Blended Professional Learning: Insights for developing culturally responsive teachers

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Blended Professional Learning: Insights for developing culturally responsive teachers

Despite a growing empirical base on blended teacher professional learning programmes, research into blended programmes aimed at transforming teachers' culturally responsive practices has been limited. This article reports on a systematic literature review conducted to identify the characteristics of effective blended professional learning programmes supportive of teachers developing culturally responsive dispositions and practices within communities of practice. The review aimed to inform and strengthen directions in a year-long, blended professional learning programme offered nationally to school leaders and teachers in New Zealand. Eighteen recent studies from peer-reviewed journals were reviewed and analysed using thematic analyses. The findings highlighted nine themes focused on a range of learning strategies and the nature of effective blended professional learning programmes. Three enabling conditions at the individual, group, and organisational levels were also necessary to support teachers in becoming more culturally responsive. Blended professional learning programmes can support multifaced ways of learning culturally responsive dispositions and practices. However, a holistic view of teacher learning, and considerations given to broader levels of support are needed. The findings can inform future designs of blended professional learning contexts, and have implications for policy, practice, and research.

Keywords: teacher professional learning; blended learning; culturally responsive; literature review; New Zealand

Introduction

Professional learning (PL) programmes aligned with existing evidence of effective teacher learning play a significant role in enhancing teacher praxis (Desimone, 2009). Indeed, research evidence points to teacher quality as a critical in-school factor in improving student achievement (Timperley et al., 2007). In addition to face-to-face (F2F) modes of professional learning, alternative forms through online, blended or

digitally-supported modes have been increasingly adopted to offer the convenience of anytime and anywhere access (Dede et al., 2016). During the COVID-19 pandemic and mandated lockdown periods, such modes gained urgency to sustain teacher PL within and across schools and even across countries in various disciplinary areas and educational levels (Lockee, 2021).

Despite a growing empirical body of literature on teacher PL (Desimone et al., 2002), nature of effective PL programmes (Darling-Hammond et al., 2017) and blended learning (Graham, 2021), in Aotearoa New Zealand (Aotearoa henceforth; Aotearoa is the Māori name for New Zealand) our review of the literature showed that limited studies exist on the nature of effective blended PL programmes. With specific reference to our context, we were keen to understand the way such programmes can support changes in teacher praxis specific to culturally responsive dispositions and practices. This article responds to the current gaps and reports the findings of a systematic literature review conducted of recent studies to identify trends and characteristics of effective blended teacher PL for developing culturally responsive practices. This review was undertaken to inform and strengthen directions in a current, year-long, blended PL programme offered nationally to school leaders and teachers with a particular focus on affecting equity for the indigenous Māori learners in Aotearoa. The findings support the ways blended PL programmes can effectively offer alternative and multifaced ways for transforming in-service teachers' culturally responsive dispositions and practices. However, a holistic view of teacher PL including the broader levels of support for their successful implementation is needed. Our findings contribute new understandings for practitioners, professional development leaders, policy makers and other scholars concerned with ways for moving forward in similar contexts.

Blended professional learning

Professional learning enhances teachers' professionalism beyond transient or transitory moments (Evans, 2011). High quality PL is essential for teachers to enact shifts in their practice and 'unlearn' beliefs, assumptions, values about teaching, learning and schooling (Kennedy, 2016). Professional learning systems consist of four main elements - the PL programme; teachers who are the learners; the programme facilitator who guides teacher learning; and the context for the PL (Borko, 2004). Desimone's (2009) seminal review extended this to include content, active learning, coherence, duration, and collective participation. Similarly, others have focused on quality of the content, active teacher learning, collaboration, offering coaching and expert support, and the need for feedback and reflection to be of sustained duration drawing from models of effective practice (Darling-Hammond et al., 2017). In short, these studies point to commonly held programme design features of high-quality PL presumed to enhance teacher learning and ultimately student achievements. Some argue for the need to go beyond the design features towards considering theories of action on the issues PL is intended to solve and the facilitation of teacher learning itself (Kennedy, 2016). Kennedy mapped four methods for PL programme facilitation of teacher learning that includes methods based on prescription, strategies, insights, and those, that cover a body of knowledge. Despite a growing corpus of studies into teacher professional learning, nature of effective PL programmes, processes into how teacher change can take place, cumulative evidence also point to the failure of these programmes, particularly, those offered as once-off, piecemeal, one-size-fits-all sessions that fail to account for teacher realities and contexts or are disconnected from their classroom practice (Kennedy, 1999).

Online and blended learning modes of PL offer advantages in the flexibility of choice and time to empower educators to develop new knowledge and skills, within

their own context beyond time and distance constraints of F2F modes in traditional teacher PL approaches (Dede et al., 2016). In this way, teacher learning can be more targeted and relevant as they draw from the expertise of mentors and peers within the programme to collaborate and address real-world issues (Quinn et al., 2019).

Although various definitions exist for blended learning, in this paper, we interpret blended approaches to teacher PL as those that combine F2F learning activities with aspects of online learning activities to support formal in-service teacher learning (Graham, 2021). This includes synchronous and/or asynchronous learning opportunities that can be work-embedded and provide opportunities for teachers who may be reserved in F2F settings to articulate their ideas. Blended PL programmes typically serve a range of objectives such as introducing new curricula; shifting teachers' beliefs; teaching and assessment and transforming school organisational culture (Quinn et al., 2019). Effective blended programmes offer teachers opportunities for thoughtful and sustained engagement in lifelong learning to bring about sustainable and desirable pedagogic change in teacher practice (Darling-Hammond & Richardson, 2009).

