

Learning design for indigenous learners

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ABSTRACT

How can learning design approaches, typically reflecting Western values and methods, reflect the aspirations of indigenous learners? In 2021 Open Polytechnic, New Zealand's leading provider of online, distance vocational learning, contracted the New Zealand Council for Educational Research (NZCER) to inform the development of courseware that supports ākongā Māori (learners of Māori descent) to achieve their learning aspirations.

The research, which applied a Māori-centred approach, investigated the perspectives of credible Māori academics and sources of knowledge and information, and ākongā Māori through interviews and focus groups with learning designers. Research questions were:

- What are the learning experiences of ākongā Māori in Open Polytechnic online courses?
- To what extent does the Open Polytechnic meet the learning needs and aspirations of ākongā Māori and their whānau (families)?
- How can Open Polytechnic courseware best support the learning needs and aspirations of ākongā Māori?

The final research report includes several key insights for advancing our learning design in ways that better reflect indigenous ways of being and knowing, and learning, which in turn enrich the perspectives and achievement of all learners. Issues of method and the importance of indigenous learning design will be addressed in the paper alongside the major outcomes of the project.

Keywords: Indigenous learners; Indigenous methodologies; Learning design

Background

Māori are the Tangata Whenua (the people of the land) of Aotearoa New Zealand that have resided in these lands since their first arrival by canoe before 1300 BC.¹ Some four centuries later, Europeans arrived at Aotearoa New Zealand. In 1840, the Tiriti o Waitangi/Treaty of Waitangi was established and signed as an agreement between British Crown representatives and Māori chieftains. Settlement by European settlers was well underway, and Māori relished in the new technology and prospects presented by the British.

Following disparities in both versions of Te Tiriti o Waitangi and the Treaty of Waitangi in 1840 the English version took precedence, and as a result colonisation became part of the new society. As a consequence of colonisation, Māori continue to suffer intergenerational loss in identity, culture, language and history. Although this is the case, over time many influential Māori leaders have contributed to the revival of Māori language, culture and identity that continues to evolve within the current generation of second language speakers and the uprising of the new generation of native speakers due to initiatives such as Te Kōhanga Reo, Kura Kaupapa Māori, Whare Wānanga, and the importance of Te Ao Māori within mainstream providers and organisations.

The Open Polytechnic of New Zealand Limited, a subsidiary of Te Pūkenga, is a dedicated provider of open, distance and flexible learning (ODFL). In 2021, 15% of Open Polytechnic's 35,612 students were Māori. Of the ākongā Māori (Māori learners) who completed the Open Polytechnic's annual student survey, 88% indicated their satisfaction. Despite this, Open Polytechnic seeks to further improve the access, attainment, and achievement of ākongā Māori into its open education model.

Courseware developed for asynchronous learning is foundational to Open Polytechnic's ODFL model. There has always been the desire to ensure courseware is appropriate for all ākongā. For the Open Polytechnic Learning Design & Development (LDD) team, this has been safeguarded through a review of courseware by a bicultural reviewer, a Te Ao Māori subject matter expert whose task it is to consider all of the courseware from a Māori perspective. Typically, this involved checking for adverse stereotyping, misrepresentation and factual errors, either through incorrect use of Te Reo (the Māori language) or cultural appropriation. Generously, the

¹ <https://teara.govt.nz/en/maori>

approach might be considered based on compliance within a Māori perspective rather than an attempt to achieve co-design. The role of bicultural reviewer was always internally perceived self-consciously, as it was clear that it fell short of the commitment to partnership, participation, and protection (the three 'Ps') of Māori under Te Tiriti o Waitangi/the Treaty of Waitangi.

