REVIEWING FLEXIBLE LEARNING SPACES FOR MĀORI-MEDIUM EDUCATION

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Abstract

Situated within a mainstream primary school in inner-city Auckland, Te Akā Pūkaea accommodates two Māori-medium education pathways: Te Awahou (bilingual) and Te Uru Karaka (total immersion). Te Akā Pūkaea is now in its fifth year of working as a flexible learning space (FLS). With the increasing presence of FLSs in the school landscapes of Aotearoa New Zealand, researchers have begun to explore the significance of spatial design on classroom teaching and learning. The vast majority of this research has been undertaken in English-medium schools, and the participation of Māori voices in the discussion of FLSs over the last 20 years has been minimal at best. Consequently, this article reviews the relevant literature with a focus on the benefits and challenges of FLSs within Māori-medium education settings and contributes another Māori voice to this discussion.

Introduction

In Aotearoa New Zealand, schooling is experiencing a "spatial turn" (Benade, 2019), as more large and open classroom spaces, often called flexible learning spaces (FLSs), are built by the Ministry of Education. At the same time, there has been a momentous "right-shift" (Higgins et al., 2014) towards learning Māori language and culture. The second official acknowledgement and celebration of Matariki this year, including a public holiday, is indicative of the groundswell of interest in the Māori world. These two important educational shifts are being explored in the research project entitled "A Māori Modern Learning Environment:

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Ko Te Akā Pūkaea Kia Ita, Ko Te Akā Pūkaea Kia Eke" (see Lee-Morgan et al., 2022), which this article forms part of.

Background

With a global focus on 21st-century learning, FLSs and innovative learning environments (ILEs) have fast become the norm for schools in Aotearoa. Over the last decade or so, the incorporation of reconfigurable, large, open plan teaching spaces has become standard in many new school builds. The Ministry of Education (2016) describes FLSs as:

> consist[ing] of multiple spaces for many types of individual and group-based teaching and learning practices. These spaces also enhance and enable innovative learning environments, where student-centred learning and collaborative teaching practices are at the core of a school's educational vision. (p. 5)

FLSs, also referred to as modern learning environments and quality learning spaces, not only change the physical environment and its impact on learning and student achievement; they are also precipitating a shift from traditional learning and teaching practices to a more facilitated, co-constructive teaching and learning style (Stewart & Benade, 2020).

While open learning spaces can accommodate a variety of learning activities and allow for flexibility of instruction, there are no consistent findings as to whether open learning spaces influence student achievement or engagement negatively or positively (Wall, 2015). Hattie (2009), for example, concluded that open classroom settings make either little or no substantial difference to student learning outcomes. Hattie (2009) and Wall (2015) both surmise that there is no guarantee that the principles of open learning teaching are present in open space builds, and that teaching practice within these spaces can vary widely in implementation.

With the increasing presence of FLSs in the school landscapes of Aotearoa, researchers have begun to explore the significance of spatial design on classroom teaching and learning. Most of this research has been undertaken in English-medium schools, and the participation of Māori voices in the discussion of FLSs over the last 20 years has been minimal at best. Consequently, this article reviews the literature with a focus on the benefits and challenges of FLSs within Māori-medium education settings and contributes another Māori voice to this discussion.

Methodology

The primary aim of the overarching research project is to investigate the ways that two Māori-medium education pathways—Te Awahou (bilingual) and Te Uru Karaka (total immersion)—work together in the FLS of Te Akā Pūkaea, in order to progress te reo Māori and the aspirations of tamariki and whānau. Situated within a mainstream primary school in inner-city Auckland, Te Akā Pūkaea is now in its fifth year of working as an FLS.

Our key research question asks: How does a Māori modern learning environment (MMLE) successfully facilitate dual Māori-medium (immersion and bilingual) pathways that respond to learner and whānau aspirations in an English-medium primary school? As part of this project, this review of the related literature seeks to improve our understanding of the impact of large, open teaching spaces on teaching and learning, and the benefits, challenges and potential of FLSs for Māori-medium education (MME).

