every design project undertaken.

This bicultural approach is occurring with increasing regularity throughout Aotearoa. In Ōtautahi Christchurch, after the 2011 earthquake, Indigenous sustainable practices were successfully integrated during the rebuild in collaboration with Ngāi Tahu and local hapū Ngāi Tūāhuriri;¹¹ in Tāmaki Makaurau Auckland, Te Aranga Māori Design Principles recognise the authority of mana whenua and ensure Indigenous values are incorporated in the design of the built environment. Frameworks¹² for integrating te ao Māori sustainable values into Building Information Modelling (BIM) data are being developed to become a nationwide resource expanding and enriching the *New Zealand BIM Handbook*.

Architecture students must be introduced in their formative years to bicultural understanding and practice to capitalise on these various initiatives.

Examples of Kuputaka Terms

Common vocabulary used in everyday life is redefined for students in their first engagement with the architectural discipline, taking on new significance in their application to the design endeavour.

'Space' is an essential conceptual component of this newly acquired design language. In Unitec's School of Architecture kuputaka, the English definition of space is "the fundamental tool of architecture, being the air/place between 3D/2D/1D elements, both natural and fabricated. Space is perceived visually through the control and quality of light. The other senses also perceive space through sound, smell, touch and temperature." Te reo Māori term given is 'āputa whai take': 'āputa' – 'interval, gap, open, space'; 'whai take' – 'to have a purpose, of use, useful'. The multi-worded English definition offers a multifaceted possibility of the significance of 'space' in the architectural context. Āputa whai take as the useful or purposeful gap resounds as a poetic and erudite terminology offering a different and potent sensorial dimension.

Conceptual notions and various tools and disciplines are introduced during students' first year. For example:

10 "The Jasmax Manifesto," Jasmax, accessed August 22, 2023, <https://jasmax.com/manifesto/>

11 Ngāi Tahu and Ngā Mātā Waka, *Te Kōwatawata: The Dawn of a New City* (Christchurch: Ngāi Tahu and Ngā Mātā Waka, 2015), <https://ngaitahu.iwi.nz/wp-content/uploads/2016/03/Te-Kowatawata.pdf>

12 Mazharuddin Syed Ahmed, *Framework to Integrate Māori Sustainable Values as Building Information (BIM) Modeling Data for New Zealand BIM Handbook* (Ara Institute of Canterbury [unpublished], 2023).

Ergonomics – a science aimed at creating safe, comfortable and productive workspaces by bringing human abilities and limitations into the design of a workspace, including the individual’s body size, strength, skill, speed, sensory abilities (vision, hearing), and even attitudes.¹³

Te reo Māori definition for ‘ergonomics’ is ‘nōhanga hāneanea’: ‘nōhanga’ – ‘habitat, seat, seating, dwelling place’; ‘hāneanea’ – ‘to be pleasant, comfortable’. Again, a comfortable dwelling place conjures up a realm of multifaceted components that provide a place of comfort for human occupation.

Together with conceptual notions and disciplinary tools, components of the built environment are also defined within the practice of the architectural design discipline. Te reo Māori vocabulary is always quite specific to a purpose and context, and it is necessary to be case sensitive when utilising words – ‘tiny home/house’ required particular attention. A direct translation would result in an entity that was not intended: ‘paku’ is defined in the Māori dictionary as “2. (modifier) small, little, minute, tiny, diminutive.”¹⁴ ‘Iti’ is defined as “1. (stative) be small, unimportant, little, minute, tiny, diminutive, petite, trivial, insignificant.”¹⁵ This could lead the uninformed to make the literal translation of small house into ‘wharepaku’ or ‘whareiti’. However, ‘wharepaku’ and ‘whareiti’ are defined as “1. (noun) toilet, lavatory, convenience, latrine, loo, bog.”¹⁶ For the first-year project in which the vocabulary was to be applied, this seemed reductive and belied the necessity to design cleverly with specific requirements for efficiency and compactness. The final decision was to use ‘whare kiato’: ‘whare’ – ‘house/hut’; ‘kiato’ – ‘to be tightly packed and compact’. The tightly packed, compact house renders perfectly the intended model of inhabitation.

