Research to understand the features of quality Pacific bilingual education: Review of best practices

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Note: Tables updated in May 2020 with updated data, where available
Executive summary

Background

1.1 Educational inequality in Aotearoa New Zealand on the basis of socio-economic class and language background remains persistent and endemic.

1.2 As a consequence, Aotearoa New Zealand has one of the largest ‘home-language gaps’ of any OECD country – that is, the achievement gap between those students whose first language (L1) is the language of the school and those for whom it is not.

1.3 This explains why bilingual students, including Pasifika students, are consistently over-represented in the so-called ‘literacy tail’. New Zealand’s increasing demographic diversity, along with the younger age structure of the Pasifika population, highlight the importance of changing these persistent patterns of educational inequality.

1.4 The current lack of a nationally-coordinated policy supporting Pasifika primary school bilingual educational programs means that the majority of Pasifika students are educated monolingually in English-language classroom settings in Aotearoa New Zealand. These English-language classroom contexts have been consistently found in the international literature to be the least effective in successfully educating bilingual students.

1.5 Expanding the provision of Pasifika bilingual education in New Zealand primary schools is thus a key to improved educational outcomes for Pasifika students. Such improvement could also impact positively on the nation’s GDP.

1.6 In light of this, there are three key reasons to support the expansion of Pasifika bilingual education:

   1.6.1 language revitalisation and maintenance for Pasifika communities
   1.6.2 the bilingual continuum – building on students’ emergent bilingualism
   1.6.3 moving from subtractive to additive bilingual educational approaches.

International and national bilingual research including best practice

2.1 English-only ‘submersion’ approaches are ‘subtractive bilingual’ contexts, which presume that other languages will ‘interfere’ with the learning of English, resulting in ‘cognitive overload’ for students.

2.2 Submersion approaches focus on the acquisition of English via the notion of ‘time on task’ (the more focus on English, the more likely one is to acquire English).

2.3 60 years of research on the relationships between bilingualism, cognition and language learning, however, has shown that submersion education approaches are highly ineffective in educating bilingual students.

2.4 A far more effective model of language learning is underpinned by the principle of ‘linguistic interdependence’. Linguistic Interdependence highlights the interconnectedness of language learning – specifically, how knowledge of one’s first language (L1) supports the development of a second language (L2) or target language.

2.5 Leveraging Linguistic Interdependence effectively for students can only be achieved in ‘additive bilingual’ programs, which specifically value and include all the languages students know, as well as aiming for bilingualism and biliteracy for students by program end.
2.6 Research findings over the last 60 years have demonstrated that bilingual students in additive bilingual contexts have clear and consistent advantages over monolingual speakers in the following key areas: cognitive flexibility, communicative sensitivity, and metalinguistic awareness.

2.7 Additive bilingual programs have been found to be consistently more effective in achieving bilingualism and biliteracy, as well as wider high-level educational achievement, for bilingual students. Such programs include maintenance bilingual (MB) programs, enrichment/heritage bilingual (EH) programs, and dual language (DL) programs.

2.8 In contrast, subtractive bilingual programs are consistently the least effective academically for bilingual students. In effect, the ‘time on task’ principle does not work – hence, the persistence of the so-called ‘literacy tail’ in Aotearoa New Zealand. Along with English-only language submersion programs, these latter programs include English second language (ESL) and transitional bilingual (TB) programs.

Effective features of current Pacific bilingual education in New Zealand

3.1 There is a still relatively limited pool of research that directly addresses Pasifika bilingual education in Aotearoa New Zealand. This research ranges from Spolsky’s initial study into the potential for Samoan bilingual education in the 1980s to more recent case studies of (mainly) Samoan language programs, as well as related studies into the benefits of bilingual programs for Pasifika (and other bilingual) learners.

3.2 However, the research that has been conducted on Pasifika bilingual education in Aotearoa New Zealand thus far is strongly consistent with the wider international research on the benefits of additive bilingual education.

3.3 In addition, there are important generalist professional development resources and frameworks – such as LEAP (Language Enhancing the Achievement of Pasifika) and the Va’atele Framework – that both make specific links to additive bilingualism and language learning for Pasifika bilingual students. These could be leveraged more widely in resource and professional development for teachers.

Implications of the best practice research for policy and practice in Pacific bilingual education in New Zealand and related recommendations

4. In light of the review’s findings, there is an urgent need to develop the following:
   o An overarching policy rationale for Pasifika bilingual education. This should combine a focus on:
      ▪ Pasifika language maintenance/revitalisation
      ▪ The attested academic benefits of Level 1 (80%+) and Level 2 (50%+) bilingual education programs
      ▪ Enhancing the wider social and economic advancement of Pasifika peoples in Aotearoa New Zealand
   o A school-based targeted funding model to directly and immediately support the current New Zealand primary schools with Level 1 and 2 Pasifika bilingual programs.
   o A nationally coordinated, and appropriately funded and resourced, policy approach to Pasifika bilingual education, prioritising the consolidation and expansion of primary Level 1 and 2 bilingual education programs over the next decade.
A range of strong additive Level 1 and 2 Pasifika bilingual approaches/options in primary schools, including maintenance bilingual (MB) programs, enrichment/heritage (EH) programs, and dual language programs.

- Funded specialist bilingual teacher education pathways for Pasifika bilingual education in both initial teacher education and at in-service/postgraduate level.

- Targeted in-service professional development support for teachers in Pasifika bilingual education, as well as updating and expanding existing related research and professional development resources.

- Additional Pasifika language and literacy resources, and related assessment measures, to support the ongoing consolidation and expansion of Level 1 and 2 Pasifika bilingual education programs in primary schools, as well as the expansion of NCEA Pasifika language subjects in secondary schools.

- A related community (and wider public) dissemination strategy on the attested benefits of Pasifika bilingualism and bilingual education, along with the limits of English monolingualism in an increasingly linguistically superdiverse Aotearoa New Zealand.
Background

1.1 Educational inequity in Aotearoa New Zealand

Since its inception in 2000, PISA, the Organisation for Economic Co-operation and Development’s (OECD) Program for International Student Assessment, has consistently identified New Zealand education as a high quality, low equity system. This means that while the majority of New Zealand students perform well with respect to international comparisons, Aotearoa New Zealand has also persistently had one of the largest gaps between our best performing and our poorest performing students. This pattern is evident across all three areas of PISA analysis – reading, science and mathematics, as highlighted in Figure 1 in relation to PISA 2015 science achievement.

Figure 1: Mean performance in science and strength of the socio-economic gradient

Source: OECD (2016)
These PISA results have been corroborated by other, comparable, international evaluation surveys. The latest iteration of the International Association for the Evaluation of Educational Achievement’s (IEA) Progress in International Reading Literacy Study (PIRLS, 2016), for example, identifies Aotearoa New Zealand as having the second largest gap in reading performance at Grade 4 in the OECD (only Malta fares worse). Cumulatively, these international evaluation measures have resulted in Aotearoa New Zealand being ranked 33rd out of 38 OECD countries in terms of educational equality (UNICEF, 2018).

This apparently entrenched pattern of inequality (Bolton, 2017) is strongly linked with socio-economic class and language background, with Māori and Pasifika students, now identified by the Ministry of Education as ‘priority learners’, significantly overrepresented in the poorest performing student cohort – the so-called ‘literacy tail’. The pattern is also closely associated with students’ first language (L1), a characteristic that Wilkinson (1998) identified 20 years ago in relation to New Zealand education as the ‘home-language gap’. Briefly, the home-language gap is the gap between the academic achievement of students whose home or first language (L1) corresponds with that of the school and those students for whom it does not. The latter group, students who speak a home language or L1 other than English, are again consistently overrepresented in the poorest performing student cohort in New Zealand schools (May, 2002; Franken, May, & McComish, 2005; Dix, Cawkwell & Locke, 2012). This latter group comprises many bilingual Pasifika students, particularly those from the Samoan and Tongan communities, given that 60% of these communities still speak their Pasifika language at home (May & Hill, 2018; see 1.2).

These longstanding inequalities in achievement on the basis of socio-economic class and language in New Zealand schools are a significant and ongoing concern for both educational policy and practice – not least because of the significant waste of educational and wider human capital that results. Poor educational performance also inevitably impacts on adult literacy attainment (Ministry of Education, 2001; May, 2002), and subsequent educational and employment trajectories. Māori and Pasifika have lower personal incomes than Pākehā in New Zealand (Statistics New Zealand, 2014). 58% of Māori and 59% of Pasifika have incomes in the lower two income quintiles, compared with 34% for Pākehā, while over a third of these Māori and Pasifika households are in the bottom income quintile (Perry, 2016).

Improving educational outcomes for these students in New Zealand schools is thus an educational and economic priority. A New Zealand Treasury (2013) analysis recently suggested that if student achievement in New Zealand was increased to the level of the highest performing OECD countries, GDP would be 3-15% higher by 2070. However, these ongoing achievement differentials are compounded by current demographic trends which are seeing the rapid diversification of the New Zealand population. The Royal Society of New Zealand (2013) position paper on language policy, for example, highlighted the emergence of linguistic ‘superdiversity’ as a characteristic of New Zealand’s population, with at least 160 languages now spoken in the Auckland region alone. The proportion of multilingual speakers in Aotearoa New Zealand continues to increase from 15.8% in 2001 to 18.6% of the total population in 2013, with over 50% of all multilingual speakers in Auckland (Statistics New Zealand, 2014). Meanwhile, current demographic projections suggest that the Māori, Pasifika and Asian New Zealand population will reach close to 50% of the overall population by 2038 (Statistics New Zealand, 2017; see Figure 2).
Given these wider demographic developments in Aotearoa New Zealand, there is an even greater urgency to address systemically the differential patterns of educational achievement experienced by Māori, Pasifika and other bilingual students in New Zealand schools. One key means by which this can be advanced is via the expansion of bilingual education provision, both within and beyond Māori-medium education. With respect to the latter, this will be explored in what follows in specific relation to Pasifika bilingual education options, although it could, in time, extend potentially to other student groups (e.g. Asian New Zealanders).

1.2 Pasifika, language(s) and bilingual education

The Ministry of Education has used the pan-ethnic term ‘Pasifika’ to refer to those peoples who have migrated from Pacific nations and territories. It also refers to the New Zealand-based (and born) population, who identify as Pasifika, via ancestry or descent (Airini & Mila-Schaaf, with Coxon, Mara, & Sanga, 2010). The key Pasifika communities that constitute this broader grouping include those from the principal Pacific Islands of Samoa, Tonga, Cook Islands, Niue, Tokelau, Tuvalu and Fiji, with growing populations from Kiribati and the Solomon Islands, who have since settled in New Zealand. At the time of the 2018 census, the Pasifika community constituted a significant section of the New Zealand community. After the Pākehā (3,025,587), Māori (777,195), Chinese (242,286) and Indian (225,414) populations, Samoan (184,332), Tongan (83,406), Cook Islands Māori (80,853), English (79,479), and Filipino (73,965) are the largest ethnic groups (Statistics New Zealand 2019). Collectively, Pasifika communities made up 8.93% of the New Zealand population in the 2018 census, up from 7.4% in the 2013 census.

The significance of these Pasifika demographics is further accentuated by the fact that the New Zealand school roll is even more ethnically diverse than the population as a whole. The Educational Review Office (ERO, 2019) highlighted that, as of 2018, 78,630 students identified as Pacific, representing nearly 10%
of the school population compared with the 7.4% who identified as Pasifika in the 2013 census. ERO also note that while the bulk of the Pacific student population is in Auckland, the Pacific student population increased in almost all regions across New Zealand between 2009 and 2018. This could reflect the younger age structure of the Pacific population compared to other (non-Māori) groups.

A downside of the use of the term Pasifika, along with its association with ‘priority learners’, is that it can lead to the homogenisation of the various Pasifika communities, eliding or simply ignoring the often-marked differences within and across these communities. This is clearly evident, for example, in relation to ongoing Pasifika language use. Overall, the 2013 census found that the use of Pasifika languages in Aotearoa New Zealand continues to decline as a general trend. Only 55% identified as being able to speak a Pasifika language, fewer than the previous census in 2006. However, there are significant differences in terms of both the number and percentage of Pasifika language speakers across the various communities. Of the current circa 100,000 speakers of Pasifika languages, the vast majority are Samoan (86,403 – or 2.2% of the total population), with Tongan (31,839 speakers) the next largest group. Cook Islands Māori (8,124) speakers, Fijian (6,273 speakers), Niuean (4,548 speakers), and Tokelauan (2,469 speakers) are much smaller language groups.

A similar pattern emerges in relation to the percentage of L1 language use within each community. The Samoan and Tongan Pasifika communities have the greatest level of Pasifika language retention, with over 60% in each community still able to hold an everyday conversation in their respective Pasifika languages, although high levels of fluency are concentrated in a diminishing number of older speakers. In contrast, other Pasifika groups exhibit far lower Pasifika language retention rates. For example, by the early 2000s, only 28% of the New Zealand Niuean community could still speak Niuean, while for the Cook Islands Māori community, the percentage was even lower, with only 18% still able to speak Cook Islands Māori (Bell, Davis, & Starks, 2000; Davis, Bell, & Starks, 2001).