Kaupapa Māori (Bishop & Glynn, 1999; Hutchings & Lee-Morgan, 2016; Nepe, 1991; Pihama et al., 2002; G. H. Smith, 1997; L. T. Smith, 1999) is the primary methodological approach utilised in this review. As Kaupapa Māori theory initially came about to transform educational outcomes for Māori, there is an expectation that research undertaken is both pragmatic and transformative to ensure practical outcomes for Māori (G. H. Smith, 1997; L. T. Smith, 1999). This review also draws from critical theory as an approach that seeks emancipation, liberation and freedom in exploring existing power relations (Freire, 1972; G. H. Smith, 1997). Community-based participatory research (CBPR; Strand et al., 2003) is also drawn on, particularly its principle of self-determination that focuses on research being by, for and with the key communities of interest. Importantly, the methodologies used in this review accentuate transformative praxis as a critical driver of Māori educational success, where Kaupapa Māori and CBPR approaches involve the communities of interest to bring about positive change through creating new knowledge.

This review looks at the key benefits and challenges of FLSs for MMLEs and focuses on existing literature specific to the use of FLS. The purpose of the review is to inform future developments for Te Akā Pūkaea specifically and Māori-medium pathways more generally, so as to share valuable insights for future Māori-medium builds that support broader participation in Māori-medium and kura kaupapa pathways (Ministry of Education, 2022). The review contains a selection of journal

articles, books, reports and theses specific to the development of FLSs over the last 10 years.

Flexible learning spaces: The gap

FLSs have been avidly promoted as providing open space environments to foster skills of collaboration, critical thinking, communication, creativity, problem-solving and digital literacy that are essential to everyday learning (Benade, 2019). Benade (2019) states, "Flexible learning environments encourage and enable teachers to exchange 'front-of-the-room', single teacher presentational approaches for collaborative, dispersed and facilitative styles, often in teams, working with multiple students in shared, common learning spaces" (p. 53). However, with attention and resources often expended on the building of open plan classrooms, there is a "significant silence in the role of space and place in the educational environment" (Fisher, 2021, p. 10).

With a paucity of pedagogical literature informing the development of these new learning space builds, the edited collection *Teacher Transition into Innovative Learning Environments: A Global Perspective* (Imms & Kvan, 2021) gathers together recent research that details what is and is not working with ILEs. This volume is valuable in that it has brought together a global perspective from 25 projects in 15 countries examining best practice in the construction and use of ILEs. The collection offers multiple insights from teaching and design perspectives, from discussion of adapting, collaboration, agency and structural organisation in ILE settings to the design innovation, spatial considerations and possible improvements of these sites.

Nelson and Johnson (2021) suggest that "ILEs hold the capacity to re-conceptualise both the social relationships and spatial arrangements of learning and teaching" (p. 293). While this implies a shift in student–teacher interactions, it also includes interactions between teachers, between teachers and whānau, and between students themselves. Although the emphasis is on the criticality of social relationships as equal and reciprocal with the respectful facilitating of power, the organising and use or occupancy of the learning space is further relevant in terms of how space is negotiated and used (Nelson & Johnson, 2021). Imms and Kvan (2021) stress that a focus on teachers' input in the design and use of space is crucial. While this study provides much-needed insights into ILE, there are significant gaps in its focus, especially with respect to exploring Indigenous experiences and the impact and use of te reo Māori and other Indigenous languages in these spaces.

Māori-medium learning environments

In order to apply a Kaupapa Māori lens and provide context, this section briefly outlines language development in MME with a focus on the way te reo has progressed in these schools. May and Hill (2005) found that Level 1 immersion programmes associated with kura kaupapa Māori and total immersion are the settings that are most likely associated with successful MME. The same research also raised concerns about the ad hoc development of many bilingual units in mainstream schools, citing a lack of appropriate pedagogical understanding, consistency and resources with which to teach te reo Māori (May & Hill, 2005). The report *Tautokona te reo: The Wellbeing of te reo Māori in Kura and Schools* (Hunia et al., 2018) also highlighted the lack of resourcing and professional development for teachers of te reo Māori in MME more generally as a constraint. The lack of te reo Māori relievers in particular further impacts on teachers' access to much-needed professional development.