Facilitators of blended PL initiatives can adopt a variety of approaches for learners to engage with by leveraging on the affordances of both online and F2F contexts (Stein & Graham, 2020). As the conceptualisation of blended learning evolves, the F2F elements can be extended beyond that of the physical "in-seat" realm to include those experiences in which learning communities interact synchronously online (Renfrow, 2021, p.37). Indeed, blended PL that occurs within supportive PL communities (PLCs) (Moosa et al., 2022) or communities of practice (COPs) (Wenger, 1998) enhance teacher discussions, reflection and shared practice (Charteris et al., 2021). Engaging in a COP reduces teacher isolation and encourage revitalisation and

innovation to trial new ideas and focus on strategies that support learner achievement and outcomes (Katz et al., 2019).

Culturally responsive teachers

Culturally responsive theories are grounded in social justice and equity to promote learner academic success, cultural competence and a critical consciousness that defines a teacher's disposition when working with minority and indigenous learners (Ladson-Billings, 1995). Teachers need to be given opportunities to examine their values, attitudes and beliefs to understand their personal positioning about race, diversity, social justice and power relations, whiteness, privilege and the continuing impact of colonisation in settler economies. Critical consciousness such as this begins by opening hearts and minds to more socially just realities (Gay, 2010).

Although culturally responsive pedagogies (CRP) currently hold cross sector interest, it is understood and defined differently across Aotearoa, and indeed the world. At times it appears that there are as many definitions as there are scholars discussing culturally responsive pedagogy (Berryman et al., 2018; Brown et al., 2021). In Aotearoa, the interpretation of CRP is significantly influenced by the nation's historical narrative, characterised by its colonial past in which Māori and the coloniser first came together.

Our professional learning context: Developing cultural relationships as a basis for responsive pedagogy

Te Tiriti o Waitangi became the founding document between the Indigenous Māori people and the Crown when it was signed in 1840 by tribal chiefs. The relational intent of this document was understood by tribal groups as ōritetanga or mana ōrite. These terms bring responsibilities and expectations to both groups to maintain the mana (a Māori term for ascribed personal power and prestige) of the other and understand the

mana of both as ōrite (alike, similar, identical, or equal). However, the parameters of this relationship have continued to be defined by the power relations set by the coloniser or majority partner, while Māori were compelled to learn the ways of the coloniser through policies of assimilation (Bishop & Glynn, 1999). For Māori, colonisation has continued to perpetuate ongoing inequity across a range of social indices (MOE, 2022a, 2022b; Office of the Auditor General, 2016).

The process of learning to engage within power relations such as these is an iterative process that is less dependent upon the ethnicity of the teacher, and more dependent upon how teachers relate to learners and what teachers do. In seeking to establish relationships for learning, teachers and leaders are continually challenged to become critically conscious about the nature of their relationships. In their efforts to respond to a student's culture, teachers can fall into the trap of essentialisation in which they, as the professional adult, determine what appropriate cultural traits and responses might be, often identifying superficial traits most easily identifiable that made sense to them. This has meant that many efforts to be culturally responsive for Māori have, at best, been understood by Māori students as first steps or, at worse, tokenism (Bishop & Berryman, 2006). Shifting the focus from just being responsive to the culture of others to developing and being part of cultural relationships with others, legitimates the aspects of culture that are less tangible but fundamental to the identity and wellbeing of all people.

From a blended PL aspect, the ability to work within and as a COP allows teachers/ participants to become more attuned and efficient to the process of becoming a culturally responsive pedagogue. This requires caring relationships and connections between respected culturally located individuals at every level of the community of practice. They value and legitimise multiple views of knowledge and ways of knowing

by learning about and through the culture of others (Wenger, 1998). Learning is therefore about becoming more effective in the practices of the community. Educators such as this are more capable of recognising the potential of diverse learners by building on their existing knowledge, understanding and skills. They involve students in the planning and assessment of their learning, using diverse sources of evidence to understand and monitor their strengths and needs for growth. They position themselves as co-learners, actively engaging in critical reflection and iterative evaluation. By drawing from a range of interactions and strategies appropriate to their students, they bridge the gap between home and school, ultimately empowering students to understand and transform their current realities. In Aotearoa, recent education policies and imperatives, promoted to address more equitable learning outcomes for Māori learners have shown little overall improvements (Ministry of Education, 2022; StatsNZ, 2022).

The Poutama Pounamu Blended Learning Programme

Poutama Pounamu are a bicultural group of educational and PL providers established to understand, clarify, and address the imperatives for school reform in Aotearoa. They support educators to first develop and enact cultural relations, by prioritising power-sharing relationships and by respecting the cultural location of individuals as the basis for responsive pedagogy (CRRP). In a commitment to address historical inequities and promote CRRP, the team has developed a blended PL programme that builds from the historical fabric of Aotearoa society. Programme facilitators model cultural relationships as a core context for responsive pedagogy to engage participants effectively. The programme brings together, school leaders and teachers from diverse backgrounds in F2F cohort meetings and online sessions as a community of practice learning together over a year. The programme's design intentionally creates the space to support consciousness raising through discussions on racism, colonisation, and Māori

disparity in the current education system (Poutama Pounamu, n.d). Participants engage in critical reflections on power, privilege, and equity in education, guided by both theoretical insights and practical experiences. The programme invites participants' school leader participation and offer participants a pathway towards postgraduate accreditation. The contexts of this programme were considered when conducting the literature review in order that relevant and appropriate empirical studies are identified to inform, guide and extend the programme's effectiveness for teacher professional learning.