In New Zealand, a Reform of Vocational Education (RoVE) was initiated in 2019. The RoVE resulted in multiple key changes toward a unified vocational education system, including the creation of Te Pūkenga, a “unified, sustainable, public network of regionally accessible vocational education, bringing together the existing 16 ITPs [Institutes of Technology and Polytechnics].” One focus of the Reform is the establishment of Taumata Aronui, a group made up of Mātauranga Māori educators, social developers and experienced senior leaders to “help ensure that the Reform of Vocational Education reflects the Government’s commitment to Māori Crown partnerships.” The aspiration of Taumata Aronui is to develop

...**the best indigenously inspired tertiary education system in the world** – one where incredible success is experienced by indigenous people (this is normalised and expected) and where indigenous knowledge and experience influences the sector positively and becomes the inspiration for the success of all (Royal, 2022, p. 6; emphasis original).

As part of its preparation for Te Pūkenga, in recognition of Te Tiriti o Waitangi/the Treaty of Waitangi principles and as part of a strategic imperative to improve learning outcomes for ākonga Māori, Open Polytechnic sought to improve its courseware design practices to promote positive outcomes for Māori, influenced by indigenous knowledge and experiences. The asynchronous, digital education approach used by Open Polytechnic is based on a classic open, distance and flexible learning or ODFL model (Nichols, 2011; Seelig, Cadwallader, & Standring, 2019). In ODFL, courseware is leveraged to enable an asynchronous, anytime and independent education possible. In the case of Open Polytechnic, education provision increasingly extends into anytime availability of enrolment, highly flexible approaches to assessment timing, and flexibility of course completion.

In recognition that research methodologies for indigenous peoples is a specialist activity (Tuhiwai Smith, 2021), Open Polytechnic decided to partner with the New Zealand Council for Educational Research (NZCER) to develop a set of learning design practices to inform courseware development, informed by excellent Mātauranga Māori educationalists and academics and feedback provided by ākonga Māori, so as to better reflect the aspirations and empower the success of ākonga Māori.

Perhaps not obvious from this background is the somewhat insidious context of colonisation over the entire initiative. The objective for this research, perhaps noble on the surface, actually aims to improve courseware design within an over-arching Western framework. Courseware design and development approaches are based on Western models, and the objective to reflect indigenous knowledge and experiences of ākonga Māori is based on a Western definition of ‘outcome’. Embarking on this project required the humility to acknowledge that, within the current educational system, we were limited to improving systems within the Western context rather than decisively addressing indigenous aspirations. Put another way, the project must be seen as a step rather than a leap even though its implications on practice may prove profound. This paper endorses the point made in a recent Taumata Aronui report:

... ‘getting education right for Māori’ concerns much more than achieving individual Māori success in the existing system. Merely altering existing educational offerings so that they become more favourable or comfortable for more individual Māori is not enough (Royal, 2022, p. 81).

Literature review

There is a body of New Zealand research exploring ākonga Māori educational success in the traditional tertiary learning environment (Greenwood & Te Aika, 2008; Mayeda, Keil, Dutton, & Ofamo’oni, 2014; Sciascia, 2017; Te Pūkenga, 2021). Another body of research specifically investigates online tertiary contexts and examines factors supporting distance teaching and learning practices for ākonga Māori (Hudson, 2020; Mccaw, Wakes, & Gardner, 2012; Rawlings & Wilson, 2013; Tiakiwai & Tiakiwai, 2010). There is a clear focus on the need for tertiary institutions to take account of ākonga needs, identities, languages and cultures in their practice, and incorporate te reo Māori and tikanga Māori into everyday activities (Ministry of Education, 2013, 2020).

Broadly, the concepts whakawhānaungatanga (construction of relationships), manaakitanga (care, hospitality and kindness), tuakana-teina (sharing expertise through coaching and mentoring) and kanohi ki te kanohi (face-

to-face) are complemented by whakatinana (manifesting learning by doing) and Mātauranga Māori (indigenous knowledge) as elements of successful ako (teaching and learning) for indigenous learners (and all learners). The concept of ako is itself illustrative of the differences these terms can make to a philosophy of education; the term embraces both teaching and learning as activities, and assumes a reciprocity across kaiako (teachers) and ākonga (the learner). Over-arching these concepts is a commitment to Te Ao Māori (the Māori worldview, Hudson, 2020). Also important is the opportunity for Māori to succeed “according to Māori criteria, which involve their potential for participating effectively within the context of Māori values and Māori aspirations” (Greenwood & Te Aika, 2008, p. 12).