Despite recommendations from the Waitangi Tribunal for specific targets to retain students and improve the quality of MME, and to bolster whānau confidence in choosing Māori-medium pathways for their tamariki (Hunia et al., 2018), government inaction has created a barrier for whānau to gain access to Māori-medium pathways. While the government had stated a key focus of its Māori language in education strategy was to strengthen and grow the MME sector (Ministry of Education, 2013), their failure to act with expediency inhibited the growth of MME such that it has not been accessible to many whānau (Hunia et al., 2018). Hunia et al. (2018) further report that little research has been done in relation to Māori pedagogy and other education innovations in MME settings. Despite this lack of research and literature, Edmonds (2021) found that the research that has been undertaken indicates that MMLEs are successful learning environments.

In exploring the literature, we are reminded of the struggle that Māori and other Indigenous peoples face in not only creating spaces where culture, language and identity count (Bishop & Glynn, 1999; Nepe, 1991; Pihama et al., 2002; G. H. Smith, 1997; L. T. Smith, 1999), but also in decolonising of educational settings (Hutchings & Lee-Morgan, 2016). This is indicated not only in terms of how speaking te reo Māori was at one time punishable in schools by physical discipline (Awatere, 1984), but also in that speaking Māori became seen as a disadvantage across multiple generations (de Bruin & Mane, 2015; Selby, 1999).

This is further reflected in research undertaken by Hill (2020), who states that the impact of historical assimilationist policies continues to affect the ability of schools to form cohesive programmes that produce highly proficient bilingual students.

In "Bilingual Education in Aotearoa/New Zealand", Hill (2016) highlights that while bilingual education has made a significant contribution to reducing Māori language shift over the last 30 years, it has not significantly improved Māori language regeneration in wider society. Hill's (2016) research highlights that it tends to be only Level 1 programmes (kura kaupapa Māori and Māori immersion) which offer a genuine bilingual learning context. Hill (2016) further contends that although there is an expectation that students who are taught 50% through Māori instruction achieve fluency, students enrolled in Level 2–5 programmes where English is the language of instruction rarely achieve proficiency in te reo Māori. Hill (2016) also notes that Level 1 programmes in English-medium schools that pursue a clear Māori language revitalisation aim by prioritising te reo Māori also view English language instruction as a barrier towards attaining proficiency in te reo. While the teaching space where English is used in these settings is commonly separated from Māori language speaking zones (May & Hill, 2005), concerns for the impact of English on Māori speaking environments is signalled. The matter of how Māori demarcate space in these settings, as with Te Akā Pūkaea, is an important consideration to factor into planning and design to ensure that Māori speaking environments are safeguarded and protected.

With many children and teachers in MME being second language speakers (May & Hill, 2005), the struggle to sustain the language is constant and often relies heavily on the perseverance of the teachers themselves. Although these settings also have expectations that whānau speak Māori at home (King et al., 2017), this is often challenging. May and Hill (2005) found that most children entering MME classrooms are likely to speak English as their first language and Māori as their second language. This was also indicated by Rau (2005, as cited in King et al., 2017), who found that most new entrants to MME had low levels of Māori language proficiency. Though nearly two decades have passed since Rau's study, research in terms of MME students' language proficiency remains sparse. King et al. (2017) found there to be no national database of children's productive language in Māori, with little known about the stages of language development for children in MME. Given what it has taken to forge Māori language educational pathways, the accumulation of these research findings indicates a dire lack of government foresight, planning, commitment and resourcing. As this study is specific to understanding how large, open spaces are used in teaching and learning in Te Akā Pūkaea, a pertinent question emerges: To what extent is te reo Māori valued?

Spatial biculturalism

One explorative pathway into the topic of MME and FLSs is through the notion of "spatial biculturalism" (Stewart & Benade, 2020). Biculturalism in Aotearoa emerged in the 1980s, and signalled a shift from the monocultural colonial mindset embedded in government policy since early settler occupation (Fleras & Maaka, 2005; Walker, 1987). At a national level, this discourse progressed and evolved from a space of celebrating Māoritanga in the 1980s to enacting aspirations of tino rangatiratanga articulated in the Treaty of Waitangi, in the years that followed.