Table 1: Number of Pacific language speakers in New Zealand

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Number of people identifying with ethnicity</th>
<th>Language spoken</th>
<th>Number of language speakers</th>
<th>% of population speaking language in New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samoa</td>
<td>182,721</td>
<td>gagana Sāmoa</td>
<td>101,937</td>
<td>55.79%</td>
</tr>
<tr>
<td>Tonga</td>
<td>82,389</td>
<td>lea faka Tonga</td>
<td>35,820</td>
<td>43.48%</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>80,532</td>
<td>te reo Māori Kūki 'Āirani</td>
<td>7,833</td>
<td>9.73%</td>
</tr>
<tr>
<td>Niue</td>
<td>30,867</td>
<td>vagahau Niue</td>
<td>4,182</td>
<td>13.55%</td>
</tr>
<tr>
<td>Fiji</td>
<td>19,722</td>
<td>na vosa Vakaviti</td>
<td>7,143</td>
<td>36.22%</td>
</tr>
<tr>
<td>Tokelau</td>
<td>8,676</td>
<td>gagana Tokelau</td>
<td>2,406</td>
<td>27.73%</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>4,653</td>
<td>te gana Tuvalu</td>
<td>2,898</td>
<td>62.28%</td>
</tr>
<tr>
<td>Kiribati</td>
<td>3,225</td>
<td>i-Kiribati</td>
<td>2,196</td>
<td>68.09%</td>
</tr>
<tr>
<td>Tahiti</td>
<td>1,737</td>
<td>reo Tahiti</td>
<td>273</td>
<td>15.72%</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>990</td>
<td>Vanuatu Languages</td>
<td>135</td>
<td>13.64%</td>
</tr>
<tr>
<td>Rotuma</td>
<td>981</td>
<td>Fāeag Rotuma</td>
<td>333</td>
<td>33.94%</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>777</td>
<td>Solomon Island languages</td>
<td>117</td>
<td>15.06%</td>
</tr>
</tbody>
</table>
The reasons for these markedly varying language patterns are likely to be complex. However, there are two key contributory factors that can be readily identified. The first concerns the role of the church, which has been traditionally central for particular Pasifika communities (Dickie, 2010; Spolsky, 1988). However, a more recent trend away from the church has been identified for Pasifika youth, particularly those who are New Zealand born (Wilson, 2017; see also below). Where the role of the church is still central – as it is for New Zealand Samoan and Tongan groups – it provides an important domain for ongoing Pasifika language use. Where it is less central, as is the case for the Cook Islands Māori and Niuean communities, that language domain is not so readily available.

The second reason relates to the percentage of New Zealand-born Pasifika within individual communities. For New Zealand Samoan and Tongan communities, there is a growing percentage of New Zealand born members, but this is counterbalanced by ongoing migration to New Zealand from Samoa and Tonga, and related intergenerational language use. For the Cook Islands Māori, Tokelauan, and Niuean communities, however, the New Zealand-based population now far outnumbers those in their original homelands, with a concomitant shift to English, particularly among younger members (Macpherson, 2004).

Despite these, often marked, variations in Pasifika language use, the link between Pasifika language and identities is still an important one for many Pasifika peoples. Davis et al.’s (2001) study of Pasifika language patterns in South Auckland “emphasised the importance of their language in relation to their identity as members of [particular] Pasifika communities” (p. 12). Likewise, Fetui and Malaki-Williams’ (1996) study on Samoan language use concluded that the maintenance of Samoan is important for “the self-esteem, confidence and identity of Samoan youngsters [in New Zealand], as well as making them appreciative and aware of their cultural heritage” (p. 234).

Key Ministry of Education policies, including the New Zealand Curriculum (NZC) (Ministry of Education, 2007b), and more specifically in relation to Pasifika, the Pasifika Education Plan 2013-2017 (PEP) (Ministry of Education, 2012) and Tapasā (Ministry of Education, 2018) also regularly collocate language, identity and culture as important factors for enhancing Pasifika student success. However, they do so within a culturally responsive educational framework that treats language almost wholly rhetorically. As Major (2018) notes, for example:

*the term bilingualism is not … to be found anywhere in the New Zealand Curriculum (NZC). This seems ironic given that there is a great deal of rhetoric about multiculturalism, diversity and inclusion in the revised NZC, yet the role of language in each of these principles is ignored.* (p. 195)

Similarly, with one limited exception in the Pasifika Education Plan (PEP) (see 2.3.2), none of these major Ministry of Education curriculum and policy documents provides any specific pedagogical strategies and practices that might leverage Pasifika languages in learning (such as bilingual education).

Emphasising the importance of language for identity purposes, as the above Ministry of Education documents rhetorically assert, also does little to address or subvert ongoing negative attitudes towards Pasifika languages in wider New Zealand society. These attitudes are most evident in relation to the regular positioning of Pasifika languages as low status ‘minority’ or ‘community’ languages, and thus of
little ‘value’ or ‘use’ for educational and wider social mobility. The result is a still-widespread presumption in Aotearoa New Zealand – which, of course, is an English-language-dominant country – that maintaining bilingualism in a Pasifika language and English is somehow educationally detrimental. Indeed, such is their pervasiveness that many in the Pasifika communities have come to internalise these negative attitudes towards Pasifika languages (Coxon, Anae, Mara, Wendt-Samu, & Finau, 2002; Fetui & Malaki-Williams 1996; Hunkin-Tuiletufuga, 2001; May & Hill, 2018).

The corresponding attitudes towards the need to speak and learn English, as well as language education policies privileging English-language instruction, are an artefact of the earlier colonisation of Pacific Island nations. In the context of Samoa, for example, Spolsky (1988) notes:

*From general observations, I would say that the balance is still firmly in favour of Samoan language maintenance, but the increasing strength of proficiency in English is also accompanied by some shift towards the language. Education in Apia in particular shows this force, and there are parents who want their children educated only in English; similarly, there are many children in school with weak knowledge of Samoan* (p. 13).

In combination, this preoccupation with English, often at the specific expense of Pasifika language maintenance, perhaps explains the still paltry provision of Pasifika bilingual programs, despite the poor educational achievement that Pasifika students have consistently experienced to date within New Zealand schools (see 1.1). The majority of Pasifika students experience schooling in English-only language environments. This is despite the significant and longstanding research which highlights this ‘submersion’ approach to schooling – where students are ‘submerged’ in English, with little or no recognition of, or recourse to, their first language (L1) – as the *least* effective for bilingual students (see 2).

The few Pasifika bilingual programs that do exist, as with Māori-medium programs, are divided into five immersion levels according to the quantity of target language instruction (see Table 2). However, unlike Māori-medium programs, they do not receive any additional funding and language resources as bilingual schools, or any national policy support. In effect, it is up to individual schools to fund and implement such programs and to resource them accordingly (see 3.1; Amituanai-Toloa, 2005; Amituanai-Toloa & McNaughton, 2008; Aukuso, 2005; McCaffery & Tuafuti, 2003; Spence, 2007; Toloa, McNaughton, & Lai, 2009; see also Chu, Glasgow, Rimoni, Hodis, & Meyer, 2013).

Pasifika bilingual education first appeared in Aotearoa New Zealand in 1987, during the period of the rapid expansion of Māori-medium programs. The first Pasifika primary school bilingual program was a Samoan language program established at Ritimana/Richmond Road Primary School in Auckland (May, 1994). Since then, there has been an expansion of predominantly Samoan language programs, albeit primarily at the preschool level, and again predominantly in Auckland. A majority of the students in these Pasifika preschool programs transition to English-medium education when entering primary school (Ministry of Education, 2018a; ERO, 2019). Consequently, as Tables 2 and 3 outline, there are still relatively few Pasifika bilingual programs at the primary school level. Moreover, of the 98 current programs across all levels of immersion, the majority (53 with 5,321 students) are at Level 5, where a Pasifika language is taught only as a subject. Along with Level 3 and 4 programs, these are not considered as bilingual programs, as they fail to reach the minimum 50% threshold for medium of instruction in the target language (May, Hill, & Tiakiwai, 2004; see 2). This leaves only 23 programs (17 at Level 1 with 587 students and 8 at Level 2 with 993 students) that meet the criteria for effective bilingual programs, although a recent Education Review Office report (ERO, 2019) identified 30, suggesting some
ongoing inconsistency in reporting – most likely, the result of the organic, school-based nature of the current bilingual Pasifika programs.

Table 2: Number of Schools offering a Pacific Language by Immersion Level and Language as at 1 July 2019

<table>
<thead>
<tr>
<th>Highest Level of Learning¹</th>
<th>Samoan</th>
<th>Tongan</th>
<th>Cook Islands Māori</th>
<th>Niuean</th>
<th>Tokelauan</th>
<th>Other</th>
<th>Total¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: 81-100%</td>
<td>14</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Level 2: 51-80%</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Level 3: 31-50%</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Level 4: 12-30%</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Level 5: As a separate subject</td>
<td>41</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>48</td>
</tr>
</tbody>
</table>

Pacific Language in Education: 77 19 5 2 2 6 88

Notes:
1. Where a school offers multiple levels in a particular Pacific language, it is only counted at its highest level.
2. Where a school offers more than one language it has been counted once in each language but only once in total.
3. Level 5: As a separate subject’ for Years 1-8 is for a minimum of 15 hours a year, and Years 9 and above for a minimum of 20 hours a year.

Table 3: Number of students involved in Pacific language in education by immersion level (2015-2019)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: 81-100%</td>
<td>732</td>
<td>513</td>
<td>546</td>
<td>587</td>
<td>559</td>
<td>-173</td>
</tr>
</tbody>
</table>

Number Percentage
These statistics paint a bleak picture – both for ongoing Pasifika language maintenance and for improving the educational achievement of Pasifika students – particularly, as a high percentage of families opt out of bilingual programs when they transition from preschool to primary school (ERO, 2019). The lack of Level 1 and 2 programs across the range of Pasifika languages, other than Samoan, is also an issue. This is compounded by the fact that there are only three Pasifika languages listed on the NZQA website as having assessable unit standards at NCEA levels 1-3, which are Samoan, Tongan and Cook Island Māori (New Zealand Qualifications Authority, n.d.). This means that Pasifika communities will need to increasingly rely on their homes and families to maintain their languages (although see 1.3.1 about the potential limits of this approach).

As a result, a growing number of New Zealand born, second (and third) generation, Pasifika children are not being exposed to their languages, which will inevitably lead Pasifika groups to occupy the same situation as Māori in the 1970s, fighting to bridge a language intergenerational gap in their communities (McCaffery & McFall-McCaffery, 2010; May & Hill, 2018; ERO, 2019).

1.3 Reasons to support the expansion of Pasifika bilingual education

When the language dies, a culture dies, when culture dies, our stories die, when our stories die, our connections die, when our connections die, our identities die, when our identities die, we will truly be lost people. (Ministry for Pacific Peoples, 2018, p. 15)

The limited provision of Pasifika bilingual education in Aotearoa New Zealand raises an additional question: Why should Pasifika bilingual education be implemented more broadly if there does not seem to be widespread support for it?

There are three responses to this important question.
1.3.1 Language revitalisation and maintenance

Bilingual programs, particularly high-level immersion programs (the equivalent of Level 1 programs), are a key component of Indigenous and minority language revitalisation and/or maintenance more broadly. Such programs, as we know, have been instrumental in Māori language revitalisation and constitute the core approach of Kura Kaupapa Māori (May & Hill, 2018). They also provide the foundation of many other Indigenous and minority language revitalisation movements internationally (May, 2013, 2017). That said, it has also long been recognised that such programs alone cannot ensure the successful revitalisation of an Indigenous or other minority language. Fishman (1991) has argued that intergenerational family transmission is the key to maintaining a language over time and that the role of education has, at times, been overemphasised in language revitalisation contexts. This longstanding critique has led current Māori language policy, for example, to focus on whānau language maintenance and use, alongside the ongoing support of Māori-medium education (Albury, 2016; May & Hill, 2018).

Debates on the relative merits of intergenerational family transmission and the role of education in language revitalisation contexts are beyond the scope of this current review, except in one regard. The counter to Fishman’s (1991) position is that intergenerational family transmission is similarly a necessary but not sufficient condition for successful language revitalisation. This is because, even when an Indigenous or minority language is maintained in the family context, if the language continues to be viewed negatively in the wider society and/or excluded from key public language domains, such as education, language shift and loss will still inevitably occur over time. This sociolinguistic context is termed diglossia and, while it allows for the ongoing private use of an Indigenous or minority language, it does nothing to contest or reshape wider language hierarchies and associated language value and use (May, 2014a). This diglossic context is what Pasifika L1 speakers currently experience in Aotearoa New Zealand and it is why Pasifika language shift and loss remains a key trend within and across Pasifika communities (see also 1.3.3).

1.3.2 The bilingual continuum

A significant challenge in research concerning bilingualism is in first establishing an adequate definition of the phenomenon itself. This is due to the fact that, like most cognitive and linguistic processes, bilingualism is a multidimensional phenomenon that may vary, not only among individuals, but also within individuals with respect to their proficiency in, and use of, the languages concerned. It should come as no surprise, then, that a multiplicity of definitions and descriptions of bilingualism have been proposed over time (see May et al., 2004 for a full discussion). Early linguists proposed alternative definitions that ranged from minimalist to maximalist interpretations of bilingual abilities. At one end of the scale, for example, Haugen (1953) observed that bilingualism begins when the speaker of one language can produce meaningful utterances (however limited) in the other language. Bloomfield’s (1935) specification of bilingualism as ‘native-like control of two languages’ – what is elsewhere often referred to as ‘balanced bilingualism’ – constitutes the other end of the scale (p. 56). These major differences in range were further compounded in these early definitions by an undue focus on the ability to speak a particular language. This emphasis on bilingual speech tended to ignore a bilingual’s (potentially varied) ability in relation to the four language skills (listening, speaking, reading and writing) and, by extension, the important distinction between receptive (listening; reading) and productive (speaking; writing) language skills.