Methodology and Methods

The following research question guided the systematic literature review:

1. *What are the characteristics of effective blended professional learning programmes with a communities of practice orientation?*
2. *How can these characteristics provide the optimal conditions to support teachers to become culturally responsive pedagogues?*

Systematic literature reviews synthesise a body of literature to identify and retrieve evidence that is relevant to a particular question or questions and to appraise and synthesise the results of this search to inform practice, policy and/or further research (Munn et al., 2018). Pre-defined systematic processes are followed to reduce bias and produce reliable and meaningful findings, from which conclusions can be drawn and decisions made. The following four steps guided our review process: Identification of search terms; screening for relevant articles; eligibility for selection, and, inclusion.

Identification

The initial step identified a set of keywords as search terms. Peer reviewed articles were identified from the University of Waikato library catalogue which drew from 272 databases such as ProQuest Central, Scopus and so forth.

We undertook the following steps:

(1) identified initial key terms by scoping contemporary influential literature and key texts in the field to generate an expanded list of keywords.
(2) trialled combinations of keywords into search strings using Boolean operators (AND, OR, NOT) to refine a search by broadening and narrowing search results, and,
(3) reviewed the results of the different search strings to identify relevant search string(s).

Table 1 indicates the final overall keyword searches identified and the possible combinations of search strings according to the mode of PL delivery, the context in which PL occurred and the PL content focus suited to our context.

Table 1. Keyword searches and combinations of search strings

Mode of delivery		**Context**		**Content**
Blended Online Mixed-mode Dual delivery Hybrid Virtual Networked	Learning Training Design* Practice Development	Teacher Educator In-service Inservice	Professional Learning Professional Training Professional competence Professional communities of practice Professional learning communities Professional identit*	Cultural competenc* Cultural *ability Culturally responsive pedagog* Bicultural *apability Bicultural competenc* Te Tiriti o Waitangi Decolonis* New Zealand Aotearoa

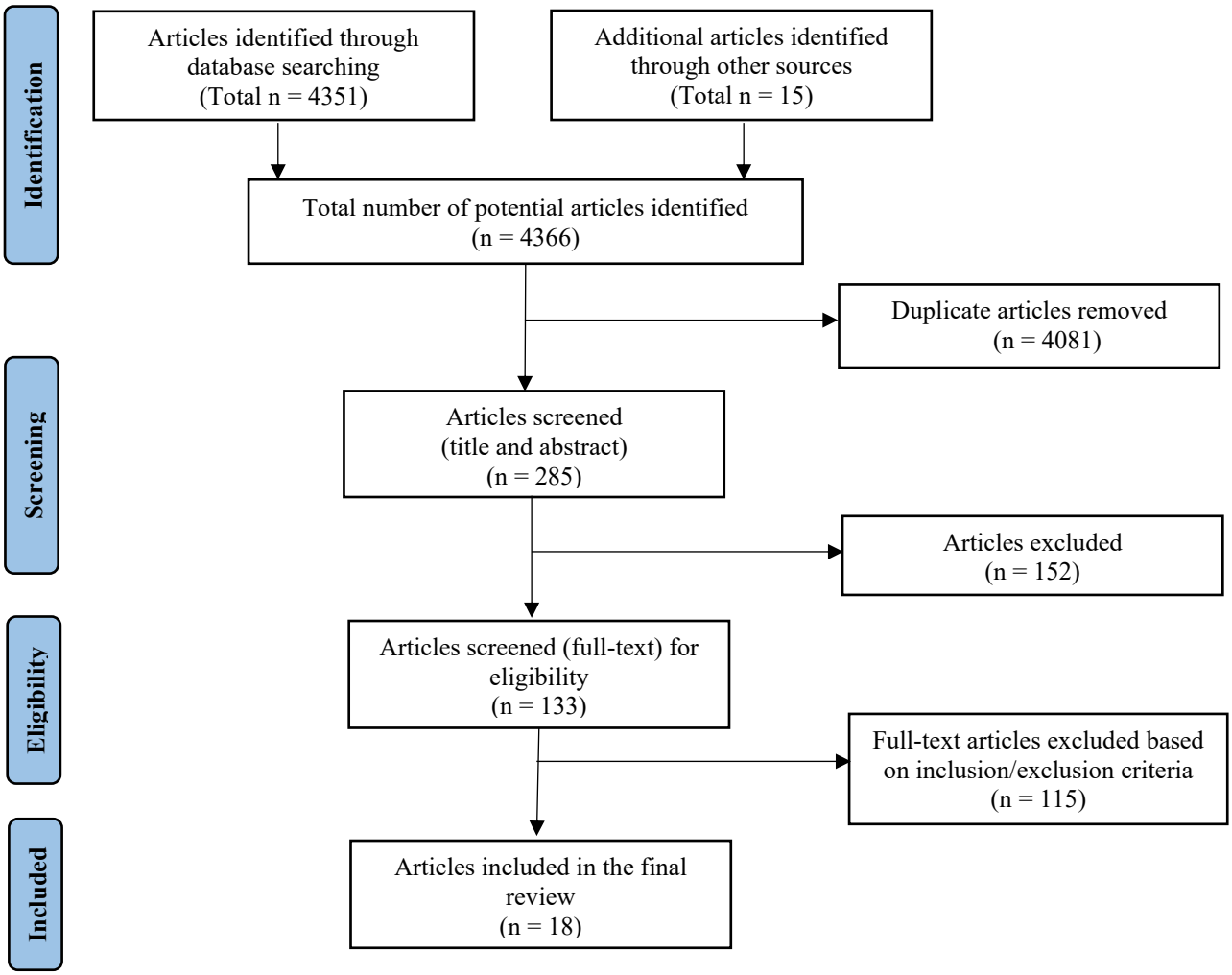
Note: The use of '*' in the search catalogue enabled different expressions of a term to be searched (e.g., 'design*' will yield searches related to 'designs', 'designed', 'designing' and so forth).