In a survey of 90 Māori and Pasifika students in Aotearoa New Zealand, major themes of “family and university role modelling and support; indigenous teaching and learning practices; and resilient abilities to cope with everyday colonialism and racism” emerged (Mayeda et al., 2014, p. 165). Finally, in a report specific to vocational education, Māori learners reported that they “brought the impact of colonisation with them to vocational education” (Te Pūkenga, 2021, p. 5) and expressed “was a desire for more holistic environments that were physically, culturally, emotionally, and spiritually safe and included the wellbeing of whānau. Māori values and principles” (ibid.). Findings were similar across both on-campus and online (distance) participants. The asynchronous approach typical of ODFL, while promoting student-centredness, limits opportunities for such ako practices as whakawhānaungatanga, manaakitanga, tuakana-teina and kanohi ki te kanohi, which are generally viewed as critical components of practice by ākonga Māori.

There is very little literature targeting learning resources and technology tools for ākonga Māori success (Duder, 2010). Research specifically focused on courseware and ākonga Māori, or indeed courseware and indigenous students internationally, is scarce. Literature provides very little insight as to how culture influences and informs the design of online courseware, though generalisations can be found. As an example, video production values can differ by culture (Bayeck & Choi, 2018). One authoritative volume, however, does acknowledge that practitioners of learning design need “models that can help instructional designers and instructors strategically integrate cultural differences of both learners and teachers in designing and supporting online learning” (Gunawardena & Jung, 2015, p. 194), however such models are not provided. While culture is identified as a possible dimension of learning design rather than just a component (Frechette, Layne, & Gunawardena, 2015), specific guidance for practice is lacking.

One exception is the Cultural Dimensions of Learning Framework, or CDLF (Parrish & Linder-VanBerschoot, 2010), which encourages learning designers to consider cultural differences across eight dimensions based on three groupings: social relationships (equality and authority; individualism and collectivism; nurture and challenge), epistemological beliefs (stability seeking and uncertainty acceptance; logic argumentation and being reasonable; causality and complex systems), and temporal perceptions (clock time and event time; linear time and cyclical time). While these dimensions can certainly challenge learning designers to think less ethnocentrically, they are criticised for their potential for stereotyping and apparent lack of empirical support (Hunt & Tickner, 2015), and some are difficult to apply in Aotearoa New Zealand’s bi-cultural context (ibid.).

This brief survey of literature illustrates the difficulties faced by those seeking to find practical guidance for the development of culturally appropriate and success-enhancing courseware, particularly when serving bodies of students that include indigenous learners: “Research specifically focused on courseware and ākonga Māori, or indeed courseware and indigenous students internationally, is sparse” (Edge, Overbye, Gibbs, Bright, & Mckinley, 2022a, p. 2). While issues of cultural difference are acknowledged in literature, guidance tends to be in the form of generalities primarily addressing on-campus practitioners. Those seeking to develop culturally appropriate and success-enhancing courseware might, at the least, seek out a cultural subject matter expert to provide a cultural lens, practices, values and indigeneity as part of the development process.

The research question, then, seeks to address an important gap in literature: How can Open Polytechnic courseware, designed for asynchronous, independent learning, support ākonga Māori and all ākonga to achieve their learning aspirations? The question is a valuable one for both national and international audiences as more diverse students enrol in tertiary education and learning is increasingly online (Sciascia, 2017).

Method

The research project utilised qualitative methods to gather perspectives, experiences and insights from ākonga Māori who learn at the Open Polytechnic (n = 12 interviews, n = 8 for focus groups for a total of 20), alongside Kaimahi Māori (education staff, n = 8) and Learning Design and Development team members from the Open Polytechnic (n = 4). The grounded theory approach was informed by various internal reports providing analysis

of comparative educational outcomes, and associated strategic plans. The nature of the research project, with ākonga Māori as the research population, prompted Open Polytechnic to seek a Māori-centred methodology.