Recent research on bilingualism highlights more effectively its complexity, dynamism and individual variation. In this sense, García’s (2009) notion of a ‘bilingual continuum’ (see also García & Li Wei, 2014) far better encapsulates the range and variation here. Bilinguals can range from ‘emergent bilinguals’ to highly proficient language users in one or both of their languages. They may use both their languages extensively, may use one language more than another, and/or use their languages in different...
domains and for different purposes. Specific examples of these kinds of variations might include the following: A bilingual speaker may have spoken two languages from childhood, but one language has since come to dominate. This may be because the dominant language is used more regularly in the particular language contexts in which the speaker finds themselves and/or because of negative views in the wider society about the other language. Alternatively, an individual may regularly speak two languages, but their competence in reading and writing in these languages may vary, depending on the opportunities that are available to use their languages in different language domains (e.g. at school, in everyday conversation, for literacy purposes). This, in turn, highlights the importance of wider societal attitudes, and related policies, to bilingual language use, which range from the highly negative, particularly in predominantly monolingual societies, such as New Zealand’s, to the strongly positive.

The differences outlined above reinforce the complexities of bilingual language use, as well as the often-blurred boundary between monolingualism and bilingualism. Thus, even an ostensibly English L1 Pasifika student might still be actively involved in contexts where a Pasifika language is heard, spoken, read or written, at least to some degree, by other family members, in the wider community, and/or in particular contexts (e.g. in church). These differences in language use also highlight how individual bilingualism is shaped – and often actively delimited – by wider societal attitudes and policies. Thus, if a minority language is viewed as useful only for cultural and identity purposes, its use will remain primarily within private, low-status language domains. Meanwhile, a dominant language will continue to be viewed as the language of wider communication and of high-status language domains such as education – the diglossic context discussed in 1.3.1. The internalisation of these language hierarchies occurs even when minority L1 speakers continue actively to use their languages – a trend that is also clearly evident for bilingual New Zealand Pasifika peoples. For example, many Samoan-speaking parents still tend to consider English as the (exclusive) language of schooling in Aotearoa New Zealand for their children and do not consider Samoan as having any significant educational value, even though it continues to be highly valued for cultural, identity and religious purposes (Fetui & Malakai Williams, 1996; Hunkin-Tuiletufuga, 2001). Attitudes such as these also help to explain why support for Pasifika bilingual education both within and across New Zealand’s Pasifika communities continues to vary widely. Finally, what is also evident in relation to these complex questions of bilingual language use is the strong association between the status of the languages involved and the opportunities and contexts available to readily use those languages in various contexts and/or language domains (such as education). This is the focus of the next section.

1.3.3 Language status and use – moving from subtractive to additive bilingualism for Pasifika learners

An unfortunate consequence of the Ministry of Education’s use of the term ‘priority learners’ is the still-implicit deficit construction of those learners that underpins it. As a term, it reflects the deficit construction of bilingualism and bilingual learners – particularly those speaking a minority/non-dominant language as their L1 – that continues to regularly occur in English language-dominant contexts such as New Zealand’s. There are two key distinctions in the research literature that explain the ongoing construction of many bilinguals in deficit terms. The first is between ‘elective’ and ‘circumstantial’ bilinguals; the second is between ‘subtractive’ and ‘additive’ bilingualism (see May et al., 2004; May & Dam, 2014 for further discussion).

Elective bilinguals are those who choose to learn an additional language, usually as a means of social and educational advancement. The context of such acquisition is also often described as ‘additive bilingualism’ in that the process of bilingual acquisition and learning is seen as socially, cognitively and educationally beneficial – both by and for the learners themselves, as well as in and for the wider society. Additive bilingualism thus sees the addition of a second language at no expense to the first, with the additional language usually being of high prestige. In the process, the bilingualism of the students is
viewed as a cognitive, social and educational advantage and specifically fostered as such. The student’s L1 is also drawn upon extensively as a key resource in the teaching and learning process. Or, to put it another way, the L1 is recognised, valued and used in the teaching and learning process (see 2). An example of additive bilingualism here might be the English-speaking student who decides to undertake French-immersion education in Canada, with the end result that they will be bilingual in English and French, the two official languages of Canada. In the New Zealand context, this might involve an English L1 speaker acquiring a ‘prestigious’ European language and/or an economically useful trading language, such as Chinese or Japanese, alongside English.

In contrast, circumstantial bilinguals are those who are required to learn another language, most often because their first language (L1) is not the language of the wider society in which they currently live. These circumstantial bilinguals, often immigrants or speakers of minoritised languages, also subsequently regularly experience ‘subtractive bilingualism’. Subtractive bilingualism occurs when the ongoing use of a person’s L1 is seen as ‘harmful’ to the ‘successful’ acquisition and use of the dominant or majority second language (L2). This is perceived as problematic at the individual level, where the maintenance of a minority L1 is seen as limiting educational success and wider social mobility. It is also viewed negatively at the wider societal level, with L1 minority speakers seen as maintaining their language(s) and cultures, rather than ‘integrating’ into the wider (majority language) society.

In both instances, a majority L2, or the language of the wider society, is seen as being in direct competition with, and ‘ideally’ eventually replacing, the L1 of minority language speakers. In the process, the latter’s bilingualism is problematised, even pathologised, both individually and societally. An example of this are Latino students in the United States, whose ongoing bilingualism is often viewed negatively, with Spanish seen as ‘interfering’ with the ‘successful’ acquisition of English, while ongoing use of Spanish is seen as a failure to integrate sufficiently into US society (see May, 2014b, 2017). In Aotearoa New Zealand, Pasifika languages are also clearly situated within a predominantly subtractive bilingual context. Pasifika languages may (perhaps) be valued for cultural and identity purposes but are seldom seen as educationally advantageous, even at times by Pasifika L1 speakers themselves, the result of their internalisation of these wider subtractive attitudes over time (see 1.3.2). By extension, moving from a Pasifika language to English (preferably, as quickly as possible) is associated in most mainstream (English-medium) educational contexts in Aotearoa New Zealand with educational success and wider social mobility, despite the longstanding educational indicators to the contrary (see 1.1).

This leads to an educational approach (which has also been used in some Pacific countries) that has been termed ‘time on task’, where the focus is exclusively on learning English, and where a student’s other language(s) are specifically excluded from the teaching and learning process. It is this approach that underpinned most historical approaches to Indigenous and other minority language learners, including, of course, for Māori learners. It is the approach that continues to predominate in the teaching and learning of Pasifika students in ‘mainstream’ (English-medium) New Zealand schools. It is the approach that implicitly underpins related policies towards ‘priority learners’ that continue to focus solely on the acquisition of literacy in English. And yet, it is an approach, as we will see in Section 2, that is the least effective means by which to successfully teach bilingual students, which thus helps to explain the reason for the persistence of educational inequalities and differential achievement in the New Zealand system for Māori, Pasifika and other minoritised students. And it is an approach that views bilingualism positively only for certain sectors of society, and certain languages, when research has demonstrated unequivocally that additive bilingualism in any combination of languages is a cognitive, educational and social advantage (see 2). This thus also raises a key question, most pointedly asked by Cummins (2000): Why is bilingual education good for the rich but not the poor? Accordingly, additive bilingual contexts can and should apply to circumstantial bilinguals as well, including, in the New Zealand context, Pasifika learners. This is because, as the next section will outline,
additive bilingual approaches in education not only enable the maintenance of minority languages but are also far more educationally effective for (all) bilingual learners.
2.1 The problem with ‘time on task’ and English-only education

In English language dominant contexts, as in Aotearoa New Zealand, there is a notably high level of misunderstanding and misattribution among parents, teachers and policy makers about the relationship between bilingualism and learning (Baker & Wright, 2016; May, 2014b). This contributes to the dominance of subtractive bilingual contexts and related pedagogical approaches that focus solely on English language acquisition (May, 2017).

The most common pedagogical approach adopted in these contexts, as signalled in the preceding section, is ‘time on task’. This apparently common-sense principle assumes that the earlier and the longer English instruction occurs for other language speakers, the more likely they are to acquire academic English and succeed at school. Or to put it another way, the time on task principle is premised on the notion that maximum exposure in the L2 is required for successful language acquisition and learning to occur. Consequently, it is felt that instruction in L1 (for minorities whose first language is not English) lowers or impedes the levels of English proficiency that such students might acquire (Baker & Hornberger, 2001).

It naturally follows from this principle that English-only ‘submersion’ educational approaches are both the most appropriate and most effective means by which to teach bilingual students. This view underpins the ongoing dominance of English-medium instructional contexts for bilingual Pasifika students in Aotearoa New Zealand and the related policy reluctance to support bilingual education as an alternative for Pasifika students, beyond individual school-based initiatives. The key problem with the time on task principle, despite – or, rather, because of – its enduring popularity and prevalence, is twofold: it is predicated on an erroneous view of language and cognition and, relatedly, has been consistently repudiated by 60 years of research on the relationships between bilingualism, cognition, and language learning.

The principal misconception underpinning the time on task principle has to do with the idea that fostering bilingualism may result in ‘cognitive overload’ for students. Many parents, for example, still decide against bilingual education on this basis, believing it might actually disadvantage their child, not only educationally but also socially and emotionally. This misplaced perception of bilingualism is predicated on a model of the mind that has been described in the research literature as the Separate Underlying Proficiency (SUP) model. Baker and Prys Jones (1998) describe SUP as viewing the mind as if two languages are housed separately within it – like two balloons, or as a set of scales, for example. In this ‘container’ view of the mind, the two language compartments are separated, and they also have a limited storage capacity; half of the capacity of a monolingual mind in effect (see Figure 3). The two languages also seem to work against one another. When some new language is added to one side of the scales, this causes an imbalance on the other side, and hence loss of some of the other language (Baker & Hornberger, 2001; Baker & Wright, 2016; Cummins, 1979).
The problem with the SUP model, however, is that it is neither supported by research nor practice. It is clear from research on bilingualism and bilingual education programs (see 2.2 and 2.3, respectively) that learning a new language does not automatically result in the loss of the other language; there is no 'balanced scales' (more of one; less of the other) effect. In fact, there are now more than 200 major research studies which broadly conclude that when children continue to develop their abilities in two or more languages throughout their primary school years, they gain a deeper understanding of language and how to use it effectively (see Cummins, 2000; May, 2017 for useful overviews of this research). This is because skills and knowledge acquired in one language can be readily transferred to another, indicating in turn a link between the two languages in the mind. This is also reinforced by the empirical reality of bilingual or multilingual people, who actually constitute the majority of the world's speakers (Salzburg Global Seminar, 2017), and who clearly live in their own contexts without any apparent detrimental effects from their bilingualism. In conclusion, the SUP model does not accurately reflect the workings of the mind. In fact, Hoffman (1991) states that this theory simply encourages the misplaced belief that bilingualism may result in some sort of linguistic deficit, and that cognitive and educational development may become impaired by the bilingual experience.

The model that far more accurately depicts the workings of the mind in relation to bilingual acquisition has been termed the **Common Underlying Proficiency (CUP)** model. This model was first suggested by Vygotsky in the 1930s and was subsequently developed by Cummins (1979) in response to the allied ‘time on task’ misconception, discussed above. The CUP model is most often presented in the form of two icebergs (see Figure 4). The two icebergs are separate above the surface – indicating how two languages will inevitably differ in their construction and use, often markedly. Below the surface, however, there is a common area where the two languages are fused. Both languages thus operate through one central processing system that both languages can contribute to, access, and use (Baker & Wright, 2016; Cummins, 2000).
According to Baker and Wright (2016), the CUP model of bilingualism may be summarised in six parts:

1. Irrespective of the language in which a person is operating, there is one integrated source of thought.
2. Bilingualism and multilingualism are possible because people have the capacity to store easily two or more languages. People can also function in two or more languages with relative ease.
3. Information processing skills and educational attainment may be developed through two languages as well as through one language. Both channels feed the same central processor.
4. The language the child is using in the classroom needs to be sufficiently well developed to be able to process the cognitive challenges of the classroom.
5. Speaking, listening, reading or writing in the first language (L1) or the second language (L2) helps the whole cognitive system to develop. However, if children are made to operate in an L2 that is not yet sufficiently developed, as well as in a subtractive bilingual environment (as occurs for many bilingual students in English-language-only classes), the system will not function at its best. If children are made to operate in these classroom contexts, the quality and quantity of what they learn from complex curriculum materials, and produce in oral and written form, may be relatively weak and impoverished.
6. When one or both languages are not functioning fully (e.g., because of an unfavourable attitude to learning through the L2, or pressure to replace the L1), cognitive functioning and academic performance may be negatively affected.

The still widely held view that the bilingual mind treats languages as though they are housed in separate containers, with an attendant limitation on processing capacity (the notion of cognitive overload), is flatly contradicted by the CUP model. Any ongoing misconceptions about the bilingual mind among parents, teachers and policy makers can only therefore be explained by the deficit construction of bilingual learners, along with the differential status and value that minority languages and cultures have within the wider society (see 1.2).
The CUP model is thus consonant with wider cognitive and neurological research and supported by 60 years of academic research on bilingualism (see 2.2); it is supported by the realities of life in bilingual contexts; and it is supported by key teaching and learning principles consistently applied elsewhere. One of these key additional principles has come to be known as ‘linguistic interdependence’. This posits that, given the interdependence of language learning, a student’s L2 competence is partly dependent on the level of competence already achieved in the first language (L1). That is, the more developed the L1, the easier it will be to develop the L2. The less developed the L1, the more difficult the achievement of bilingualism will be (Baker & Wright, 2016).