The following search parameters were applied directly through the databases or applied through screening processes as relevant: Peer-reviewed journal articles with full text available online in English; published between 2017-2022.

Screening for relevant articles

The initial search strategy identified 4351 potential articles (see Figure 1). Additional literature was scanned from journals with explicit reference to teacher PL to yield potentially relevant studies that may be excluded/missed from the database searches and enhance the main search's reliability (Arksey & O'Malley, 2005). Fifteen potential articles were sourced through this process. From the total number of potential articles, duplicates were removed (n= 4081) leaving a total of 285 articles.

Figure 1. Overview of the search and screening process



Eligibility for selection

The titles and abstracts of the identified articles were scanned to determine if they met the inclusion criteria aligned with the research question and context. The criteria considered the population studied, study interventions, study design, and learning outcomes described in the identified articles (see Table 2).

Table 2. Inclusion and exclusion criteria for eligibility selection of articles

	Included	**Excluded**
Population/Sector	In-service school teachers/educators and leaders (ECE, primary, secondary).	Pre-service teachers.

		Tertiary educators / Higher Education faculty development. Professional development of PL facilitators.
Study interventions	Focus on formally organised professional development or PL programmes. Exploratory studies and literature review of studies included. Blended PL programmes with specific features that promote successful teaching-learning outcomes. Longitudinal (conducted over time).	Once-off of or a short series of workshops. Fully self-paced online professional development/PL. University run programmes with courses for teacher postgraduate qualification. Informal initiatives by teachers or organisations to form professional groups for ongoing learning and development purposes (e.g., professional learning networks). Research methodologies for evaluating online teacher PL. Teacher practice that is not part of a formally organised PL programme.
Study design	Qualitative, quantitative, mixed-methods. Literature reviews. Meta-analyses of studies. Proposal of new evidence-based frameworks and models.	Self-studies. Thought pieces/ Opinion.
Study setting	Blended, virtual, hybrid, networked, online learning settings.	Teacher/educator PL in F2F settings.
Outcome	Studies reporting on effective, high quality, well-designed blended PL programmes to improve teacher/educator professional learning and/or student learning.	Studies supporting the professional learning and learning outcomes of non-teacher participants.

	Studies featuring effective, high quality, well-designed blended PL programmes for teachers/educators to enhance CRP pedagogies.

Altogether 133 articles met the inclusion criteria for further analysis. An online Bibliographic manager - Zotero - was used to collate the article references together with a shared group folder and spreadsheet to track the search process and downloaded articles for the project.

Studies included for data extraction and synthesis

A close reading of the 133 full-text articles ensued with a final corpus of 18 articles identified to be relevant to addressing the research question (see Appendix 1). We developed a structural coding sheet in a shared spreadsheet to extract key features of each article. These included the authors; year; research questions/aim; theoretical framing; countries; study design; PL intervention length; PL activities; and an overview of key findings. An inductive thematic analysis conducted to code, organise and summarise the key ideas and conclusions within each article and across the 18 articles (Braun & Clarke, 2019). The overall analysis revealed nine emerging themes that characterise the nature of effective blended PL programmes. Further thematic analysis was conducted on the emerging themes to identify the conditions necessary for implementing these characteristics within our professional learning context.

Findings

We first report on the themes emerging from the analysed studies followed by the conditions supporting their effective blended PL implementation.

Overview of the studies included in the literature review

Most studies were published from Australia (5 studies) and the USA (4 studies) with one study from New Zealand (Owen, 2017), Indonesia, Italy, Taiwan, South Africa and Saudi Arabia respectively. There were no studies addressing blended PL for culturally responsive praxis in New Zealand. Only one study identified teacher attitudes and beliefs about culturally relevant and culturally responsive teaching (USA context) (Brown et al., 2021).

Addressing Research Question 1: Characteristics of effective blended professional learning programmes

Nine themes emerged to characterise effective blended PL programmes. These consider promoting teacher learning through active engagement and reflective practice (mentioned in all studies), learning collaboration/community, developing trusting relationships and collegiality, engaging in sustained learning, maximising the affordances of the F2F and online environments, developing relevant PL activities for classroom practice, involving school leader participation in the programme, allowing for programme flexibility to meet teacher needs, and finally, considering the PL facilitator role and facilitation process (see Appendix 2 for details).

Theme 1: Active engagement and reflection

All studies stressed active learning as a catalyst for transformative changes in teacher professional identities. Active learning involves iterative processes of trialling, reflecting, and refining new knowledge, skills, and values for integration into practice (Anderson et al., 2018) to prompt reflection, challenge existing theories, and encourage experimentation in practice to empower teacher innovations, address personal biases and foster adaptive, future-focused skills (Quinn et al., 2022). Strategies such as collaborative planning, peer discussions (Biasutti et al., 2019), action learning projects

(Charteris et al., 2021), digital artefact creation, social media engagement, and online coaching (Batchelor, 2020) contribute to transformations in pedagogical content knowledge, planning, beliefs, confidence (Peden et al., 2021), assessment practices (Alzayed & Alabdulkareem, 2021), and regulatory abilities (Batchelor, 2020). Ultimately, teachers broadened their perspectives, enhanced respect for learners, and learnt to recognise the potential of all students in the classroom.

Theme 2: Collaboration/community

Effective blended PL programmes establish teacher collaboration from the onset through a community of learners with peers who share common roles or interests; enhancing the social dimension of PL through one-to-one, pair work, or small groups (Alzayed & Alabdulkareem, 2021). Common frameworks guiding collaborative endeavours include COPs or learning communities (Batchelor, 2020), community of inquiry (Alzayed & Alabdulkareem, 2021), PLCs (Widodo & Allamnakhrah, 2020), or dialogue and inquiry discussion groups.