A Māori-centred research approach focuses on ensuring that Māori are 'centred' in and by the research. The research was led by experienced Kaupapa Māori kairangahau (researchers) from the New Zealand Council for Educational Research (NZCER), with a team that was primarily, but not exclusively, Māori. Aligning with a Māori centred research approach, the method prioritised the voices of ākonga Māori and their whānau to explore their learning experiences, needs and aspirations. Te reo Māori (the Māori language) and tikanga Māori (protocols) are integral parts of Māori research engagement, processes and outcomes.

As part of its Māori-centred approach, the NZCER applied its usual kaupapa (epistemological) Māori approach, Te Wāhanga:

Te Wāhanga views Māori education and development as the intergenerational transfer of knowledge, which includes knowledge content, the method of knowledge transfer, and the ability of Māori to be in a position to determine what is transferred and how. Māori education and development is about Māori having the authority (rangatiratanga) to determine what is valued as knowledge, what is worthy of transfer, and what will best contribute to whānau health and wellbeing. It is also about recognising and affirming Māori cultural institutions, including whānau and marae, and the role they play in Māori education. (NZCER Ranagahau Mātauranga o Aotearoa, n.d., para. 1)

As a research and development organisation, NZCER is committed to honouring Te Tiriti o Waitangi and values Māori language, culture, and identity across their practice. The NZCER is actively committed to the principles of Te Tiriti o Waitangi as a means of upholding mana Māori (prestige). The ethics application was approved through both Open Polytechnic and NZCER ethics committees.

A series of interviews and focus groups were held with ākonga Māori (current students from a variety of programmes of study), alongside focus groups with Kaimahi Māori and Learning Design and Development team members from the Open Polytechnic. Most were conducted online however some focus groups were also held kanohi ki te kanohi (face-to-face). The interviews and focus groups were semi structured.

Summaries of each interview and focus group were prepared based on notes and recordings. The summaries included direct quotes, which were representative of themes expressed by more than one participant.

Findings

The project reported findings in three sections, the latter of which directly addressed the research question: ākonga Māori (Māori student) aspirations; ākonga Māori learning experiences in Open Polytechnic online courses; and ākonga Māori perspectives on Open Polytechnic courseware (Edge et al., 2022a). These findings provided the evidence for a series of courseware development guidelines (Edge, Overbye, Gibbs, Bright, & Mckinley, 2022b).

Ākonga Māori aspirations

The majority of ākonga Māori were drawn to Open Polytechnic because of its flexible study options, ideal for those who can only study part-time, are remote from a campus, or who are time-pressed for attending contact classes. Respondents also tended to be employment or promotion-focussed, usually with a desire to better support their whānau (families) and communities. Taking on leadership responsibilities to better support whānau, hapū and iwi, and an interest in life-long learning round off respondents' aspirations and their decision to study through Open Polytechnic.

Ākonga Māori learning experiences in Open Polytechnic courses

Respondents reported the structure and format of Open Polytechnic courses; the range of course content (readings, video content, use of case studies) provided; assessment flexibility (resubmission and extension options); and support from Open Polytechnic, tutors and peers as components of education that worked well for them. However, accessing support was often not easy. A complex range of support systems was reported, and the asynchronous bias to communications did not suit most respondents. Process questions and further explanations for course materials and assessment guidelines were commented on.

Ākongā perspectives on Open Polytechnic courseware

This section relates to the main focus of the research project: How can Open Polytechnic courseware, designed for asynchronous, independent learning, support ākongā Māori to achieve their learning aspirations? While respondents indicated many affirming elements to Open Polytechnic learning design, areas for improvement were also identified.

Respondents were able to identify indicators of Te Ao Māori in courseware, particularly through the use of te reo Māori. Elements of the curriculum that addressed Māori history and Waitangi Day were particularly highlighted as positive. Some courseware features, however received a mixed and even contradictory response:

The [courseware] does incorporate Māori words here and there and most of the scenarios in my course have Māori names and go to Māori place names as well. [The Open Polytechnic] definitely works hard to make it relatable for Māori. (Ākongā Māori, Real Estate) (Edge et al., 2022a, p. 17)

Contrasts with:

They might have had some Māori names in their case studies but that didn't really feel to me that they were trying to promote Māori culture or anything like that, they just chucked a few Māori names in there—there it is, just a name. (Ākongā Māori, Business) (ibid.)