Marae-ā-kura were part of the shared kaupapa Māori agenda (Penetito, 2010) of cultural regeneration and a response to educational policies of assimilation and integration. From the late 1970s, marae were established in schools, usually fought for by key Māori teachers and community leaders, as well as non-Māori allies. By the new millennium, the Ministry of Education reported that there were nearly 100 marae-ā-kura in secondary schools throughout Aotearoa (Lee, 2012), and despite the pressures of the English-medium secondary school on the cultural integrity of marae-ā-kura, many have provided a much-needed safe haven to teach, learn and live *as* Māori at school (Lee, 2012). Demarcating cultural space in the form of a marae, with an often tenuous but relatively significant level of autonomy, can be seen as a call for Māori space with clear cultural boundaries in which te reo, tikanga Māori and te ao Māori are not only normalised but highly valued. The Māori educational push for marae-ā-kura signalled the need for Māori-specific spaces within mainstream/English-medium schooling as part of schools' official responsibility under the Treaty of Waitangi (Lee, 2012).

According to Stewart and Benade (2020), "The idea of bicultural education as a form of social justice can be aligned with the concept of spatial justice to give rise to the novel concept of *spatial biculturalism* in education" (p. 130). The concept of spatial biculturalism draws from Soja's (2010) writing on spatial justice that speaks to "developing a critical spatial perspective and consciousness

as a significant force in shaping social action" (p. 3), where "spatial justice" is a means in which to stimulate or transform "new ways of thinking about and acting to change" (p. 6). Gibson (2011) contends that spatial justice is about people having greater control over how their lives are socially produced and asserts the importance of Soja's work for increasing awareness of how social injustices are created through histories of spatial inequalities. The emphasis is on how the built environment shapes social life (Gibson, 2011). Paradoxically, it is the concepts within the history of geography and the study of landscapes that detail discussions of spatiality and how the built environment is determined. Stewart and Benade (2020) emphasise the importance of "incorporating place-based cultural narratives, culturally responsive pedagogy, and bicultural curriculum into the structures and spatial relationships of the built environment within schools" as a major consideration in build design (p. 130). Stewart and Benade (2020) assert that "the potential of bicultural education remains unrealised" and that "current school building policy in Aotearoa New Zealand presents opportunities to work towards realising the goals of educational biculturalism, as part of Māori political aspirations for Māori futures more generally" (p. 129).

Culturally responsive pedagogies

While reference to "space" is often concerned with physical space, Benade (2015) talks of a focus on "the practice in a space rather than the space itself" (p. 10). In regard to "practice" as it relates to Māori learners, Glynn (2015) argues that "there is still a very great deal of work to be done by educational professionals in the mainstream. In order to increase the academic success of Māori students all educators need to develop and deploy a culturally relevant pedagogy" (p. 111). Glynn (2015) further maintains that "there is a great deal to be done in terms of adopting into mainstream education pedagogical strategies that are consistent with Māori-preferred practices" (p. 105). Māori continue to have relatively limited power to effect cultural change within the mainstream education system, and Glynn (2015) describes this lack of culturally responsive pedagogy as "institutional suppression" (p. 105).

The pedagogical practices of ako (Hemara, 2000; Metge, 2015) and tuakana–teina (Nepe, 1991) are cultural practices commonly associated with Māori-medium and kura kaupapa settings. Hemara (2000) refers to Māori pedagogy as locating the learner and the teacher in the same place;

it is "a reciprocal approach where teachers and learners learn from each other" (p. 40). As illustrated by the teaching and learning that occurs with Te Akā Pūkaea and with Māori-medium settings more generally, the pedagogy of tuakana–teina is commonly used, where older students or students who have acquired a particular level of skill support or scaffold the learning of students that have yet to master the skill to be learnt. This same model is also utilised in team teaching environments, where more experienced teachers support new or less experienced teachers. The ako reciprocal relationship with both parties learning from each other is not explicitly featured in the FLS-related literature we reviewed for this article. Similarly, the inclusion of the Māori concept of whanaungatanga is sparsely mentioned in the literature reviewed, although it is a familiar term in many education settings in Aotearoa. Over the last 20 years or so whanaungatanga has also gained credence as an essential pedagogical practice (Bishop, 2012; Bishop & Glynn, 1999; Rau, 2002), with the dynamics of power shifting to a more even distribution between teachers and students, in which a focus on reciprocal relationships creates the point of difference for successful learning environments. Effective teaching in these settings facilitates the sharing of power and knowledge. Bishop (2012) discusses whanaungatanga as a culturally responsive pedagogy of relations where students participate on their own terms, building agency in their own learning.