Summary

The offering of a bilingual understanding of terminology in the form of a kuputaka to accompany a student’s initial engagement with architectural design practice, and its multifaceted and multi-layered content, enriches both the teacher and the learner experience. The sensitisation of the practitioner starts with an awareness of realms of knowledge. Enfolding te reo Māori into a first approach with design practice offers more sensitive and appropriate attention to relationships with mana whenua,

fellow practitioners and clients. The inclusiveness inherent in this approach will help to ensure that the unique identities, histories, narratives and aspirations of tāngata whenua and tāngata tiriti are embedded in the design and formation of Aotearoa’s environment.

13 “What is Ergonomics?” Dohrmann Consulting, accessed August 22, 2023, <https://www.ergonomics.com.au/what-is-ergonomics/>

14 “Paku,” *Te Aka Māori Dictionary*, accessed August 22, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=paku>

15 “Iti,” *Te Aka Māori Dictionary*, accessed August 24, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=iti>

16 “Wharepaku,” *Te Aka Māori Dictionary*, accessed August 22, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=wharepaku>

Bibliography

Mazharuddin Syed Ahmed. *Framework to Integrate Māori Sustainable Values as Building Information (BIM) Modelling Data for New Zealand BIM Handbook*. Ara Institute of Canterbury [unpublished], 2023.

Alberti, Leon Battista. *Leon Battista Alberti: Master Builder of the Italian Renaissance*. The 1755 Leoni Edition. New York: Dover Publications, Inc., 1986.

Auckland Design Manual. “Te Aranga Principles.” Accessed August 22, 2023. https://www.aucklanddesignmanual.co.nz/design-subjects/maori-design/te_aranga_principles

Austin, Michael. “Oceanic Architecture.” In *Last, Loneliest, Loveliest: The New Zealand Pavilion, 14th International Architecture Exhibition, La Biennale de Venezia*, edited by John Walsh, 18–25. Wellington: New Zealand Institute of Architects, 2014. <https://www.researchbank.ac.nz/handle/10652/2908>

Dohrmann Consulting. “What is Ergonomics?” Accessed August 22, 2023. <https://www.ergonomics.com.au/what-is-ergonomics/>

Gatley, Julia. *Group Architects: Towards a New Zealand Architecture*. Auckland University Press, 2010.

Jasmax. “The Jasmax Manifesto.” Accessed August 22, 2023. <https://jasmax.com/manifesto/>

Ngāi Tahu and Ngā Mātā Waka. *Te Kōwatawata: The Dawn of a New City*. Christchurch: Ngāi Tahu and Ngā Mātā Waka, 2015. <https://ngaitahu.iwi.nz/wp-content/uploads/2016/03/Te-Kowatawata.pdf>.

Te Aka Māori Dictionary. “Iti.” Accessed August 24, 2023. <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&hist-LoanWords=&keywords=iti>

Te Aka Māori Dictionary. “Paku.” Accessed August 22, 2023. <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&hist-LoanWords=&keywords=paku>

Te Aka Māori Dictionary. “Wharepaku.” Accessed August 22, 2023. <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&hist-LoanWords=&keywords=wharepaku>

Te Pūkenga. “Tētahi tū Whakahaere Hou – A New Kind of Organisation.” Accessed August 22, 2023. <https://www.xn--tepkenga-szb.ac.nz/our-work/>

Unitec | Te Pūkenga. “Our Partnership.” Accessed August 22, 2023. <https://www.unitec.ac.nz/maori/who-we-are/our-partnership>

Unitec | Te Pūkenga. *Programme Document: Bachelor of Architectural Studies (BAS)*, October 2007; Updated Programme Document Ver:3.2 [June 2021].

Vitruvius, Pollio, and Morris Hicky Morgan. *Vitruvius: Ten Books of Architecture*. London: Humphrey Milford, Oxford University Press, 1914.

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