The structure, formatting and range of materials are already mentioned as positive elements of courseware. Learning activities, asynchronous forums and the educational challenge of assessments were also affirmed as useful. Challenging items included “generic course content, gaps in content, unclear wording and questions, and difficulties with understanding the learning activities and assessment tasks” (ibid., p. 19), which were exacerbated by the support issues mentioned earlier.

In general:

- Create opportunities to connect with people through tikanga Māori.
- A focus on tikanga Māori and kaupapa Māori.
- Ensure Māori contribute to design, planning, and delivery of courseware
- Include content from te ao Māori.
- Enhance cultural competency components for non-Māori.

Written materials

- Ensure written materials are appropriate for users.
- Include Aotearoa content.
- Provide hard copy resources.

Learning activities

- Consider how to make better use of learning activities.
- Create more scaffolding between learning activities and assessments.

Assessment tasks

- Improve initial guidance and instructions for assessments.
- Provide ākongā with exemplars and feedback

Case studies

- Case studies should be relatable and relevant to Māori.

Video content

- Videos should be relatable and relevant to Māori, and include Aotearoa content.
- Use video content in innovative and interesting ways.

Figure One – Summary of suggested improvements to courseware (Edge et al., 2022a, p. 25)

Ideas for improving courseware included several generic suggestions (orientation sessions, advice on self-directed learning, and opportunities to get to know others; support for academic writing; support to use

information technology; bridging courses; and flexible timing for courses). Ākonga Māori also provided several suggestions for improving the overall education experience from a tikanga Māori perspective, including creating opportunities to connect with people through tikanga Māori; a focus on tikanga Māori and kaupapa Māori (Māori methods and methodologies); ensure Māori contribute to the design, planning and delivery of courseware; including content that is Te Ao Māori related; and educate and quality assure cultural competency, primarily for non-Māori, to assist them in their experience and understanding of tikanga Māori. Another suggestion included more use of content with an Aotearoa New Zealand origin, particularly across case studies and video materials (Figure One).

Discussion

The findings provided an insightful critique of Open Polytechnic learning materials, and indicated the insufficiency of Open Polytechnic's traditional approach of bicultural review. Overall, however, respondent critique focused not solely on courseware but the general educational experience. The asynchronous nature of ODFL is not directly compatible with the expectations or preferences of ākonga Māori, but this in the context of valuing the opportunity to study flexibly. It is likely that a more generic study would have ceased with these observations, however the project deliberately explored the question: How can Open Polytechnic courseware, designed for asynchronous, independent learning, support ākonga Māori to achieve their learning aspirations? The research identified eight principles – ngā mātāpono – that underpin Māori principles, values and belief systems within a Te Ao Māori (Māori worldview) perspective. These mātāpono provide reference points for improving courseware development practices.

The eight principles, with their description, are as follows:

1. **Mā te Māori, mō to Māori** (by Māori, for Māori): Māori are included in the initial stages of courseware design and planning and remain involved throughout the entire process as core members of the team. Mātauranga Māori experts (those with indigenous knowledge related to the subject being studied) will be consulted when necessary, to ensure the authenticity of Māori content.
2. **Te reo Māori** (Māori language): Te reo Māori has high status, and is used consistently and appropriately throughout courseware. Creating a bilingual space that is inclusive of te reo Māori and English shows ākonga Māori that their language and culture are valued.
3. **Tikanga Māori** (Māori ways of doing things): Tikanga Māori and Māori pedagogies are woven throughout courseware design and inform the way courseware is designed, developed, and delivered.
4. **Whakawhanaungatanga** (making connections with others): Whakawhanaungatanga helps people to get to know one another through creating and maintaining relationships. Ensuring there is time and space for relationships helps people to feel more connected and at ease.
5. **Tāngata Māori** (Māori people): Courseware incorporates the diverse realities, histories, imagery, interests, and everyday contexts of tāngata Māori. Mātauranga Māori is authentically included within courseware.
6. **Whenua** (Aotearoa—the land on which we stand): Courseware draws on images and stories from Aotearoa to make each course relevant and applicable to ākonga Māori.
7. **Māramatanga** (good communication and understanding): Māramatanga is about communication and understanding. Being able to clearly communicate courseware and assessment instructions and make materials accessible for ākonga is foundational to a positive learning experience.
8. **Mōhiotanga** (Critical awareness of culture): Mōhiotanga in this context is about being aware of one's own positioning as Māori and non-Māori, and being aware of the cultures of others. To be knowledgeable in this space would include having a broad awareness of Māori histories and social justice in Aotearoa (from Edge et al., 2022a, pp. 30–31).