Effective collaborative processes include online peer mentoring and coaching (Kenny et al., 2020), joint teacher collaboration and reflections during workshops, and peer-reviewed assessments (Quinn et al., 2022) to combat isolation (Charteris et al., 2021), share resources, challenges, learning goals, and peer feedback to deepen their learning experiences (Dille & Røkenes, 2021). Specific to CRP, as teachers consider their practice through sharing and collaborating about their student needs, they begin to develop more responsive and relevant dispositions and practices tailored to their immediate students in the classroom (Brown et al., 2021).

Theme 3: Trusting relationships and collegiality

Strong social connections between members of a COP is a key indicator of a robust and vibrant blended PL programme. They are premised on trusting relationships between teachers and facilitators and amongst peers to effect successful teacher learning and change (Owen, 2017). Relationships provide teachers with emotional support to develop a sense of collegiality and mutual engagement to share reflections and expertise and enhance feelings of harmony supportive of their learning by encouraging them to be more honest and clearer during dialogue when addressing real-world problems in their contexts (Katz et al., 2019). This process requires time and social engineering which is best initiated in F2F contexts followed by online activities (Leibel et al., 2021), forums and video conferencing to sustain a sense of community between participants (Quinn et al., 2022).

The PL facilitator's role is essential to nurturing trusting relationships, emotional support and mentoring as the community matures through shared histories to address teacher learning and challenges (Alzayed & Alabdulkareem, 2021). Specific to learning about CRP, their role in fostering an environment of openness, empathy, and mutual respect provides a valuable practice model for teachers to authentically engage in cultural perspectives and develop the dispositions to navigate the complexities of cultural diversity (Brown et al., 2021).

Theme 4: Sustained learning

Sustained support for teacher learning needs to occur throughout the programme and across different modes (online and F2F activities) through network groups, digital scaffolding, onsite and online mentoring and reflection (Anderson et al., 2018). Sustained guidance empowers teachers to grow (Brown et al., 2021), become reflective (Widodo & Allamnakhrah, 2020), and self-regulated (Batchelor, 2020). The

duration of sustained teacher learning must be well-structured and purposefully directed, considering their workload (Alzayed & Alabadulkareem, 2021). Sustainability of the programme is enhanced through growing teacher participants as leaders (Quinn et al., 2019), establishing a core group of teachers as local leaders (Peden et al., 2021), giving collegial feedback on practice (Biasutti et al., 2019), providing coaching (Charteris et al., 2021), and, disseminating their knowledge and skills beyond the programme (Philipsen et al., 2019).

Theme 5: Maximising the affordances of blended modes of learning

Maximising the affordances of F2F and online modes of learning in blended PL programmes involves the thoughtful design of both modes of learning to support diverse PL activities (Chien, 2022). F2F contexts are typically used to initiate relationship building followed by asynchronous forms of communicating and collaborating. Online activities can draw from online repositories/modules, asynchronous forums, social media discussions, mobile chat groups and synchronous interactions to support relationships and communication (Peden et al., 2021). Others have suggested that more immersive approaches such as virtual worlds can be leveraged to enhance teacher learning experience and practice (Quinn et al., 2019).

Theme 6: Relevance

Effective blended PL experiences align PL goals with teachers' motivations and needs, interests, and unique contexts through integrating meaningful examples for teachers to evaluate and improve practice (Dille & Røkenes), authentic learning experiences to connect theory to practise (Chien, 2022), and relevant current topics to promote interest and engagement (Leibel et al., 2021). Acknowledging teachers' prior knowledge and agency to shape more targetted PL goals in the design, delivery, and evaluation

promotes more personalised, relevant learning and professional growth (Quinn et al., 2019). Relevance further extends to matching PL with teachers' experience, strengths, career stage, and professional requirements (Biasutti et al., 2019).

Theme 7: School leader participation and school culture

Effective blended PL programmes invite participation from teachers' school leaders (Anderson et al., 2018). Engaged school leadership supports teachers, foster trust, motivate and guide, encourage change of practice for teachers to work towards common goals (Peden et al., 2021). Clear connections must be made, however, between the goals and learning outcomes of the blended programme and the culture and priorities of schools to ensure the programme meets the needs of both individual teacher participants and school communities (Quinn et al., 2019, 2022). The wider socio-political policy context (compliance, registration, curriculum, government priorities, infrastructure) can impinge on teacher PL (Owen, 2017).

Theme 8: Flexibility

A flexible programme design accommodates teacher needs, interests, and self-directed goals for learning (Dille & Røkenes, 2021). This can be a structured PL framework while allowing for differing teacher skill levels and interest (Leibel et al., 2021) or choice of content and activities, pedagogy, tools and services (Alzayed & Alabdulkareem, 2021). Noteworthy strategies include just-in-time facilitator availability for teachers to solve problems as they arise (Leibel et al., 2021), self-pacing (Chien, 2022), balancing workload and time management (Biasutti et al., 2019).

Theme 9: Facilitator role and facilitation

PL facilitators manage, encourage and bring teachers together as a COP to support higher levels of learning. Effective facilitators are skilled listeners who provide learning

resources and are confident in the ability of participants to learn and participate in setting expectations. They establish safe and supportive learning environments, foster meaningful and trusting relationships, lead professional discussions, and guide changes in practice (Batchelor, 2020). Additionally, they mentor both new and experienced teachers and serve as practice role models (Leibel et al., 2021). Specific to teachers developing CRP, facilitators can provide individual coaching and classroom observations to discuss curriculum development, instructional planning, and implementation of culturally valued practices. Their feedback to individual teacher needs is invaluable for developing culturally relevant dispositions and practices (Brown et al., 2021).