When actively acknowledged and drawn upon, the linguistic interdependence principle provides the strongest basis for the effective development of an academic language register in an L2. This relates to another key distinction: that between conversational competence and academic language proficiency (Cummins, 2000). For L2 learners, conversational competence can be achieved relatively quickly – within 1-2 years, often less. However, academic language proficiency takes considerably longer – given that students are dealing with less familiar language, while simultaneously learning new curriculum content. Consequently, the strong consensus across a wide range of research on bilingualism and learning is that academic language proficiency in an L2 takes students between 4-7 years to acquire successfully (see Baker & Wright, 2016 for an overview). On this basis, being able to transfer literacy skills from one’s L1 necessarily makes it easier to acquire literacy successfully in an L2 over time. Moreover, as we will see in 2.3, the successful achievement of biliteracy is the strongest predictor of long-term academic success for bilingual students (see Cummins, 2000, 2017; for a full discussion, see May et al., 2004).

The principle of linguistic interdependence also accords with the widely held view in all other educational contexts that ‘prior knowledge’ can (and should) be used effectively to bridge students from the known (what they already know) to the unknown (what they have yet to learn). The same applies in language education, although this does not yet seem to be widely recognised in Aotearoa New Zealand outside of Māori-medium education. Thus, when a student’s language background is excluded from the teaching and learning process, as is the case in English-only and time on task-oriented programs, it is little wonder that bilingual students eventually fall behind in literacy achievement (cf. the discussion of Pasifika student achievement patterns in 1 and see also 2.3). Even the presence of specialist English second language (ESL) support, usually via a ‘withdrawal’ option, the default ESL option in New Zealand schools until recently, does not change this pattern. This is because the focus of ESL support, usually by a monolingual English-speaking teacher, remains solely on English, with little connection made to the student’s other language(s) (Franken et al., 2005; Major, 2018). As such, ESL programs are described in the literature as ‘subtractive’ education programs.

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1 ESL withdrawal options see students withdrawn from their normal classes in order to receive specialist L2 English lessons at various times throughout the school week. Even though this targeted support is provided, the research literature indicates that, over time, ESL withdrawal programs remain relatively ineffective. This is because, like English submersion programs, they continue to hold to a subtractive view of bilingualism, with no accommodation, or use, of the students’ L1 being made (see 2.3 below). In more recent times, the Ministry of Education has encouraged a more pluralist approach to ESL provision in New Zealand schools, including in-class support and bilingual language assistants. These alternatives have been identified in the literature as more effective ESL approaches – the latter, in particular, as it allows for the use of the students’ L1 in the teaching and learning process (Bourne, 2001; Gibbons, 2015).
2.2 Research on the advantages of bilingualism

Despite the ongoing erroneous negative attribution of bilingualism, and related notions of cognitive overload and time on task, research findings over the last 60 years have strongly supported the advantages of bilingualism in additive educational contexts – that is, when bilingualism is recognised, valued, and used in the teaching and learning process. Peal and Lambert’s (1962) study comparing French monolingual and bilingual students in Canada is consistently identified as the foundational text for the subsequent emergence of an additive view of bilingualism, cognition and education. In their study, Peal and Lambert found that bilinguals surpassed monolinguals on both verbal and non-verbal intelligence measures, and that bilinguals have a more diversified set of mental capabilities compared with their monolingual counterparts. In particular, they noted that bilinguals were especially good at mental manipulation and the reorganisation of visual patterns, as well as on concept formation tasks that required mental or symbolic flexibility.

As a result, Peal and Lambert suggested that this implied a difference in the structure of the intellect, with bilinguals having a more diversified intelligence. They concluded that the bilingual was at an advantage because the bilingual’s two language systems seem to ensure:

> a mental flexibility, a superiority in concept formation, and a more diversified set of mental abilities, in the sense that the patterns of abilities developed by bilinguals were more heterogeneous. In contrast, the monolingual appears to have a more unitary structure of intelligence, which he must use for all types of intellectual tasks. (p. 20)

Subsequent research has consistently confirmed that bilingual students in additive bilingual contexts exhibit clear and consistent advantages over monolingual speakers in the following key areas: cognitive flexibility, communicative sensitivity, and – crucially – metalinguistic awareness.

2.2.1 Cognitive flexibility

Cognitive flexibility is one key aspect of cognition that has shown a positive relationship with bilingualism. Cognitive flexibility includes both divergent and convergent thinking. Measures of divergent thinking provide subjects with a starting point for thought and ask them to generate a whole series of permissible solutions: for example, “think of a paper clip and tell me all the things you could do with it”. It has thus come to been seen as an index of creativity, or as a distinctive cognitive style, reflecting a rich imagination and an ability to scan rapidly a diverse range of possible solutions. In contrast, convergent thinking is measured by tests that provide a number of pieces of information that the subject must synthesize in order to arrive at the correct answer; the information is provided to converge on a particular solution.

What the research has found is that bilinguals are consistently superior to monolinguals on divergent thinking tests (Bialystok, 2008; Kharkhurin, 2008). Surprisingly perhaps, bilinguals are also consistently better at convergent thinking. They are more able to generate a number of different hypotheses in order to reach a solution (and use more complex language in so doing). They also draw more extensively on the use of metaphors (see Bialystok, 2001; Bialystok, Craik, & Luk, 2008; Hamers & Blanc, 2000; Ricciardelli, 1992 for useful overviews).
2.2.2 Communicative sensitivity

Communicative sensitivity is another area of cognition where bilingual children appear to be relatively advantaged. What is communicative sensitivity? Bilinguals need to be aware of which language to speak, with whom, in which situation. They need constantly to monitor the appropriate language in which to respond or in which to initiate a conversation. In so doing, they need to be attentive to clues and cues about when to switch languages. The research literature suggests that this may give bilinguals increased sensitivity to the social nature and communicative functions of language. Research on bilingualism has found that bilinguals as young as two years of age know how to differentiate language use – that is, which language to speak, to whom, and in what context (see De Houwer, 2009 for a useful summary of this research).

In a study of Dutch and English bilingual children, for example, De Houwer (1995) discovered that children, at aged three years, could accurately choose the appropriate language with which to speak to a monolingual speaker. With speakers whom they knew to be bilingual, the same children would more readily codeswitch (switch between and/or intersperse languages, a normal feature of bilingualism) in their conversations. As De Houwer (1995) summarises it: "Because of the bilingual situation … the bilingual child has more options than the monolingual one: … at a very young age bilingual children are skilled conversationalists who easily switch languages" (p. 248). Genesee (2002) likewise asserts that “it is now generally accepted that bilingual children can use their developing languages differentially and appropriately from the one-word stage onward, and certainly from the age when there is evidence of syntax in their spoken language" (p. 173).

2.2.3 Metalinguistic awareness

Perhaps the key difference between bilinguals and monolinguals identified in the research literature has to do with metalinguistic awareness. Metalinguistic awareness (MA) is the ability to analyse language, particularly language forms, how they work, and how they are integrated into the wider language system. MA is, in effect, knowledge about how language(s) work and it can be demonstrated at various different levels: phonological awareness (the understanding of sound units), word awareness, and syntactic or grammatical awareness. In numerous studies, bilinguals have been found to have greater metalinguistic awareness than their monolingual peers because, as Cummins (1987) observes, “the presence and use of two codes may prompt greater monitoring and inspection of each, such that metalinguistic awareness is enhanced” (p. 64). More broadly, this points to the greater cognitive control exhibited by bilinguals, which is linked in turn to higher metacognitive functioning.

This broad finding on MA has been most extensively explored in the work of Ellen Bialystok. Bialystok (2008) concludes, for example, that not only is control over executive functions developed earlier in bilinguals than monolinguals, but that bilinguals are also able to control these functions for much longer. In what follows, I will discuss MA, by way of example, in relation to syntactic awareness. The need to make a judgment about the grammatical acceptability of a sentence is probably the prototypical metalinguistic task. As such, it is often used to measure syntactic awareness as an index of overall language proficiency. Using such a strategy, Galambos and Hakuta (1988) compared English-speaking monolinguals and Spanish-English bilinguals for their ability to solve two tasks; first, judging and correcting syntax, and, second, determining the ambiguity in sentences and paraphrasing the interpretations. This longitudinal study found consistent advantages for the bilingual children over the monolingual children in the syntax task, although only the older bilingual children were better than the monolinguals in the ambiguity task.
A more extensive study, based on the same principles, was conducted by Galambos and Goldin-Meadow (1990). They presented Spanish and English monolinguals and Spanish-English bilinguals with a range of problems assessing syntactic awareness. The children were asked to note any errors in the sentences they were presented; they also had to correct them and explain the error. When noting and correcting their errors, the bilinguals progressed faster than the monolinguals and showed significant advantages at all ages tested. The authors interpreted the developmental progression as moving from content-based to a structure-based understanding of language, and that bilingual children were more advanced in all areas than monolinguals in this respect. Their conclusion emphasises that bilingualism alters the rate of development but not its course (Bialystok, 2001).

A different type of syntactic task is one that can alter the difficulty of attending to the grammatical form by introducing misleading information (see Bialystok, 2001, 2008; Bialystok et al., 2008). In this approach, the subjects are required to decide whether there are grammatical violations. The extent to which they can do this is an indication of their level of grammatical analysis. If the sentence also includes semantic errors, then the difficulty of this task increases further, especially for younger children. Bialystok’s principal finding is that semantically altered information is very difficult for monolingual children to judge for grammatical acceptability, but that bilingual children are more successful in this task. In other words, bilingual students are superior in their selective attention to problems (and problem solving), including being able to deal more effectively with misleading information and more quickly in terms of competing alternatives.

While they necessarily focus on task specific activities, these various research studies clearly highlight the relative cognitive advantages that bilinguals consistently demonstrate over their monolingual peers when their bilingualism is actively leveraged in the learning and teaching process – that is, in additive bilingual contexts. Indeed, this enhanced MA in bilinguals should not surprise us, since, by definition, they are working with more than one language simultaneously, and thus need to have a greater awareness of how each work, and how they are both similar to and, crucially, different from each other (cf. the Iceberg Analogy in 2.1). This in turn requires closer monitoring and inspection of the languages concerned. It might also well explain the greater awareness and more intensive analytical ability towards language consistently demonstrated by bilingual students.

2.3 Examining the different educational approaches towards bilingual students

The research on cognition, bilingualism and language learning over the last 60 years thus provides a consistent basis for the benefits of additive bilingualism. By extension, this research also provides a strong foundation for corroborating the advantages of additive bilingual educational approaches for bilingual students. The latter research is equally clear in its findings on the relative merits of various educational approaches to teaching bilingual students. The programs that emerge as the least effective are those that perpetuate a subtractive view of bilingualism and which thus fail to draw on students’ bilingual competencies – English only language submersion programs, English second language (ESL) programs, and transitional bilingual (TB) programs. The programs that are consistently found to be far more effective are those that actively promote an additive view of bilingualism and which specifically recognise, value and utilise students’ bilingual competencies – maintenance bilingual programs (MB), enrichment/heritage bilingual (EH) programs, and dual language (DL) programs.

While they necessarily focus on task specific activities, these various research studies clearly highlight the relative cognitive advantages that bilinguals consistently demonstrate over their monolingual peers when their bilingualism is actively leveraged in the learning and teaching process – that is, in additive bilingual contexts. Indeed, this enhanced MA in bilinguals should not surprise us, since, by definition, they are working with more than one language simultaneously, and thus need to have a greater awareness of how each work, and how they are both similar to and, crucially, different from each other (cf. the Iceberg Analogy in 2.1). This in turn requires closer monitoring and inspection of the languages concerned. It might also well explain the greater awareness and more intensive analytical ability towards language consistently demonstrated by bilingual students.

2.3 Examining the different educational approaches towards bilingual students

The research on cognition, bilingualism and language learning over the last 60 years thus provides a consistent basis for the benefits of additive bilingualism. By extension, this research also provides a strong foundation for corroborating the advantages of additive bilingual educational approaches for bilingual students. The latter research is equally clear in its findings on the relative merits of various educational approaches to teaching bilingual students. The programs that emerge as the least effective are those that perpetuate a subtractive view of bilingualism and which thus fail to draw on students’ bilingual competencies – English only language submersion programs, English second language (ESL) programs, and transitional bilingual (TB) programs. The programs that are consistently found to be far more effective are those that actively promote an additive view of bilingualism and which specifically recognise, value and utilise students’ bilingual competencies – maintenance bilingual programs (MB), enrichment/heritage bilingual (EH) programs, and dual language (DL) programs.

However, the extent to which research on bilingual education is used to inform education policy and pedagogy remains less than it might be because of still widely different understandings among commentators of what bilingual education actually comprises. At one end of a continuum are those who would classify as bilingual any educational approach adopted for, or directed at, bilingual students,
irrespective of their educational aims (fostering bilingualism or monolingualism) or the role (if any) of first language (L1) and second language (L2) as languages of instruction. In other words, simply the presence of bilingual students in the classroom is deemed sufficient to classify a program as bilingual (see, e.g., Baker & de Kanter, 1981). At the other end of the continuum are those who distinguish clearly between non-bilingual, weak, and strong bilingual programs (e.g., Baker & Wright, 2016; May, 2017). It is the latter approach that I will adopt in this analysis.

2.3.1 Philosophy/aims of bilingual education

Given the potential challenges in the analysis of bilingual programs discussed above, it is important to begin with a classic definition of bilingual education, first posited by Andersson and Boyer (1970): “Bilingual education is instruction in two languages [emphasis in original] and the use of those two languages as mediums of instruction for any part or, or all, of the school curriculum” (p. 12) Put simply, bilingual education involves instruction in two languages. This immediately excludes programs that include bilingual students, but which do not involve bilingual instruction, most notably submersion English language programs. English as a second language (ESL) classes are examples of this, as are language subject classes (Level 5 immersion). Along with submersion programs, they can also clearly be described as non-bilingual programs.