Conclusion

A primary investigation into the perspectives of indigenous learners on ODFL courseware reveals the inadequacy of cultural review, and the necessity of involving indigenous experts within the core development team throughout the design and development process. In addition to reviewing and quality assuring appropriate use or reference of indigenous concepts and imagery, a fusing of indigenous practices and knowledge in courseware is preferable.

For Open Polytechnic, the findings point toward a new set of practices that are likely to include Mātauranga Māori and Te Reo Māori subject experts as courseware co-designers; additional application of te reo Māori in courseware; respectful and accurate portrayal of Māori across all aspects of courseware, including in case studies and video; more professional development across the design team related to mōhiotanga; more deliberate use of appropriate Aotearoa New Zealand imagery, including stock photography, in courseware; and, of course, an ongoing commitment to improving all instructions and written accessibility, all of which would align with the Mātāpono framework.

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Bibliography

Bayeck, R. Y., & Choi, J. (2018). The influence of national culture on educational videos: The Case of MOOCs. *International Review of Research in Open and Distance Learning*. <https://doi.org/10.19173/irrodl.v19i1.2729>

Duder, E. M. (2010). Ko tō ringa ki ngā rākau a te Pākehā - The use of digital resources in the learning and teaching of te reo Māori: A case study. [Master's thesis]. Auckland University of Technology. Retrieved from <http://aut.researchgateway.ac.nz/handle/10292/1219>

Edge, K., Overbye, S., Gibbs, B., Bright, N., & Mckinley, S. (2022a). Enhancing online learning and courseware for ākonga Māori. Wellington.

Edge, K., Overbye, S., Gibbs, B., Bright, N., & Mckinley, S. (2022b). Open Polytechnic courseware development guidelines. Wellington.

Frechette, C., Layne, L. C., & Gunawardena, C. N. (2015). Accounting for culture in instructional design. In I. Jung & C. N. Gunawardena (Eds.), *Culture and online learning: Global perspectives and research* (pp. 54–66). Stylus Publishing, LLC.

Greenwood, J., & Te Aika, L. H. (2008). Hei Tauria: Teaching and learning for success for Māori in tertiary settings. Retrieved from <https://ako.ac.nz/assets/Knowledge-centre/NPF-2007-Hei-Tauria/RESEARCH-REPORT-Hei-Tauria-Teaching-and-Learning-for-Success-for-Maori-in-Tertiary-Settings.pdf?msclkid=669e32a9c06211ecab5f6263badf38ae>

Gunawardena, C. N., & Jung, I. (2015). *Culture and Online Learning: Global Perspectives and Research*. Stylus Publishing, LLC.