Addressing Research Question 2: Conditions supporting teachers to become culturally responsive pedagogues

Three additional conditions are needed for blended PL programmes to be implemented successfully in support of teachers becoming culturally responsive pedagogues. These exist at the individual, group and organisational levels (see Table 3).

Table 3. Individual, group and organisation considerations in blended professional learning programmes: Conditions supporting teachers to become culturally responsive pedagogues

Level	Factors
Individual level	Teacher willingness to reflect on own beliefs and embrace new practices (change in teacher identity) Teacher willingness to engage cognitively and emotionally Teacher internal factors/personal dimensions (own interests, needs, attitudes, identity, experiences, personal life, goals/aspirations, philosophies, knowledge, skills, wellbeing) Fear of losing face in front of peers Technological fears Misconception about online being passive, impersonal, delayed in communication Teacher commitment, availability, time investment Affective factors - ability to express empathy, emotional support and fellowship
Group level	Blended PL environments need to promote COP, enhance social dimension for team interaction & collaboration Important to foster communication practices to build trust and confidence between participants/ sense of belonging to the community. Allow for time for the group to come together.
Organisation level	The logistics of planning, conduct and management of the PL programme Technical support for participants Inclusion of schools and school leaders Training of PL facilitators Ongoing evaluation of the PL programme Accreditation and sustaining the programme beyond each cohort of participants

Individual level

Individual teacher factors play a role in shaping the success of blended PL environments. For example, teacher willingness to engage cognitively and emotionally with PL activities, reflecting on their beliefs and biases and embracing change in their professional identity impact heavily on their participation (Leibel et al., 2021). Teacher

attitudes toward blended learning modes and emotional barriers can hinder their participation (Dille & Røkenes, 2021; Katz et al., 2019). Teachers' personal aspirations, including identity, life experiences, and commitments are also crucial considerations for PL providers (Dille & Røkenes, 2021; Owen, 2017). Additional factors such as teacher commitment and time invested in the programme add to the complexity of facilitating effective teacher participation and learning (Anderson et al., 2018; Chien, 2022). These insights highlight the multifaced nature of individual teacher level factors, such as teacher readiness, motivation, and willingness to participate in blended PL, in shaping the conditions for implementing effective blended PL.

Group Level

At the group level, effective blended PL is based on cultivating collaborative COPs for its supportive social dimension to nurture a culture of respect and camaraderie (Peden et al., 2021). Combining F2F and online technologies thoughtfully can facilitate communication and trust-building, fostering a sense of belonging within COPs (Kenny et al., 2020). Enabling conditions such as protocols to support strategic communication practices that promote group respect, mutual support, and shared goals for enhancing teaching and learning as well as dedicated time for social cohesion and relationship building are therefore vital (Alzayed & Alabdulkareem, 2021).

Organisational level

At the organisational level, the planning, management, and logistics for conducting PL including sustainability for teacher development are considered. Conditions supporting this level emphasise the need for clear policies, integrated resources, and well-defined reporting structures to ensure the successful design and implementation of PL initiatives (Anderson et al., 2018). Attention to factors such as programme duration, structure,

workload, and timing of F2F interactions is crucial for fostering engagement and reflective practice among participants (Biasutti et al., 2019). Addressing technological challenges and providing robust technical infrastructure is further needed to ensure participants' seamless technology integration (Charteris et al., 2021). PL facilitators also need to be supported to recognise their roles as change agents and practice the necessary skills to directly impact teacher and student learning outcomes (Leibel et al., 2021). Regular evaluations of programme approaches are included at this level to deepen understandings of teacher learning process (Dille & Røkenes, 2021). Additionally, accreditation as part of /beyond PL completion can foster programme sustainability (Batchelor, 2020) by empowering graduates to serve as ambassadors, mentors, or facilitators (Kenny et al., 2020), and disseminate newly acquired knowledge, skills to colleagues (Philipsen et al., 2019).

Discussion

Our systematic literature review examines effective blended PL within the context of COPs for transforming teachers' culturally responsive dispositions and practices. Our findings offer insights into the way blended PL programmes can offer alternative and multifaceted ways to affect changes in teacher personal positioning cultural praxis through collaborative and active inquiries over a sustained period when implemented with teachers' interests, learning goals and contextual needs in mind. The nine themes highlight a range of PL strategies - active engagement and reflection, collaborative and collective participation within a collegial community, developing social and trusting relationships, and sustained learning over time. Ensuring PL goals are relevant, cognisance of the blended nature of programmes to maximise the affordances of online and F2F modes of learning, inviting school leadership support, promoting flexibility to

meet learning needs and emphasising the roles of PL facilitators as change agents are added features of effective programmes.

Taken together these themes lead to a richer PL experience for teachers. They cohere with the empirical evidence for effective PL programmes in F2F contexts. For example, teacher active learning and agency in shaping their PL to bring about changes in professional identity is widely recognised as a crux of PL programmes (Borko, 2004), as are collaboration and relational aspects (Darling-Hammond et al., 2017).

However, these nine characteristics do not occur in a vacuum. Our additional analysis indicates three overall conditions that mutually impact on their implementation at the individual, group and organisation level. Individual conditions have individual teacher internal factors, learning needs, goals, motivations, capacities, readiness and concerns for participating in PL as a foci. Group level conditions value the creation of social cohesion through teachers coming together to work in collaborative inquiries within COPs utilising the dynamics of the group to foster deep and insightful learning. While at the organisational level, considerations are given to the planning, management, operational and ongoing refinements in conducting, improving, and sustaining blended PL programmes. These three conditions have further empirical support (e.g., see Borko, 2004; Kennedy, 2016). They attend to individual teacher and the wider external conditions at the group and organisation level impinging on teacher learning. Each of these levels impact one another to mutually influence the offering of a programme and ultimately teacher participation in learning.