For a program to be deemed to be bilingual, the key is that both languages must be used as media of instruction and thus to deliver curriculum content. As Baker and Prys-Jones (1998) conclude: “If there is a useful demarcation, then bilingual education may be said to start when more than one language is used to teach content (e.g. Science, Mathematics, Social Sciences, or Humanities) rather than just being taught as a subject by itself” (p. 466).

This benchmark highlights a related research finding – that the minimum threshold for strong bilingual programs is 50/50 instruction in both languages (the equivalent of Level 2 bilingual programs in the New Zealand context; see May & Hill, 2018). Higher level immersion programs are also included here as strong bilingual programs. Immersion programs teach L1 majority language students predominantly through a minority or ‘target language’. The focus on the target language, which might not otherwise be learned or used in the wider society, is to ensure that bilingualism and biliteracy is achieved in both languages by program end. Examples of high-level immersion programs include French-immersion programs in Canada and, clearly, Level 1 Māori-immersion programs in Aotearoa New Zealand. Immersion programs are thus one form of (effective) bilingual education. Even with very high levels of immersion in the target language, curricular instruction in the majority language (English in both Canadian French-immersion and Level 1 Māori-medium programs) almost always occurs at some point prior to the end of the program (Hill & May, 2011, 2013; see 2.3.3 for further discussion).

An additional key point addressed by many commentators in defining bilingual education relates to the constituency of students each program serves, along with the philosophy and related educational goals of any given program. The research consistently highlights that the most effective bilingual programs are underpinned by an additive bilingual philosophy and related goals that aim to achieve both bilingualism and biliteracy for their students by program end (Cummins, 2017; McCaffery, Villers, & May, 2008; Si'ilata, Samu, & Siteine, 2017; Tuafuti, 2013). For bilingual programs with students from predominantly minority L1 backgrounds – circumstantial bilinguals, in effect (see 1.3.3) – the aim is minority language

Anotearoa New Zealand is the only context internationally that consistently distinguishes/differentiates immersion education from bilingual education – regarding the former, more often than not, as more effective than the latter (particularly in the case of Māori-medium education). This sometimes causes confusion because in all other contexts, immersion education is regarded as one form of strong/effective bilingual education, while 50/50 bilingual models are also regarded as strong/effective bilingual programs (May & Hill, 2005; May, 2017).
maintenance via the achievement of bilingualism and biliteracy. For students with predominantly majority L1 (minority L2) backgrounds – elective bilinguals and/or heritage language learners (see below for further discussion) – the aim is the addition of the (minority) target language in order to achieve the same ends, given that the minority/target language would not otherwise be acquired. In what follows, I will use the additive–subtractive bilingual distinction as a central explanatory framework for evaluating the aims and philosophy of bilingual education and related attitudes towards bilingualism and bilingual learners.

2.3.2 Models of bilingual education

The next level of classification of bilingual programs can now be made in terms of the specific linguistic and/or educational aims of particular bilingual education models.

<table>
<thead>
<tr>
<th>Model</th>
<th>Immersion Type</th>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrichment</td>
<td>Additive/Strong</td>
<td>The aim is bilingualism and biliteracy as well as extension of the minority language and culture into the community and nationally.</td>
</tr>
<tr>
<td>Heritage</td>
<td>Additive/Strong</td>
<td>The aim is rejuvenation of an indigenous language. The aim is usually bilingualism and biliteracy, although the heritage language can take priority.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Additive/Moderately strong</td>
<td>The aim is bilingualism and biliteracy, albeit somewhat limited. The student’s L1 is maintained so that it can become the basis for L2 learning, but the L1 is not developed or extended. The student’s culture and identity are affirmed.</td>
</tr>
<tr>
<td>Transitional</td>
<td>Subtractive/Weak</td>
<td>The aim is monolingualism. Instruction in the student’s L1 is temporary because the aim is to leave that behind and teach only using L2. The dominant culture and identity are affirmed.</td>
</tr>
</tbody>
</table>


According to Freeman (1998), models are defined in terms of “their language-planning goals and ideological orientations toward linguistic and cultural diversity in society” (p. 3). They can be understood as broad categories that help us to understand on a very general level what bilingual education means, although there is inevitably a degree of arbitrariness in distinguishing among them.

Despite the welter of different classifications of bilingual education in the research literature, there are three broad models that are consistently included in these various typologies. These are: transitional models, maintenance models and enrichment models of bilingual education. In addition to these three broad models, there are also what have come to be known as heritage models. These latter models are most often associated with Indigenous language education initiatives, such as Māori-medium education.
in Aotearoa New Zealand, Navajo language education in the US, Quechua/Quichua language education programs in Bolivia, Ecuador and Peru, and Sámi language education in Norway, among many others (see, for example, Hinton & Hale, 2001).

A transitional model of bilingual education uses the L1 of minority language students in the early stages of schooling but aims to shift students away from the use of their L1 as quickly as possible towards the greater use of the majority (L2) language, in order to ‘cope’ academically in ‘mainstream’ or general education (Freeman, 1998; de Mejia, 2002). In other words, the L1 is used only to the extent that it facilitates the transition of the minority language (L1) speaker to the majority language (L2). Accordingly, most transitional programs are also early-exit programs, where the L1 is used for only one-two years before being replaced by the L2, and can thus be regarded as both a subtractive and a weak bilingual model. In assuming that the (minority) L1 will eventually be replaced by a (majority) L2, bilingualism is not in itself regarded as necessarily beneficial, either to the individual or to society as a whole. This in turn suggests that the eventual atrophy of minority languages, or the aim of moving students eventually from bilingualism to monolingualism in the majority language, remains a central objective of transitional bilingualism programs. For example, the only mention of bilingual education in the Pasifika Education Plan (Ministry of Education, 2012) is in the Early Learning Actions, encouraging primary schools to “effectively transition and support Pasifika learners into English medium schooling using language acquisition strategies, such as strengthening learners’ first languages, as a foundation for learning English” (p. 6; my emphasis) – an endorsement of an early years’ transitional bilingual approach, in effect.

A maintenance approach to bilingual education, on the other hand, differs fundamentally from a transitional approach because it aims to maintain the minority language of the student, strengthen the student’s sense of cultural and linguistic identity, and affirm their individual and collective ethnolinguistic rights. As such, it is clearly an additive and strong bilingual model. There are many types of bilingual programs that can be said to fit into this model, and these will be discussed more fully below. However, the typical participant in a maintenance bilingual program will be a national minority group member (e.g., Welsh in Britain, Catalan in Spain, French Canadian in Canada, Latinos in the USA) whose L1 is already developed to an age-appropriate level (although they do not need to be literate yet in the language). The language of instruction of the program will either be predominantly in the L1 or, if both L1 and L2 are used as mediums of instruction, at least 50% in the L1 (equivalent to Level 1 and 2 programs). This is because the aim of such programs, as their designation suggests, is to maintain the L1 for a sufficient amount of time for academic language proficiency in the L1 to be achieved. This, in turn, facilitates the acquisition of literacy in an L2, on the basis of what Cummins (1979, 2000; see also Koda, 2007) has termed the “linguistic interdependence” principle (see 2.1). Consequently, the most common programs in a maintenance bilingual model are late-exit programs – that is the use of L1 as an instructional language continues for at least 4-6 years, often longer.

Closely related to maintenance bilingual programs are enrichment programs, a term first coined by Fishman (1976). If the former are geared towards maintaining the L1 of minority language students, the latter are generally (but not exclusively) associated with teaching majority language students (such as L1 English speakers) through a minority target language in order to achieve bilingualism and biliteracy by program end. French immersion in Canada, where many of the students come from middle-class, L1 English-speaking homes, is perhaps the most often cited example of an enrichment bilingual program. Welsh-medium schools, which also include many middle-class L1 English speakers, are another example. Elite bilingual programs such as the European Schools movement are also widely regarded as enrichment programs (see Baetens Beardsmore, 1993; de Mejia, 2002). Accordingly, enrichment programs tend to be associated with elective bilingual learners (see 1.3.3).
As with maintenance programs, the emphasis in enrichment programs is not just on achieving bilingualism and biliteracy for individual students but also on the ongoing maintenance of the minority language(s) in the wider community. As Hornberger (1991) argues, the enrichment model “encompasses all those bilingual education program types which aim toward, not only maintenance, but development and extension of the minority languages, cultural pluralism, and an integrated national society based on autonomy of cultural groups” (p. 222). Accordingly, Hornberger asserts that enrichment programs – to which we can also add Indigenous heritage language programs – have the greatest potential to educate students successfully, given their strong additive bilingual basis. These are also the programs most likely to reduce the educational and wider social and linguistic inequalities experienced by minority language speakers, including those discussed in the New Zealand context in the first section.

This broad L1/L2 distinction between maintenance and enrichment/heritage approaches is a useful form of shorthand in the research literature but it also clearly has its limits – not least, because of the limitations of the L1/L2 distinction itself, as discussed earlier in relation to the bilingual continuum (1.3.2). With respect to bilingual education programs, for example, it does not necessarily help us to identify clearly where a heritage language model of bilingual education might fit in. As indicated above, this model is most commonly associated with Indigenous language revitalisation efforts, along with a wide range of other Indigenous language education initiatives, although, in its wider sense, it can also include other established and immigrant groups (Valdés, Fishman, Chávez, & Pérez, 2006; Wiley et al., 2014). The latter tend to be focused on the reclamation of a heritage language no longer spoken as an L1 – i.e. the students are L2 learners of the heritage language. The former include a combination of student language backgrounds. Some Indigenous language programs are aimed at students who still speak the Indigenous language as an L1 (e.g., Navajo in the US; Inuit in Nunavut, Canada; Sámi in Norway) and can be regarded as L1 maintenance bilingual programs. But many, because of already established minority language shift, cater for students with a mix of L1/L2 speakers of the language, and some have only L2 speakers (or, rather, learners) of the language, and are therefore closer to the enrichment end of the continuum.3

As such, heritage programs can also clearly be regarded as an additive and strong bilingual approach but tend to be situated somewhere in between maintenance and enrichment models in terms of the L1/L2 status of their students (May, 2010; May & Hill, 2005). That said, increasingly, the majority of students in such programs tend to be L2 speakers of the target language, the result, in turn, of previous patterns of language shift and loss of the heritage language. For example, McCarty (2012) notes that, in the Navajo heritage language program at Rough Rock in Arizona – one of the strongest and longest established in the USA – less than 50% of Navajo now speak their own language and their numbers are declining each year. And in Māori-medium education the overwhelming majority of students are L1 English speakers, due to pre-existing language shift, post-Second World War, in Aotearoa New Zealand (Hill & May, 2011, 2013; May & Hill, 2005, 2018).

2.3.3 Bilingual education programs

The final level at which bilingual education can be examined is the program level, which is also, necessarily, the most complex and diffuse. According to Hornberger (1991), bilingual programs are more concrete categorisations than models, and can be differentiated from one another by an analysis of specific contextual and structural characteristics. For Hornberger, contextual characteristics include characteristics of the student population (numbers, stability/mobility in the school, socio-economic status (SES), minority status, language background) and characteristics of the teacher population (ethnic background, degree of bilingualism, training, roles). Structural characteristics include: ‘program in school’

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3 This combination or mix of L1/L2 students is also similar to dual language programs, which will be discussed more fully in the next section.
There is not space in this review to discuss the complexity of programs involved here (for an exemplary extended analysis, see Baker & Wright, 2016), except to highlight – in light of the preceding discussion – the most common types of program. **Non-bilingual programs** include Submersion and ESL programs (all subtractive programs). **Weak bilingual programs** include Transitional bilingual education (also subtractive), where use of the students’ L1 is limited usually only to early years learning or, at most, the first years of schooling. **Strong (and additive) bilingual programs** include L1 Maintenance bilingual programs, Immersion and Heritage programs, the most prominent example in the Aotearoa New Zealand context being Māori-medium education (see Hill, 2017 for a concise overview). These latter programs have also been termed ‘One Way’ programs (Thomas & Collier, 2002) because they tend to have a preponderance of either L1 or L2 students within them, depending on the context. They may vary in terms of both their level of immersion in the minority or target language, and the related timing and balance of instruction in the majority language. However, **most of these programs will use the minority or target language as the medium of instruction between 50-90% of the time**. For example, the program may begin as a 90:10 program in the early years (with 90% in the minority or target language) and change gradually to a 50:50 program by year 4 of a student’s schooling. Other immersion programs may retain a high level in the target language throughout the program (as in many Level 1 Māori-medium programs).

Increasingly popular in the US, with respect most often to Spanish–English bilingual instruction, is ‘Two Way’ immersion or ‘Dual Language (DL) programs. Tucker, Donato & Murday (2001) provide a case study for the planning and systematic implementation of a district-wide dual-language program, while Freeman (1998) and, most recently, Coady (2020), provide extended discussion and analysis of prominent school-based dual language programs.

