An examination of the curriculum-levelling construct

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Rangahau Mātauranga o Aotearoa

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2020

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Acknowledgements

We extend our thanks to those who contributed their ideas during interviews and focus group sessions.

Our warm thanks go to our colleagues at NZCER. Sinead Overbye, Sophie Watson, and Renee Tuifagalele played key roles in this project. Rose Hipkins also made a considerable contribution, providing guidance and reviewing the draft report.

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1. The study

Introduction

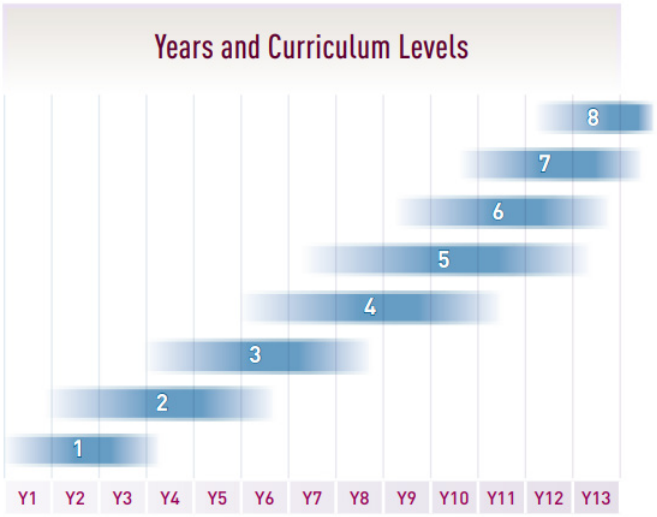
In February 2020, the Ministry of Education asked the New Zealand Council for Educational Research (NZCER) to examine the curriculum-levelling construct that sits at the heart of *The New Zealand Curriculum* (Ministry of Education, 2007) *(NZC)*. A key goal of the research was to investigate, whether—and if so, how—the construct helps (or hinders) teachers and school leaders as they plan learning programmes and make judgements of student progress and achievement. This study was prompted by earlier research examining curriculum levelling, which raised questions about the curriculum-levelling construct (Bonne & Hipkins, 2019). The current study examined relevant literature and documentation and involved interviews and focus group sessions with teachers, school leaders, professional learning and development (PLD) facilitators, and curriculum experts from around Aotearoa New Zealand. Interviews with two curriculum experts from Australia were also conducted. This report provides an overview of the findings from the study.

The report is presented across six sections. This section describes the curriculum-levelling construct. It outlines the study's guiding questions and presents the different methodological components that were used to investigate them. Section 2 looks at where the curriculum-levelling construct came from and how it has been presented over time. It discusses some of the factors that have informed its development. Section 3 looks at how the curriculum-levelling construct is interpreted by experienced leaders and classroom teachers in schools through their curriculum design decisions and their judgements about student progress and achievement in relation to curriculum levels. Section 4 examines the efficacy of the curriculum-levelling construct within today's curriculum and pedagogical environment. It discusses five issues that the research participants recognised as possible threats to the efficacy of the curriculum-levelling construct. Section 5 explores recent responses to the use of curriculum levels in England and New South Wales. It explains how decisions about the use of levels came to the fore during recent curriculum reviews in each of these places. The final section, Section 6, briefly summarises the research findings and looks at the future potential of curriculum levelling for supporting learning progression, learner progress, and an education system that learns.

What is the curriculum-levelling construct?

The term *curriculum-levelling construct* refers to the way the relationship between years of schooling and curriculum levels has been represented in *NZC* (p. 45). The curriculum document does this by using the diagram shown in Figure 1. A feature of the curriculum-levelling construct diagram is the use of overlapping shaded bands to represent the relationship between years of schooling and curriculum levels.

FIGURE 1 **The curriculum-levelling construct: The diagram in *The New Zealand Curriculum* that shows how curriculum levels typically relate to years at school**



The curriculum-levelling construct is accompanied by a small amount of text. This text is reproduced below:

> This diagram shows how curriculum levels typically relate to years at school. Many students do not, however, fit this pattern. They include those with special learning needs, those who are gifted, and those who come from non-English-speaking backgrounds. Students learning an additional language are also unlikely to follow the suggested progression: level 1 is the entry level for those with no prior knowledge of the language being learned, regardless of their school year. (Ministry of Education, 2007, p. 45)

The research that is reported on here has focused on the ways in which teachers and school leaders interpret and use the curriculum-levelling construct that appears in *NZC*. An examination of the ways in which kaiako and tumuaki understand and use the curriculum-levelling construct that appears in *Te Marautanga o Aotearoa* (Ministry of Education, 2008a) was beyond the scope of this research.

Research questions

The research was guided by six questions. These questions were:

1. How was the construct of curriculum levelling developed?
2. What was the theory behind the curriculum-levelling construct, specifically curriculum bands spanning different time periods, overlaid on year levels, and what was intended with the normative shading?
3. How is the curriculum-levelling construct interpreted by experienced leaders in schools through local curriculum design and delivery?
4. How is the curriculum-levelling construct interpreted by classroom teachers making judgements about progress and achievement in relation to levels?
5. How effective is the curriculum-levelling construct in today's curriculum and pedagogical landscape?
6. What is the future potential of curriculum levelling for supporting learning progression, learner progress, and an education system that learns, or is a different construct needed?