Implications for our professional learning context

The transition from teachers merely being responsive to others' cultures to actively engaging in cultural relationships validates fundamental aspects of learner identity and well-being promoting more inclusive and responsive educational practices. This

repositions teachers towards a pedagogical cultural identity related to ‘who’ and ‘how’ they are enacting cultural responsiveness centered on affirming and prioritising marginalised students (Burgess, 2019). Our research highlights the significance of blended PL features supportive of this reconceptualisation such as establishing trusting relationships, engaging in collaborative participation with community peers, receiving support from school leadership and sustaining learning over time to facilitate meaningful reflective engagement with content and practices. They further support current established practices in the [NAME] blended PL programme while offering insights for refinement.

Our findings have the following implications for PL policies and providers. Noteworthy in a blended PL context is for attention given to leveraging the unique affordances of both F2F and online modes such that each is strategically integrated to achieve PL goals. Blended PL at their core are concerned with teacher professional learning. The adoption of online technologies ought not to distract from this focus. However, the affordances of these technologies do offer new and different ways that can extend and transform teacher learning (Dede et al., 2016). They address time and distance constraints and minimise piecemeal activities or disconnected experiences (Tualaulelei & Halse, 2021). Asynchronous interactions in online modes of communication, for example, allow for increased opportunities for teacher interaction, feedback and deep learning including time for thinking ‘offline’ and reflection while allowing teachers greater flexibility to work at their own pace to spend more time on areas of interests (Stein & Graham, 2020).

The sustained nature of teacher PL needs further mention. Prioritising time for the emotional work required in teacher learning for fostering CRRP is invaluable (Berryman, 2022) as teachers scrutinise their beliefs of racism, biases, and views

towards working with minority learners. Attending to individual level factors, for example, teacher self-efficacy and beliefs about their students are influential in teacher willingness to examine their beliefs and values regarding racism and culture (Berryman et al., 2015; Tualaulelei & Halse, 2021). Such experiences can be confronting, and teachers need the time to foster the necessary dispositions and adjust their practice where necessary to serve all students' learning. PL policies and providers targeting individual level teacher factors can go some way towards addressing these learning needs.

A blended PL programme's intensity including duration is less effective, however, if they rely only on prescriptive methods of learning. Kennedy (2016) argues for methods that are insights-based addressing teachers' in-the-moment decisions to change how they interpret and respond to classroom situations. In relation to our context on developing CRRP, our findings suggest methods such as regular individual coaching (online or F2F), observation and feedback on practice and self-reflection to be important processes for teacher critical consciousness and growth (Brown et al., 2021). These contribute insights for teachers to develop a relational stance that is respectful of diversity and, foundational to responsive pedagogy, dialogue that legitimises their students' varied ways of knowing, being and learning.

The PL facilitator role is essential in laying the foundations for developing trusting relationships. Indeed, skilled facilitators recognise and foster the evolving stages of community development and role model dispositions of care and engagement, position participants as co-learners and offer feedback to practices across online and F2F modes. This reciprocal process empowers teachers to not only learn about cultural relationships in responding to the culture *of* others but also as active participants being part of cultural relationships *with* others; developing dispositions and skills crucial for

disrupting traditional power relationships and promoting equitable outcomes for minority learners. Clear group and organisational policies that support ongoing upskilling of PL facilitators, prioritise contextual sensitivity by having clear role definitions, and guidelines for establishing safe and conducive learning environments are needed to promote trust and participation.

At the broader level, comprehensive policy guidelines targetting, for example, involvement of school leadership and providing teachers with further accreditation options can sustain the PL initiative. This ensures teachers' PL journey has collective support from their peers, colleagues, school leaders to contribute to the effectiveness of their work in schools and education reforms within the broader educational socio-political context (Owen, 2017).

Overall, a holistic view of blended PL, encompassing levels of support at the individual, group and organisational levels to recognise the multifaceted nature of teacher learning are needed if teachers are to develop relational and culturally responsive dispositions, positioning and practices for enhancing indigenous and all student learning.

Limitations

Our study is limited to English-language journal articles published between 2017 and 2022 applying specific search and eligibility criteria with regards to our context of a national blended PL programme supporting CRRP to disrupt the disparities due to the colonial education system imposed on Māori in Aotearoa. Despite this nuanced focus, the general findings can inform blended PL in other countries that are undergoing similar educational reforms. We have systematically detailed our methodology, findings, and discussions, as a basis for future researchers to build on.

No studies have been published examining the Aotearoa blended PL context except for Owen's (2017) study, necessitating further research to develop a corpus of understanding. Future studies could scope the different skill sets teachers need to navigate discipline-specific culturally responsive teaching (Aronson & Laughter, 2016; Brown & Crippen, 2016; Montgomery & Rubin, 2022). Future investigations could also consider broader reviews covering diverse or grey literature to enhance further insights. Expanding the literature reviews to include pre-2017 studies, longitudinal analyses, or long-term PL programmes could also be valuable to understand nuanced effects not evident in smaller-scale studies.

Conclusion

Blended PL programmes empower and enable teachers the flexibility to learn and remain connected and relevant in their current work contexts. They are becoming the norm to alternative forms of traditional F2F PLD in the post-pandemic COVID-19 era. This requires teachers, school leaders, policy makers, ministry officials, and PL providers to be cognisant of insights from current evidence-based PL to maximise teacher learning and ultimately minority and all students' learning outcomes. Our findings draw attention to the multifaced nature of teacher learning and the mutual shaping of individual, group and organisational levels of PL that go beyond just the specifics of the immediate blended programme's structure, activities and online tools. Our study contributes towards strengthening the transformative learning and development for future teachers and leaders to ensure more equitable inclusive and quality teaching and learning practice (UN SDG 4 goal, United Nations, 2020). Indigenous Māori population face similar challenges to other indigenous peoples in other colonised countries. Our study findings and implications can inform PL for

teachers in other similar settings and is one way towards understanding how power relations can be used to promote inclusion to better engage all learners.