The outcome aims of DL are the same as other strong, additive programs – bilingualism and biliteracy for their students by program end. Similarly, as with heritage bilingual programs, DL programs cater for a mix of L1/L2 target language speakers. Where DL programs differ from other strong bilingual programs though is in deliberately structuring their programs around this L1/L2 student mix. DL programs deliberately include L1 speakers as well as L2 speakers of the target or minority language *in the same classroom*, wherever possible, in roughly equal proportion. These programs thus specifically integrate L1 and L2 students in the target language (e.g. Spanish) so that the L1 target language students actively scaffold/support the L2 target learners, while the latter, in turn, scaffold/support the L1 target language learners in the majority language (e.g. English). The aim is thus to develop the bilingual and biliterate skills of both groups, drawing not only on the teacher’s, but also the students’, language learning knowledge (Abello-Contesse, Chandler, Lopez-Jimenez, & Chacon-Beltran, 2013; Arias & Fee, 2018; Cloud, Genesee, & Hamayan, 2000; Howard, Sugarman, Christian, Lindholm-Leary, & Rogers, 2007; Lindholm-Leary, 2001).

The following are general criteria for success in DL programs that have been gleaned from the relevant research literature:

1. Programs should provide a minimum of 4 to 6 years of bilingual instruction to participating students (as with other strong bilingual programs; see 2.4 for further discussion).
2. The focus of instruction should be the same core academic curriculum that students in other programs experience.
3. Optimal language input (input that is comprehensible, interesting, and of sufficient quantity) as well as opportunities for output should be provided to students.

4. The target (non-English) language should be used for instruction a minimum of 50% of the time (to a maximum of 90% in the early grades), and English should be used at least 10% of the time.

5. The program should provide an additive bilingual environment where all students have the opportunity to learn a second language while continuing to develop their native language proficiency.

6. Classrooms should include a balance of students from the target language and English language backgrounds who participate in instructional activities together.

7. Positive interactions among students should be facilitated by the use of strategies such as cooperative learning.

8. Characteristics of effective schools should be incorporated into programs, such as qualified personnel and home-school collaboration.

Source: Pacific Policy Research Center (2010, p. 9)

The most common ratio of medium instruction for both One Way maintenance and Two Way DL programs is to initially adopt a 90/10 immersion structure whereby 90% of courses are taught using the minority or target language and 10% of courses are taught using the majority language. Some DL programs adopt a 50/50 immersion balance from the start, although this is to some extent an artefact of the predominance of English/Spanish DL programs in the US. While Spanish is clearly a minority language there, it is nonetheless still widely used in everyday life – thus affording the possibility of a 50/50 balance. With an Indigenous or minority language that is more at risk, and/or more circumscribed in the language domains in which it can be used (as is the case for Māori and Pasifika languages in Aotearoa New Zealand), initial higher levels of immersion are the preferred option, since the language would not otherwise be so readily available to students. In some cases, as with some Māori-medium education programs, initial immersion in a minority or target language can also begin at 100%, with a graduated reduction over time, although not necessarily to as low as 50/50 (see Hill & May, 2011, 2013 for further discussion).

The discussion thus far can be summarised, albeit somewhat simplistically, via Figure 5, where the left-hand side can be equated with subtractive approaches and the right-hand side with additive approaches to bilingual students. As we shall see, addressing these various dimensions of bilingual education is a necessary but not sufficient condition for understanding what research has subsequently found in relation to the relative efficacy of the various approaches just described. It is to this research that I now turn.
2.4 Research on the relative effectiveness of bilingual programs

Of the numerous studies that have reported on the effectiveness of bilingual education programs, the two most highly regarded and attested studies are Ramírez, Yuen, and Ramey (1991), and Thomas and Collier (2002). These studies are viewed as benchmarks in the field internationally – primarily because of their scale, as well as their ability to differentiate effectively among the widely different approaches to bilingual education. In controlling for different program approaches and their variable effectiveness, the findings of each of these major studies (see also Hakuta, Butler, & Witt, 2000) clearly and consistently support the efficacy of bilingual education in additive bilingual contexts.

Ramírez et al. (1991) compared English-only programs with early-exit (1-2 years) and late-exit (4-6 years) bilingual programs, following 2,352 Spanish-speaking students over four years. Their findings clearly demonstrated that the greatest growth in mathematics, English language skills and English reading was among students in late-exit bilingual programs where students had been taught predominantly in Spanish (the students’ L1) – equivalent to One Way Maintenance bilingual programs. For example, students in
two late-exit sites that continued L1 instruction through to grade 6 made significantly better academic progress than those who were transferred early into all-English instruction. Ramírez et al. (1991) conclude that:

*Students who were provided with a substantial and consistent primary language development program learned mathematics, English language, and English reading skills as fast or faster than the norming population in this study. As their growth in these academic skills is atypical of disadvantaged youth, it provides support for the efficacy of primary language development facilitating the acquisition on English language skills.* (p. 38-39)

In contrast, the Ramírez study also confirmed that minority language students who receive most of their education in English – i.e. in English-only submersion/time on task contexts – rather than their L1 are more likely to fall behind and drop out of school (cf. the discussion of time on task in 2.1). In fact, it is important to note here that the English-only programs used for comparison in the Ramírez study were not typical to the extent that, while the teachers taught in English, they nonetheless understood Spanish. This suggests that, in the far more common situation where the teacher does not understand the students’ L1, the trends described here are likely to be further accentuated.

In the largest longitudinal study conducted to date, Thomas and Collier (2002) came to broadly the same conclusions. Thomas and Collier analysed the education services provided for over 210,000 language minority students in US public schools and the resulting long-term academic achievement of these students. They did so by examining in depth five urban and rural sites from throughout the US over five years, from 1996 to 2001. The school bilingual program types examined within these contexts varied widely – they included full immersion programs in a minority language, dual-language or Two Way programs, where both a minority and a majority language (usually, Spanish and English) were used as mediums of instruction, transitional bilingual education programs, ESL (English as a second language) programs, and mainstream submersion (English-only) programs.

As with the Ramírez et al.’s study, one of Thomas and Collier’s principal research findings was that the most effective programs – “feature rich” programs as they called them – resulted in achievement gains for bilingual students that were above the level of their monolingual peers in mainstream classes by program end. Another key conclusion was that these gains, in both L1 and L2, were most evident in those programs where the students’ L1 was a language of instruction for an extended period of time. In other words, Thomas and Collier found that the strongest predictor of student achievement in L2 was the amount of formal L1 schooling they experienced. As they state, “the strongest predictor of L2 student achievement is the amount of formal L1 schooling. The more L1 grade-level schooling, the higher L2 achievement” (p. 7). This accords with the linguistic interdependence principle and the issue of successfully acquiring academic language proficiency in an L2 (2.1; see also below), which helps to explain why only One Way and Two Way or Dual Language (DL) programs – strong bilingual programs in effect – achieved these results. As Thomas and Collier (2002) conclude:

*[These] are the only programs we have found to date that assist students to fully reach the 50th percentile in both L1 and L2 in all subjects and to maintain that level of high achievement, or reach even higher levels, through the end of schooling. The fewest dropouts come from these programs.* (p. 7)
As with Ramírez et al., Thomas and Collier also found that students in English submersion classes performed far less well than their peers in strong, additive bilingual programs, as well as dropping out of school in greater numbers. Students in transitional bilingual programs demonstrated better academic performance over time, but not to the same extent as strong bilingual programs. In both these major large-scale studies, then, length of L1 or target language education turned out to be more influential than any other factor in predicting the educational success of bilingual students, including socioeconomic status.

**Figure 6** usefully summarises the results of Thomas and Collier’s (2002) study. There is some difference in terminology that needs explanation here. In effect, 1. constitutes Dual Language (DL) programs; 2. Maintenance bilingual (MB) programs; 3. and 4. are early exit, transitional bilingual programs with ESL support; and 5. is equivalent to the historical default ESL option in New Zealand schools (termed pull-out in the US, and withdrawal in our context).

As can be seen, DL programs consistently exceed grade norms in English by program end, while MB programs – the equivalent of Level 1 and 2 programs in Aotearoa New Zealand – consistently reach grade norms in English language achievement over the same time. In addition, of course, these programs also achieve both bilingualism and biliteracy for their students. Conversely, students in the transitional bilingual and ESL programs see an initial ‘bounce’ from targeted English literacy programs, since any targeted intervention will have a positive short-term effect. However, this bounce does not hold, with students’ academic achievement in these programs dropping off over time.

Two issues are also worth noting here. First, students in DL and MB programs achieve grade norms usually by Grades 6-7 in the US system (the equivalent of Years 5-6 in Aotearoa New Zealand). Second, English-only submersion programs are not included in this summary graphic but, in light of Thomas and Collier’s findings, would demonstrate even lower levels of achievement by program end than all the other programs.
These findings on the greater efficacy of strong bilingual programs have been consistently corroborated by more recent related research. August and Shanahan (2006), for example, in their major study on developing literacy for L2 learners, acknowledge directly the benefits of L1 oral proficiency and literacy as a basis for successfully achieving literacy in English for language minority students. A meta-analysis undertaken by McField and McField (2014) further confirms the consistent achievement advantages found for students in additive bilingual programs. Callahan and Gándara (2014) provide in-depth quantitative analyses in support of the positive links between bilingualism and subsequent social and economic mobility in the United States.

With specific respect to DL programs, recent research by Arias and Fee (2016), Lindholm-Leary (2012), Umansky and Reardon (2014), and Valentino and Reardon (2015) all strongly corroborate the academic effectiveness of these programs. For example, Lindholm-Leary and Howard (2008) found in their overview of three major studies, which they had conducted with colleagues, that it took four-seven years for English learners (Els) to close the achievement gap in English with (monolingual) native English speakers (NES). However, by the end of elementary/primary school, English learners in DL programs were at least on a par with their NES peers and consistently outperforming Els in other language programs. Similarly, Umansky and Reardon (2014) found that maintenance bilingual programs (which included DL programs in their study) were "most likely to reach the academic ELA [English language achievement] threshold" (p. 904).
I have concentrated on the US-based research findings – at the risk of underemphasising research in other contexts (although see below) – because they provide us with such a clear demonstration of research supporting the effectiveness of additive forms of bilingual education – particularly, MB and DL bilingual programs. The major longitudinal studies discussed here are particularly important in this regard and are still regarded as the benchmark studies in the field of bilingual language learning.

Of course, there are a wide range of studies from other national contexts that also broadly corroborate these findings in support of strong, additive bilingual education programs. Of the wider, book-length, research-based literature, Baker and Wright (2016), and Garcia, Lin and May (2017) provide magisterial overviews of the field of bilingual education. Cummins (2000); Genesee, Lindholm-Leary, Saunders and Christian (2006); May (2017); May et al. (2004); and May and Dam (2014) provide useful overviews of the key research findings with respect to the academic success of students in bilingual programs. De Mejia (2002) discusses various European models of bilingual education, while more recent research examines and supports the efficacy of broadly comparable Content and Language Integrated Learning (CLIL) programs in Europe (see Cenoz, Genesee, & Gorter, 2014), where particular content areas are taught through the medium of another language. Garcia, Skutnabb-Kangas and Torres-Guzman (2012), and Tollefson and Tsui (2004) provide a wide range of international examples of effective bilingual and immersion education programs, while Hornberger (2008), May (2013), and McCarty, Nicholas and Wigglesworth (2019) focus specifically on the effectiveness of Indigenous bilingual and immersion programs internationally.
Effective features of current Pacific bilingual education in New Zealand

In a recent review of 26 schools in Aotearoa New Zealand that provide Pasifika bilingual programs, the Education Review Office (ERO) observed that “there is limited evidence about how Pacific bilingual units support Pacific children and young people to succeed, as culturally-located learners, in the New Zealand education system” (ERO, 2019, p. 3). ERO concluded from their review that current Pasifika bilingual programs, while modelled broadly on Māori-medium immersion principles and practices, are still developmental in many instances.

Given the lack of a nationwide educational policy framework for Pasifika bilingual education, and a related dearth of research, guidelines, resources, or assessments at the national level, this is perhaps not surprising. Instead, those schools that do have Pasifika bilingual programs have established and developed these programs over time largely on their own. Inevitably, this has resulted in a degree of idiosyncrasy both within and across schools and a varied engagement with research and best practice principles in bilingual education. Similarly, there is a need for more research and engagement into the provision of Pasifika bilingual education programs at secondary education level. One means by which this might be achieved is by utilising existing Kāhui Ako networks in case study research focusing on schools that strengthen bilingual education pathways and transition from ECE – Primary – High School. The Manurewa South Kāhui Ako – comprising Roscommon Primary School, Waimahia Intermediate, and James Cook High School, for example – is informally seen as an example of current best practice in this regard.

More broadly, ERO proceeds to observe that the majority of these school-based bilingual programs reflect a composite of features from the models discussed in 2.3, along with different levels of immersion both at the start and throughout the various programs. Figure 7 highlights these differences.

**Figure 7: Shift from immersion to bilingual emphasis over school years**

![Figure 7: Shift from immersion to bilingual emphasis over school years](Source: ERO (2019, p. 10))
Given these — often wide — variations, these current programs are also not always well articulated in relation to existing research and best practices in bilingual education. As ERO conclude: “In general, there was a lack of clarity about the bilingual education models that schools utilised to inform their program” (2019, p. 10). Elsewhere in their review, they observe:

“These schools spoke about their philosophy, the aspirations of Pacific parents and communities for their children, and the theory underpinning their provision of bilingual education. However, there seemed to be a disconnect between the practical implementation, in terms of pedagogical practices, and the delivery of a broad curriculum, in relation to the aims of bilingualism and biliteracy. This could be related to the demands of an English-medium education system and the focus on learning the English language to prepare learners for latter years of schooling. (ERO, 2019, p. 9).