Hudson, P. W. (2020). Can te ao Māori worldviews exist within a western institute's online teaching and learning environment? [Master's thesis]. The University of Waikato. Retrieved from <https://researchcommons.waikato.ac.nz/bitstream/handle/10289/13880/thesis.pdf?sequence=4&isAllowed=y>

Hunt, A. N., & Tickner, S. (2015). Cultural Dimensions of Learning in Online Teacher Education Courses. *Journal of Open, Flexible and Distance Learning*, 19(2), 25–47. Retrieved from <https://www.jofdl.nz/index.php/JOFDL/article/view/99>

Mayeda, D. T., Keil, M., Dutton, H. D., & Ofamo'oni, I. F. H. (2014). "You've gotta set a precedent": Māori and Pacific voices on student success in higher education. *AlterNative*, 10(2), 165–179. <https://doi.org/10.1177/117718011401000206>

Mccaw, C., Wakes, S., & Gardner, T. (2012). *Māori Design and Tertiary Education*. Wellington, New Zealand. Retrieved from <https://ako.ac.nz/knowledge-centre/maori-learner-success/maori-cultural-capability-pathway/>

Ministry of Education. (2013). *Ka Hikitia - Accelerating Success 2013-2017*. Retrieved from <http://www.education.govt.nz/assets/Documents/Ministry/Strategies-and-policies/Ka-Hikitia/KaHikitiaAcceleratingSuccessEnglish.pdf>

Ministry of Education. (2020). *The statement of National Education and Learning Priorities (NELP) and Tertiary Education Strategy (TES)*. Retrieved from <https://www.education.govt.nz/our-work/overall-strategies->

[and-policies/the-statement-of-national-education-and-learning-priorities-nelp-and-the-tertiary-education-strategy-tes/](#)

Nichols, M. (2011). Distance education at the Open Polytechnic: the “institutional” approach. In J. Barrett (Ed.), *Open Learning for an Open World: Reflections on Open and Distance Learning and Teaching at the Open Polytechnic of New Zealand* (pp. 15–30). Lower Hutt: The Open Polytechnic of New Zealand. Retrieved from https://repository.openpolytechnic.ac.nz/bitstream/handle/11072/1381/Seelig_et_al_2011_-_Book_-_Open_Learning_for_an_Open_World.pdf?sequence=1&isAllowed=y

NZCER Ranagahau Mātauranga o Aotearoa. (n.d.). Te Wāhanga. Retrieved May 26, 2022, from <https://www.nzcer.org.nz/te-wahanga>

Parrish, P., & Linder-VanBerschoot, J. A. (2010). Cultural dimensions of learning: Addressing the challenges of multicultural instruction. *International Review of Research in Open and Distance Learning*. <https://doi.org/10.19173/irrodl.v11i2.809>

Rawlings, C., & Wilson, K. (2013). Tuakana-teina e-Belonging Report. Ako Aotearoa. Retrieved from <https://ako.ac.nz/assets/Knowledge-centre/RHPF-c39-How-Maori-distance-students-can-have-a-sense-of-belonging/RESEARCH-REPORT-Tuakana-teina-e-Belonging-Report.pdf>

Royal, T. A. C. (2022). Māori success and tertiary education: Towards a comprehensive vision. Retrieved from <https://www.tec.govt.nz/assets/Publications-and-others/69e11be264/Manu-Kokiri-by-Taumata-Aronui-April-2022.pdf>

Sciascia, A. (2017). Māori learner success in tertiary education : Retrieved from <https://ako.ac.nz/assets/Reports/Synthesis-reports/SYNTHESIS-REPORT-Maori-learner-success-in-tertiary-education-Highlights-from-Ako-Aotearoa-supported-research-projects.pdf>

Seelig, C., Cadwallader, A., & Standing, D. (2019). Transformational change in delivery at Open Polytechnic, New Zealand. *Journal of Learning for Development*, 6(1).

Te Pūkenga. (2021). Te Rito insights from learners: Part One. Retrieved from <https://tepukenka.ac.nz/assets/Our-Pathway/Learner-Journey/Te-Rito-Insights-from-learners-Part-One-Final-Digital.pdf>

Tiakiwai, S., & Tiakiwai, H. (2010). A literature review focused on Virtual Learning Environments (VLEs) and e-Learning in the context of Te Reo Māori and Kaupapa Māori education. Retrieved from http://www.educationcounts.govt.nz/_data/assets/pdf_file/0004/72670/936_LitRev-VLEs-FINALv2.pdf

Tuhiwai Smith, L. (2021). *Decolonizing methodologies: Research and indigenous peoples*. Dunedin: Otago University Press.