Disclosure statement

The authors report there are no competing interests to declare.

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Appendices.

Appendix 1. Final corpus of articles

Author and reference (n=18)
Anderson, R. K., Boaler, J., & Dieckmann, J. A. (2018). Achieving Elusive Teacher Change through Challenging Myths about Learning: A Blended Approach. *Education Sciences, 8*(3). https://doi.org/10.3390/educsci8030098
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Appendix 2. Emerging themes on characteristics of effective blended teacher professional learning programmes

Characteristics	Studies	Description	Studies
Active engagement	18	PL activities/programme premised on teacher active engagement in learning: • active learning strategies • consider nature of active learning tasks • teacher reflection • inquiry into own practice Teacher change in identity Improved student learning outcomes	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021) Charteris et al. (2021) Chien (2022) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Leibel et al. (2021) Owen (2017) Peden et al. (2021) Philipsen et al. (2019) Quinn et al. (2019) Quinn et al. (2022) Surrette & Johnson (2015) Widodo & Allamnakhrah (2020)
Collaboration/ community	17	Teachers working in groups/ building a community of learners/learning together through COPs, COI, PLCs • enhance the social dimension of online activities • share ideas and resources • enable collaborative learning and dialogue A variety of activities can be implemented Teacher groupings by disciplinary subject or interdisciplinary subject or within and across schools	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021). Charteris et al. (2021) Chien (2022) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Owen (2017) Peden et al. (2021) Philipsen et al. (2019) Quinn et al. (2019) Quinn et al. (2022) Surrette & Johnson (2015) Widodo & Allamnakhrah (2020)

Relationships/ Collegiality	16	Quality of social cohesion integral to vibrancy of a teacher COP with specific reference to developing trusting relationships. Many benefits to teacher learning such as collegiality, emotional support, collaboration, communication, respect, honesty, feelings of harmony. Takes time, not to be underestimated. Values-based, people driven, growth for all participants. Sense of community can be supported through thoughtful use of technologies.	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021) Charteris et al. (2021) Chien (2022) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Leibel et al. (2021) Owen (2017) Peden et al. (2021) Quinn et al. (2019) Quinn et al. (2022) Surrette & Johnson (2015)
Sustained nature of PL	16	Ongoing and prolonged teacher learning over time Takes place in both F2F and online modes Must be well-structured and purposeful Sustainability of blended PL programmes through growing teachers as leaders including beyond the programme	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021) Charteris et al. (2021) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Leibel et al. (2021) Owen (2017) Peden et al. (2021) Philipsen et al. (2019) Quinn et al. (2019) Quinn et al. (2022) Widodo & Allamnakhrah (2020)

Maximising affordances	15	Incorporate a variety of PL activities that maximise the affordance of online and F2F • complexity of online and F2F environments • need thoughtful consideration Use digital technologies to enrich collaboration and learning Maximise the use of evolving and new technologies • consider immersive approaches	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021) Chien (2022) Charteris et al. (2021) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Leibel et al. (2021) Peden et al. (2021) Quinn et al. (2019) Quinn et al. (2022) Widodo & Allamnakhrah (2020)
Relevance	14	Clear goals and relevance of PL. Use of authentic problems/real-world tasks. Connect theory to practice. Tap into teachers' prior knowledge and enable their agency.	Alzayed & Alabdulkareem (2021) Anderson et al. (2018) Batchelor (2020) Biasutti et al. (2019) Brown et al. (2021) Charteris et al. (2021) Chien (2022) Dille & Røkenes (2021) Leibel et al. (2021) Owen (2017) Philipsen et al. (2019) Quinn et al. (2019) Quinn et al. (2022) Widodo & Allamnakhrah (2020)
School leader participation and school culture	12	School leaders / school executive/ administrator participation is important. Many benefits to teacher learning and change in practice (e.g., work towards common goals). Coherence needed between individual teacher PL goals, and the culture and priorities of schools	Anderson et al. (2018) Biasutti et al. (2019) Batchelor (2020) Charteris et al. (2021) Dille & Røkenes (2021) Kenny et al. (2020) Leibel et al. (2021) Owen (2017) Peden et al. (2021) Quinn et al. (2019) Quinn et al. (2022) Surrette & Johnson (2015)

		including wider socio-political policy context/ broader educational agenda to reform teaching.	
Flexibility	11	Blended PL programme design that is flexible to accommodate teacher needs, skill levels, interests, and goals for learning. Flexibility can be in terms of choice of content and activities, pedagogy and selection of tools and services to achieve the PL programme's objectives. Timing of PL - when and how it can take place is essential. PL activities need to consider a balance of the teacher's workload and time management.	Alzayed & Alabdulkareem (2021) Batchelor (2020) Biasutti et al. (2019) Chien (2022) Dille & Røkenes (2021) Katz et al. (2019) Kenny et al. (2020) Leibel et al. (2021) Owen (2017) Philipsen et al. (2019) Quinn et al. (2019)
Facilitator role and facilitation process	9	PL facilitators play a vital role. Change agents to promote future teacher leaders. Particular qualities and training needed.	Alzayed & Alabdulkareem (2021) Batchelor (2020) Brown et al. (2021) Chien (2022) Katz et al. (2019) Leibel et al. (2021) Peden et al. (2021) Quinn et al. (2019) Quinn et al. (2022)