One of the few reports that focused on open learning settings inclusive of bilingual pathways found that the biggest impact on student achievement is teacher collaboration (Oliver & Oliver, 2017). This included teachers' sharing the planning, teaching and assessments. Oliver and Oliver (2017) interviewed principals and teachers from two schools, and visited several other schools that had open plan settings. In a survey of 20 students in Years 5 and 6 in one school, responses indicated they enjoyed learning in open plan settings and looked forward to being at school. Students also felt that they benefited from having a variety of teachers. All students reported that they enjoyed the mix of learning styles. While 100% of the students indicated that they enjoyed working independently some of the time, they also felt that working in a group or with another student was helpful, and useful in terms of prompting their ideas. Teachers in these schools felt that ILEs provided greater student agency. Although several older teachers expressed the shift to ILEs was challenging for them, they also observed that

the open space environment worked in the best interests of the students. The study acknowledges that the transition to this style of teaching can be challenging. Another theme highlighted was that teachers needed to be highly organised when teaching in these environments.

Another study of FLSs and Māori-medium pathways was undertaken with a focus on teaching pāngarau in open plan classrooms involving 106 students in total (Haawera & Herewini, 2020). The study draws on two focus group interviews with 15 Year 4–6 students. Though the study signals the importance of teacher–learner relationships to motivate and engage Māori students with learning, students themselves primarily talked about the noise level in open plan classrooms as both challenging and distracting. This required teachers to plan how quiet spaces could be organised away from noisier group activities. While the higher noise levels in open plan settings are a challenge for students with hearing difficulties (Benade, 2019), students with other learning disabilities are also impacted. Notably, Rose-Munro (2021) advocates for the built environment to be fit for purpose with specific attention given to acoustic design to ensure a wholly inclusive setting for learning.

Built environments

Discussion regarding spatial design and the built environment is complex. A simple definition provided by the open space Danish designer Bøjer (2021) is that "space shapes us but we are also affected by the way we interact with and act within the space" (p. 33). In this regard, Kiddle et al. (2018) argue that "place making" might be defined "as spaces that have been created with the people for whom these places hold, or will hold, meaning and connection" (p. 45). With most place-making professionals such as designers, architects and engineers being non-Māori, certain tensions can arise. Positioned as "experts" in their roles, building professionals can come into conflict when trying to integrate Māori concepts into build design (Kiddle et al., 2018). Notably, the ideology of architecture is also commonly located in Western knowledge systems and is associated with affluence, privilege and whiteness, and a space where Indigenous voices can struggle to be heard (Kiddle et al., 2018). In line with such concerns, Stewart and Benade (2020) pose the following questions:

> Do FLS honour the cultural particularities of place? Do they contribute meaningfully to enhance and acknowledge the communities they serve, in ways

that redress past neglect of these communities and their cultural histories? How do schools with Māori identities use FLS to support tikanga Māori, and how can FLS in Māori schools honour the local environment and Indigenous knowledge within education practice? How might the experiences of Māori schools inform learning environment theory and practice more generally? (pp. 130–131)

In this regard, a doctoral study undertaken in Aotearoa called *Innovative Learning Environments as Agents of Change* (Wells, 2018) investigated the establishment of two ILEs, and included interviews with school leaders, teachers, students and architects. The study found two significant barriers were a lack of planning and the involvement of key stakeholders. A disconnect between all concerned parties, including between key Ministry of Education staff, was further noted. This study advances the discussion around ILEs by stressing the importance of whole-community input in the design process. Wells (2018) contends that there are often tensions between architect perceptions and educator perceptions in relation to building design and that largely this is due to teachers not being included at the planning stage.