As already indicated, the lack of a general framework for Pasifika bilingual education in Aotearoa New Zealand, along with virtually no mention of bilingualism or bilingual education program approaches in any key Pasifika education policy documents, contributes directly to this variability. Schools are responding to community demand and implementing programs within an English-medium system with what (variable) knowledge and resources that they have. Be that as it may, there have been a limited number of research-based publications, including research theses, on Pasifika bilingual education school-based initiatives over the years and it is surprising that there is only minimal mention of these in the ERO review. These studies might usefully inform the further development of Pasifika bilingual programs going forward, as well as aid in the greater alignment of program features with attested research and best practices.

3.1 Studies of Pasifika bilingual education provision in Aotearoa New Zealand

The noted sociolinguist Bernard Spolsky (1988) provided the first major research-based discussion of the possibilities of Pasifika bilingual education in Aotearoa New Zealand. In a still exemplary review, he explored the status of the Samoan language, along with the potential for Samoan bilingual education, in Aotearoa New Zealand at that time, recommending greater accommodation of bilingual education options. In 1987, at the same time as Spolsky’s review, the first Samoan bilingual program in Aotearoa New Zealand – Mua i Malae (MiM) – was established at Ritimana/Richmond Road Primary School in Grey Lynn, Auckland. Richmond Road was the first mainstream urban primary school to adopt bilingual education (its Māori-medium program had been established two years previously). The school was also notable for establishing a Cook Islands Māori program at this time, although this program was discontinued in the early 1990s. (A French bilingual program – the first to be established in New Zealand as well – was opened at Richmond Road in 1996). Mua i Malae initially drew its students from a local Ao’ga Samoa, although, overall, the mix of students included both Samoan L1 and heritage language learners – a balance that has remained broadly the same since. MiM was also initially established as a 50/50 dual medium program and currently operates a 60/40 immersion model in Samoan and English respectively (three days in Samoan; two in English; see Komiti o Tīna, 2017).

Richmond Road School, from the inception of its bilingual programs, adopted a demonstrably additive bilingual approach – a key feature of the school that has been discussed in detail by May (1994). The school also adopted from the start a theorised approach to language learning, including the teaching and learning principles underpinning their bilingual programs. A subsequent review of the bilingual programs at Richmond Road School, for example, highlighted how Mua i Malae developed effective measures for monitoring and assessing Samoan literacy development, particularly reading comprehension (McCaffery, Villers, & May, 2008).
Another early key school-based Samoan bilingual program was established at Finlayson Primary School in Manurewa, South Auckland. McCaffery and Tuafuti (2003) undertook an ethnographic study of the then five classroom Samoan bilingual program, O le Taiola. They described O le Taiola as New Zealand’s first full “dual medium, dual literacy” Pasifika bilingual program, “in which both Samoan and English are used as the medium of instruction and for literacy teaching” (2003, p. 81). The study demonstrated evidence of improvement in the students’ reading capabilities in both Samoan and English as measured by school achievement data, in combination with evidence of literacy and language gains generated from previous studies at the school. McCaffery and Tuafuti found that O le Taiola students subsequently achieved “significantly higher levels of oracy and literacy in both languages than their [English-medium] counterparts” (2003, p. 92). The basis for this, they concluded, was the strong focus on developing literacy in Samoan over the first three years of schooling, before the introduction of English reading, with the students taking a further two years to reach chronological age norms in English as well as Samoan. It is important to note that successful students in this study stayed in the bilingual program for all of their primary school years, as the wider international research on bilingual education recommends (cf. 2.4).

These school case study examples are supported by other studies highlighting how Samoan learners benefit from bilingual programs, enabling them to learn English alongside learning academic skills in their first language, rather than having to learn across the curriculum in English immediately (Amituanai-Toloa, 2005; Amituanai-Toloa & McNaughton, 2008; Aukuso, 2005; Spence, 2007; Toloa, McNaughton, & Lai, 2009; see also Chu, Glasgow, Rimoni, Hodis, & Meyer, 2013).

3.1.1 LEAP and the Va'atele framework

More broadly, LEAP (Language Enhancing the Achievement of Pasifika), a research-based resource developed for the Ministry of Education by the author and colleagues, Franken and McComish (Ministry of Education, 2007a), provides a strong basis for the articulation of additive bilingualism and second language learning approaches for Pasifika bilingual learners. While the focus of LEAP is on enhancing the teaching of Pasifika bilingual learners in English-medium classroom contexts, many of the key principles of effective bilingual learning and teaching, outlined in this current report, underpin the approaches highlighted within LEAP. First, LEAP draws directly on research from bilingual education, as well as second language acquisition (SLA) and second language teaching and learning. It does so in order to emphasise the complexity of bilingualism and bilingual practices, and to highlight the notion that a bilingual student's linguistic repertoire is a fundamental source of, not an obstacle to, effective language teaching and learning. As such, it adopts a demonstrably additive bilingual approach.

Second, the resource was developed as an interactive web-based resource for teachers, based on the principles of activity theory – providing teachers with over 50 individual “enquiries” that explore issues pertinent to the teaching and learning experiences of bilingual (Pasifika) students. These enquiries include supporting material and related “investigations” that teachers can complete, either individually or collectively as part of a professional development group. A key aim of these enquiries was also to directly address the ongoing widespread misunderstandings about bilingualism and bilingual language learning, discussed in 2.1. Interestingly, despite international attention about the innovation and accessibility of this resource (May, 2014c), LEAP has since received no subsequent targeted professional development support from the Ministry of Education and has yet to be revised/updated.

More recently, the Va'atele Framework, used to theorise Pasifika learners’ journeys through the New Zealand educational system (Si'ilata, Samu, & Siteine, 2017), also makes specific links to additive bilingualism and language learning. The framework includes, for example, the follow two central components:
Knowledge of Pasifika bilingualism, second language acquisition, and literacy learning

- Teachers know about Pasifika bilingualism, second language acquisition, and literacy learning.
- Teachers use evidence from student data and from practice to design learning sequences, and monitor progress in relation to Pasifika learners’ language and literacy needs.

Instructional strategies, including Pasifika languages as resources for learning

- Teachers explicitly teach English language and vocabulary by building on Pasifika home languages and oral practices.
- Teachers explicitly teach strategies for written language, including use of Pasifika literacy practices.

Si’ilata (2018, 2019a, 2019b) has subsequently employed this framework in targeted ways to improve the language learning experiences of bilingual Pasifika students. Drawing on research conducted through the Manaiakalani project, for example, she describes how teachers were able to use students’ translanguaging (dynamic, fluid bilingual language use), and related communicative language tasks, as a basis for supporting Pasifika students to create their own bilingual digital stories. Translanguaging is a further development of the notions of additive bilingualism and linguistic interdependence, discussed earlier, which focuses on how bilingual students draw on their total linguistic repertoire, and related language learning strategies, in dynamic and integrated ways in the teaching and learning process (Baker & Wright, 2016; Cenoz & Gorter, 2017; García & Li Wei, 2014).

The various research studies discussed in this section highlight that ERO is right to conclude that there remains a still relatively limited pool of research that addresses Pasifika bilingual education, and related implications for Pasifika bilingual teaching and learning. Relatedly, as Hill (2018) argues, and Chu et al. (2013) strongly recommend, research specific to Pasifika bilingual teaching and learning should continue to be encouraged in the New Zealand context. However, the research that has been conducted thus far in Aotearoa New Zealand on Pasifika bilingual education is nonetheless strongly consistent with the wider international research, discussed in Section 2, and thus provides additional support to that evidence base.
Implications of the best practice research for policy and practice in Pacific bilingual education in New Zealand

In light of the preceding analysis, this final section makes a series of associated recommendations for the further development of Pasifika bilingual education in Aotearoa New Zealand as a nationally coordinated and resourced Ministry of Education policy.

4.1 Developing a convincing policy rationale

A key issue that needs to be addressed before proceeding further with specific Pasifika bilingual education options is the need, in the first instance, for a defensible rationale for such provision. The ongoing failure to remediate the longstanding differential educational achievement experienced by many Pasifika students in English-medium school contexts in Aotearoa New Zealand, and the related intransigence of the ‘home language gap’ for bilingual students (see 1), are obvious touchstones. A nationally coordinated and resourced Pasifika bilingual education framework can be advocated then on the clearly attested educational benefits of strong, additive bilingualism programs, along with their research-attested positive impact on educational achievement for bilingual students within them. Pasifika bilingual education programs would also contribute more effectively to the maintenance of Pasifika languages and cultures, as well as contributing to a positive repositioning of those languages, as not only useful for cultural and identity purposes but as educationally useful and important as well. However, there are also wider policy principles that might usefully inform bilingual education developments for Pasifika students and, in so doing, provide the basis for a broader policy rationale.

I have argued elsewhere (May, 2004) that one possibility lies in the development of a policy rationale that extends educational policy support beyond te reo Māori and New Zealand Sign Language (NZSL), as New Zealand’s official languages, to include Pasifika (and, perhaps, eventually, Asian) languages – albeit, crucially, on a different basis of entitlement (see de Bres, 2015 for an overview of the hierarchy of languages in Aotearoa New Zealand). Te reo Māori and NZSL have strong precedents in both national and international law for educational, and wider public policy support, on the basis that they are indigenous to this country (see May, 2004 and May, 2011 for extended discussions of these precedents). This cannot be said for other languages, including Pasifika languages (albeit, with one qualification; see below). Indeed, when moving beyond bicultural public policy, the question almost always immediately raised is why should other minority languages be publicly supported and, relatedly, if they were to be, what limits might be reasonably drawn? After all, it is simply not feasible to provide bilingual education options to all minority language speakers in New Zealand schools, not least because of the current rapidly burgeoning diversity of our national population (RSNZ, 2013).

These are important and legitimate questions that must be addressed if support for the extension of bilingual education programs to Pasifika students is to be successful. In this regard, there are also two key responses. First, there is an argument that the notion of languages indigenous to a country, and associated public support for those languages, can be extended in the New Zealand context to those Pasifika languages that are “indigenous languages of the realm of New Zealand” (Human Rights Commission, 2008). That is, the languages of those Pacific nations with which Aotearoa New Zealand has had longstanding and ongoing constitutional relationships and obligations – Cook Islands, Niue and Tokelau – could be afforded similar recognition and support to te reo Māori and NZSL. As outlined clearly
in international law, such public support and provision can be claimed, as of right, because these languages have always been associated historically and/or territorially with particular states, and are thus not dependent on the number of actual speakers (May, 2011, 2012). An additional issue here is that, for each of these groups, the New Zealand-based population now significantly exceeds the original homeland population, further highlighting the New Zealand state’s obligation to protect and support these particular Pasifika languages if they are not to die out as the result of ongoing language shift and loss (cf. 1).

Second, for those Pasifika groups that do not have this constitutional relationship, entitlement for bilingual education provision in Aotearoa New Zealand for such groups can still be made on the basis of another key precept in international law – the criterion of ‘where numbers warrant’ (May 2011, 2012, 2014b). In short, there is an increasing recognition within international law that significant minorities within a nation-state have a reasonable expectation to some form of state support for their languages, including the option of being schooled in their L1 (de Varennes 1996). Such educational language provision is clearly applicable to/for Samoan and Tongan students and their communities in the New Zealand context, given the ongoing significant number of speakers in these Pasifika communities.

Establishing bilingual education provision for these Pasifika languages, on these clearly articulated bases of entitlement, has a number of additional benefits. It addresses directly a key criticism often employed to argue against the extension of any further public bilingual language education provision – namely, that it would be unreasonable (and impractical) for nation-states to be required to fund language services for all minorities. It highlights Pasifika languages as a wider public good for New Zealand society, moving us from a monolingual to a bi/multilingual society and to a nation that reflects more clearly and prominently our Pacific location and orientation. Pasifika bilingual programs can also be promoted on the basis of their potential positive impact on the medium- to longer-term social, educational and economic trajectories of Pasifika peoples. Indeed, such programs could end up playing a central role in redefining the social, educational and economic face of New Zealand society, particularly given the changing demographics that were discussed in Section 1.

The latter prospect also addresses, usefully, another potential criticism of bilingual education provision – cost. A key argument often employed to forestall the development of bilingual educational provision is the issue of the initial costs involved in its establishment. However, research in educational economics has shown that initial costs associated with establishing bilingual provision are consistently overstated. Grin and Vaillancourt (1998) made this argument in a New Zealand Treasury-commissioned paper on Māori language policy from a comparative perspective. Grin (2005) provides three international examples supporting the contention that initial start-up costs are generally lower than many believe (see also Gazzolla et al., in press). Specifically:

- Independent estimations, on the Basque country and Guatemala, of the cost of moving from a monolingual to a bilingual education system, show that this move entails an additional expenditure in the region of 4-5% of average per-capita spending in the system, tapering off after a few years and stabilising at less than 2%;
- the total cost of the far-reaching Charter of the French Language in Québec (including estimates of output loss generated by the implementation of the Charter) ranges, depending on the assumptions made, from 0.28% to 0.48% of provincial GDP — that is, less than half a percentage point;
even the supposedly significant cost, to the European Union, of having multiple official languages, amounted to only 0.8% of the EU’s budget, or 1.82 Euros per resident and per year. Even pessimistic cost projections for the ongoing enlargement of the European Union with currently 24 official languages (and potentially up to 400 translation directions) still yield cost estimates well below 6 Euros per resident and per year.

Add to this the medium- to long-term benefits of improved educational outcomes as a result of expanded bilingual education provision, along with the positive impact on GDP, as highlighted by the New Zealand Treasury (2013) report (see 1), and the economic benefits of additive Pasifika bilingual education programs become even more evident.