The report *Modern Learning Environments to Support Priority Learners* (Wall, 2014), prepared for the Ministry of Education, highlighted how the most successful projects were those where architects had actively engaged with teachers, students and whānau. This report is a design guide for schools considering future builds or the reconfiguration of existing buildings with a focus on the physical building design and spaces that support culturally responsive practice. The emphasis should be on creating "spaces and physical artefacts to support language, identity and culture for Māori and Pasifika students" (Wall, 2014, p. 12). Successful projects were ones in which participants were able to describe "how the spaces would feel or function in a particular way, or have a particular wairua" (Ministry of Education, 2014, p. 12). Notably, participants also spoke of the "professional development and learning needed to teach confidently within larger learning spaces" (Ministry of Education, 2014, p. 22). Nelson and Johnson (2021) argue that "implementing ILEs involves more than a simplistic assumption that changes to buildings will shift and support changes to pedagogy" (p. 292). All too often, teachers are unprepared for this transition (Wells, 2018).

In relation to teacher preparedness, the Post-Primary Teachers Association (PPTA, 2017) identified the feelings of uncertainty amongst

teachers about FLSs, emphasising that it would seem that "building structures are determining the direction of pedagogy, rather than the other way around" (p. 6). Its report further raises questions as to how FLSs "impact on learners with diverse learning needs, such as Māori and Pasifika, students who are noise sensitive, hearing impaired, easily distracted or simply introverted" (PPTA, 2017, p. 6). With the paucity of research on FLSs, these questions are left hanging. Consequently, the need to "identify trends in gauging impact of space types on learning" is signalled as an important area for future research (Imms & Fisher, 2021, p. 184).

Conclusion

The aim of this review was to provide insights for Te Akā Pūkāea and to inform Māori-medium settings more generally through exploring the literature specific to FLSs and MMLEs. Our analysis reveals a stark absence of Māori voice. The vast majority of research has been undertaken in English-medium schools, and Māori voices are only minimally represented in the discussion of FLSs over the last 20 years. If we are to understand the importance of our spatial realities in shaping social life as part of the built environment of schools, we must further understand that it is our relationships and the trust built through these relationships that is critical. In Indigenous spaces, pedagogies are bound by people, their relationships, culture, values and practice. As we consider the use of space within MME, te reo Māori, tikanga Māori, mātauranga Māori and ways of doing and being Māori must be positioned always at the forefront of practice. This analysis of the literature also provides various insights relative to the experiences of MMLEs. The relative absence of research in Māori-medium settings highlights the need for more research to better understand how FLSs can be effectively used in these environments, and how these spaces are best positioned to contribute to innovative pedagogies that progress and strengthen te reo Māori pathways.

Acknowledgements

Glossary

ako	teach, learn
Aotearoa	lit. "Land of the Long White Cloud"; Māori name for New Zealand
Kaupapa Māori	Māori approach, Māori-led
kura	school
kura kaupapa Māori	Māori language school, special character school with te reo Māori as the language of instruction
Māoritanga	Māori ways of being
marae	communal open meeting area
marae-ā-kura	school marae
Matariki	Māori name for the cluster of stars also known as the Pleiades; it rises in midwinter, heralding Māori New Year
mātauranga Māori	Māori knowledge
pāngarau	maths (subject)
tamariki	children
Te Akā Pūkāea	lit. "The Trumpet Vine" (*Tecomanthe speciosa*), a native plant; Māori modern learning environment within Newton Primary School
te ao Māori	the Māori world
Te Awahou	lit. "The New Stream"; bilingual te reo Māori and English learning pathway at Te Akā Pūkāea
teina	younger sibling
te reo Māori	the Māori language
te Tiriti o Waitangi	the Treaty of Waitangi
Te Uru Karaka	"Karaka Grove"; total immersion te reo Māori learning pathway at Te Akā Pūkāea
tikanga	cultural protocols
tikanga Māori	Māori cultural protocols
tino rangatiratanga	self-determination
tuakana	older sibling
tuakana–teina	mentorship of a younger sibling by an older one
wairua	spirit

Waitangi	"Crying Waters"; place where te Tiriti o Waitangi was signed in 1840
whānau	family, kinsfolk
whanaungatanga	relationships

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