4.2 Bilingual program options

It is clear from the international literature, as well as the recommendations that followed from the major review of best practices in Māori-medium education (May et al., 2004), that only Level 1 and Level 2 bilingual/immersion programs meet the international threshold for best practice of a minimum of 50% instruction in the L1 or target language. Given this, funding for Level 1 and 2 Pasifika bilingual programs should be enhanced, while Levels 3-5 programs need to be redesignated as non-bilingual programs, a change that has already occurred for Māori-medium programs (May & Hill, 2018). In light of this, policy direction and support should be directed to the expansion of Level 1 and Level 2 programs that reflect these indicators of good practice, as well as to shifting Level 3 and 4 programs up to at least Level 2.

The three additive or strong bilingual program approaches that are most applicable for Pasifika students are:

- **Maintenance bilingual (MB) programs.** As discussed, these typically begin at high levels of immersion in the L1 and/or target language and track towards lower levels of immersion over time (but do not fall below 50/50). The majority of existing school-based Level 1 and 2 Pasifika bilingual programs are of this type and are most suited to Samoan and Tongan students, given that there are still a significant number of L1 speakers of these languages within these Pasifika communities.

- **Enrichment/heritage (EH) immersion programs (90/10 – 50/50).** Further policy development and support should also focus on Enrichment/Heritage Pasifika language programs (again, at Levels 1 and 2). These are particularly well suited to those Pasifika language communities that are currently at significant risk of language shift or loss – most notably, Cook Islands Māori, Niuean, and Tokelauan – since the number of L1 English speakers (L2 heritage language learners) in these communities is increasingly significant.

- **Dual Language (DL) Programs (90/10 – 50/50; 50-50).** DL programs should also be actively explored as a key Pasifika bilingual education pathway going forward. As noted in May et al. (2004), while this has been to date primarily a US-based bilingual education model, Pasifika bilingual programs, particularly in Samoan and Tongan, could easily replicate this model, given that, even now, such programs usually include a clear mix of Pasifika L1 and English L1 students in their communities. If these programs were to be established, the Samoan and Tongan communities would be able to take active advantage of the L1/L2 mix in ways that other Pasifika communities (and Māori-medium education) could not, given the already established processes of shift and loss in those latter communities, which sees most students now as heritage L2 learners.
An additional advantage of DL programs, in particular, is the support that it might well garner from families, schools, and wider Pasifika communities. This is because, while misplaced, the negative views of bilingualism outlined in 2.1, still impact on perceptions of Maintenance bilingual programs, in particular. Dual Language programs have expanded significantly across the US over the last decade precisely because they are seen as enrichment programs – the best of both worlds, in effect. This position is also supported by the recent ERO (2019) review.

- **Adult community language education programs.**

In the long-term, language programs are also needed with a component targeting adult speakers, supporting biliteracy and bilingualism in the Pasifika communities experiencing the highest degrees of language shift first (Cook Islands, Niuean and Tokelauan). Approaches such as the Master Apprentice Language Learning model (Hinton, 2001) and family-based teaching models are significant in this regard, providing an intergenerational approach to language revitalisation. Relatedly, bilingual education research internationally is starting to argue that we need to move the focus from labelling and defining the various types of bilingual education programs to one that questions which practices and which pedagogical approaches are the most efficient, given the particular aims and/or contexts.

These strong forms of bilingual education have been previously represented/outlined in Table 4 and Figure 5, along with their clear educational advantages for bilingual students. Table 5 below reiterates these strong forms of bilingual education while also usefully highlighting the marked differences between these programs in relation to the monolingual, mainstream/submersion programs that Pasifika still predominantly experience in New Zealand schools.

**Table 5: Typology of Program Models for Bilingual Students**

<table>
<thead>
<tr>
<th>Monolingual forms of education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of program</strong></td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Mainstreaming / Submersion</td>
</tr>
<tr>
<td>Mainstreaming / Submersion (with pull-out majority language instruction support)</td>
</tr>
<tr>
<td>Sheltered (structured) immersion</td>
</tr>
<tr>
<td>Segregationist</td>
</tr>
</tbody>
</table>


**Weak forms of bilingual education**

<table>
<thead>
<tr>
<th>Type of program</th>
<th>Typical type of child</th>
<th>Language of the classroom</th>
<th>Societal and educational aim</th>
<th>Aim in language outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitional</td>
<td>Language minority</td>
<td>Moves from minority to majority language</td>
<td>Assimilation / subtractive</td>
<td>Relative monolingualism</td>
</tr>
<tr>
<td>Mainstreaming (with world or foreign language teaching)</td>
<td>Language majority</td>
<td>Majority language with L2 / FL lessons</td>
<td>Limited enrichment</td>
<td>Limited bilingualism</td>
</tr>
<tr>
<td>Separatist</td>
<td>Language minority</td>
<td>Minority language (out of choice)</td>
<td>Detachment / autonomy</td>
<td>Limited bilingualism</td>
</tr>
</tbody>
</table>

**Strong forms of bilingual education**

<table>
<thead>
<tr>
<th>Type of program</th>
<th>Typical type of child</th>
<th>Language of the classroom</th>
<th>Societal and educational aim</th>
<th>Aim in language outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immersion</td>
<td>Language majority</td>
<td>Bilingual with initial emphasis on L2</td>
<td>Pluralism and enrichment</td>
<td>Bilingualism and biliteracy</td>
</tr>
<tr>
<td>Maintenance / heritage language</td>
<td>Language minority</td>
<td>Bilingual with emphasis on L1</td>
<td>Maintenance, pluralism and enrichment</td>
<td>Bilingualism and biliteracy</td>
</tr>
<tr>
<td>Two way / dual language</td>
<td>Mixed language minority and majority</td>
<td>Minority and majority</td>
<td>Maintenance, pluralism and enrichment</td>
<td>Bilingualism and biliteracy</td>
</tr>
<tr>
<td>Mainstream bilingual</td>
<td>Language majority</td>
<td>Two majority languages</td>
<td>Maintenance and biliteracy and enrichment</td>
<td>Bilingualism</td>
</tr>
</tbody>
</table>

Notes: L2 = Second language, L1 = First language, FL = Foreign language. This table is based on discussions with Ofelia García.

Source: (Baker & Wright, 2016, p. 199)

**4.3 Key challenges**

Developing, implementing, resourcing, and monitoring strong, additive, Pasifika bilingual education programs, as part of a nationally coordinated strategy, can be seen as a key means by which to improve Pasifika student achievement in New Zealand schools, while also directly addressing and remediating the so-called 'literacy tail' and related 'home-language gap' endemic to New Zealand educational achievement. However, as identified in the ERO (2019) review, there remain considerable challenges to any further development and/or implementation of a nationally coordinated approach to Pasifika bilingual education. These are similar to those in the Māori-medium education sector but are more extensive.
4.3.1 Staffing

The New Zealand Samoan and Tongan Pasifika communities, in particular, can potentially draw on an existing pool of Pasifika L1 teachers in ways that Māori-medium, and other Pasifika communities, cannot. However, while the L1 language base is potentially wider and more readily accessible, unlike Māori-medium education, there is currently no specialist pre-service education for Pasifika bilingual education, nor is there any visible, let alone consistent, in-service professional development support for teachers working in Pasifika bilingual education. This is highly problematic because, as we concluded in May et al. (2004), teaching effectively in a bilingual program requires specialised training in second language acquisition (SLA), bilingual and immersion pedagogy, curriculum, materials and resources, and L2 or target language assessment. Such specialised training in best practices in bilingual education pedagogy and practice must include preservice and ongoing in-service in:

1. Bilingual theory and research
2. The bilingual program model the school uses
3. Second language acquisition and development
4. Instructional strategies in second language development
5. Multicultural and educational equity training
6. Cooperative learning strategies

4.3.2 Teacher education and professional development

A policy priority for any further development of Pasifika bilingual education must thus be on the establishment of specialised bilingual teacher education pathways, similar to those already established for those training as bilingual teachers in the United States (Christian, 2018; Kennedy, 2018). This could be developed at the preservice level in conjunction with the further expansion of current Māori-medium teacher education pathways at the preservice level. However, a preferred alternative, at least in the short- to medium-term, would be to focus on supporting a postgraduate specialisation in bilingual education pedagogy and practice (which could include teachers in both Māori- and Pasifika-medium education). This could be linked to existing Ministry of Education funding support mechanisms for teachers undertaking postgraduate study, although it would necessarily require the expansion of current provision to address this specific need. Such expansion, however, is consonant both with the Ministry of Education’s current emphasis on ‘priority learners’, as well as support for specialist subjects where there is currently a lack of sufficient staffing.

To begin with, and in light of ERO’s (2019) recommendations, the Ministry of Education could also usefully adopt a school-based targeted funding model to directly and immediately support the current schools with Level 1 and 2 Pasifika programs. In terms of establishing a delivery model, a nationally recognised specialist postgraduate qualification – most likely, at postgraduate diploma level – could be highly effective if delivered either by individual tertiary providers with the necessary expertise or via a consortium of these providers. Currently, the University of Auckland, the University of Waikato, and the University of Canterbury are perhaps best placed in relation to this expertise.

Existing frameworks and related professional development resources on Pasifika bilingualism, such as LEAP and the Va’atele Framework, should be updated (in the case of LEAP), and underpinned by specific, targeted professional development funding for teachers – initially in existing Pasifika bilingual programs, and as a more general support program for working effectively with bilingual Pasifika students in all classroom contexts.
4.3.3 Resources and assessments

Key areas of concern for schools with Pasifika bilingual programs currently, as identified by the ERO (2019) review, are the lack of resources and L1 assessments for their programs. While the benefits of Level 1 and 2 bilingual/immersion programs are strongly supported by both national and international research, teachers and schools need standardised resources and assessments in the L1/target language in order to achieve successful biliteracy outcomes for their students. If schools have access only to standardised English language assessment measures and/or have to develop school-based L1 assessment measures, this potentially delimits the educational benefits of such programs (Gathercole, 2013a, 2013b; González, 2012; Shohamy, Or, & May 2017). Developing appropriate assessment measures in relevant Pasifika languages, and the related benchmarking of resources, should thus be prioritised. The processes undertaken to establish these benchmarks and assessments in Māori-medium education provide an obvious starting point, as well as a useful means of comparison.

4.3.4 Information/dissemination strategy

Given the still widespread, and entrenched, negative views of bilingualism and bilingual learning in Aotearoa New Zealand, any further development of Pasifika bilingual education requires a public/community/school/family information dissemination strategy that specifically highlights the benefits of bilingualism in any combination of languages. Following from this, Pasifika families and communities, in particular, need to be apprised of the benefits that can accrue for their children in effective Level 1 and Level 2 Pasifika bilingual programs. Enduring popular myths, such as cognitive overload and time on task, also need to be directly addressed and corrected. This will support a return to intergenerational family transmission which has been identified as a significant component in language revitalisation (Albury, 2016; Fishman, 1991; May & Hill, 2018) and has been argued as central in studies focusing on Pasifika homes (Auckland Languages Strategy Working Group, 2018; Macpherson, 2004; McCaffery & McFall-McCaffery, 2010; Wilson, 2017).

More broadly, the economic and policy rationale outlined in 4.3.1 additionally needs to be supported by the following:

- Highlighting the limits of monolingualism. Even though English is clearly the dominant world language, it is multilinguals who have English as part of their linguistic repertoire, rather than monolingual English speakers, who are the most advantaged in an increasingly globalised world (van Parijs, 2011).

- Linking these developments in globalisation to the increasing superdiversity in our own national context, with over 160 languages now spoken in Aotearoa New Zealand (RSNZ, 2013). This includes potentially leveraging off related academic and policy developments in this area – such as the work of CaDDANZ (see caddanz.org.nz) and the Superdiversity Institute (see superdiversity.org).
Recommendations

4.1 The Ministry of Education to develop an overarching policy rationale for Pasifika bilingual education. This should combine a focus on:

4.1.1 Pasifika language maintenance
4.1.2 The attested academic benefits of Level 1 and 2 bilingual education programs
4.1.3 Enhancing the wider social and economic advancement of Pasifika peoples in Aotearoa New Zealand

4.2 The Ministry of Education to develop a school-based targeted funding model to directly and immediately support current New Zealand primary schools with Level 1 and 2 Pasifika bilingual programs

4.3 The Ministry of Education to establish a nationally coordinated and appropriately resourced policy approach to Pasifika bilingual education, prioritising the consolidation and expansion of Level 1 and 2 primary level bilingual/immersion programs over the next decade

4.4 The Ministry of Education to provide for a range of strong, additive, Level 1 and 2 Pasifika bilingual approaches in New Zealand primary schools. These should include a combination of maintenance bilingual (MB), enrichment/heritage (EH), and dual language (DL) programs, depending on language background, student population mix, and school-community engagement and support

4.5 The Ministry of Education to establish and fund specialist bilingual teacher education pathways for Pasifika bilingual education in both initial teacher education and at in-service/postgraduate level, as a priority teaching and learning area

4.6 The Ministry Education to provide ongoing targeted in-service professional development support for teachers in Pasifika bilingual education, as well as updating and expanding existing related research and professional development resources

4.7 The Ministry of Education to fund and develop additional Pasifika language and literacy resources, and related assessment measures, for schools to support the ongoing consolidation and expansion of Level 1 and 2 primary school Pasifika bilingual education programs, as well as the expansion of NCEA Pasifika language subjects in secondary schools

4.8 The Ministry of Education, in conjunction with the Ministry of Pacific Peoples, to provide a related community (and wider public) dissemination strategy on the attested benefits of Pasifika bilingualism and bilingual education and the limits of English monolingualism in an increasingly linguistically superdiverse Aotearoa New Zealand.
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