Methods

Four methodological components were used to examine the research questions.

Component 1: A literature scan

A literature scan was conducted for two purposes. Its first purpose was to identify the rationales and understandings that informed the development of New Zealand's curriculum-levelling construct. This aspect of the literature scan addressed Research Questions (RQs) 1 and 2. The second purpose of the literature scan was to explore how other jurisdictions (e.g., Australia and the United Kingdom) have dealt with curriculum structuring. This aspect of the literature scan, which enabled us to identify insights that were relevant to the New Zealand context, assisted with answering RQ 6. Themes that emerged from the literature scan were used to inform the development of interview and focus group questions.

Component 2: Interviews

Between late March and late July 2020, a total of 16 semi-structured interviews were conducted with a variety of curriculum experts. One of these curriculum experts agreed to be named in this research. He was Professor Geoff Masters, who recently led an independent review of the school curriculum in New South Wales (NSW). The interview with Professor Masters was designed to help us answer RQs 5 and 6. A copy of the interview schedule that was used with Professor Masters can be found in Appendix 1. During this phase of the research, we also spoke with an expert who had been involved in curriculum development at the Ministry of Education during the 1990s. This interview was designed to help us answer RQs 1 and 2. A copy of this interview schedule can be found in Appendix 2.

This phase of the data-collection process also included semi-structured interviews with educational researchers and consultants who could provide us with a systems-level perspective (n = 4). In addition to this, we also spoke with a number of professional learning and development (PLD) facilitators (n = 3). Within the report, these two groups of participants are referred to respectively as *systems-level experts* and *PLD facilitators.* Collectively, these interviews were designed to help us answer RQs 3,

4, and 5. A copy of the interview schedule that was used with systems-level experts can be found in Appendix 3. Likewise, a copy of the schedule that was used with PLD facilitators can be found in Appendix 4.

We also conducted a total of seven interviews with school-based curriculum experts. One of these was a group interview involving three teachers who worked in a bilingual Māori and English (henceforth, reorua) setting. Overall, we spoke with four school-based experts who brought a Māori perspective. During this set of interviews, we also talked with a Resource Teacher: Learning and Behaviour (RTLB). When selecting school-based interview participants, we sought to speak with a diverse group of experienced educators who worked across a wide range of settings. Further details about the schools that this group of educators worked at are provided in Table 1. Because this table includes details about the schools of both interview and focus group participants, it is presented after the following section. Collectively, the interviews with school-based curriculum experts were designed to help us answer RQs 3, 4, and 5. A copy of the interview schedule that was used with school-based curriculum experts can be found in Appendix 5.

Component 3: Online focus group sessions

During June and July 2020, three focus group sessions were conducted using Zoom video-conferencing. These focus group sessions, which were designed to generate the data required to answer RQs 3, 4, and 5, involved curriculum leaders and/or experienced teachers from schools throughout New Zealand. Of these sessions, one involved primary school teachers (n = 4), one involved secondary school teachers (n = 3), and one involved teachers from schools with high proportions of Māori and/or Pacific learners (both primary and secondary, n = 6).[1] In total, 13 teachers from nine schools participated in these sessions. Further details about the schools that this group of educators worked at are provided below in Table 1. Please note that this table includes details about the settings in which both school-based interview participants and focus group participants worked.

During focus group discussions, teachers were encouraged to respond both verbally and by using Zoom's chat function. A copy of the prompts that were used during the focus group sessions can be found in Appendix 6. Because of a brief problem with one teacher's audio, the discussion in the session that involved teachers from schools with high proportions of Māori and Pacific learners focused on prompts 1, 2, 3, 6, and 7.

1 Within the report, the focus group sessions are referred to as follows. The session that involved primary school teachers is referred to as "session 1", the session that involved secondary school teachers is referred to as "session 2", and the session that involved teachers who worked at schools with high proportions of Māori and Pacific learners is referred to as "session 3".

TABLE 1 **Contextual characteristics of the schools at which school-based interview participants and focus group participants worked**

Context	Description	Number of schools
School decile	Low decile (1–3)	5
	Mid decile (4–7)	6
	High decile (8–10)	3
School type	Contributing primary	6
	Full primary	1
	Intermediate	1
	Secondary	6
Student population	High proportions of Māori students	2
	High proportions of Pacific students	1
	High proportions of Māori and Pacific students	1

Component 4: Data analysis

Written notes from the interviews and focus group sessions were imported into the NVivo software package (QSR International, 2020). These notes were then progressively reviewed and a set of inductively derived codes was developed. Whenever a new code was assigned, all previously coded notes were reviewed to capture incidences that matched the introduced code. After all the interview and focus group notes had been coded, the sets of data associated with each code were reviewed and key themes were identified. Our findings emerged from this process.

Key limitations

Although we sought to speak with a wide range of curriculum experts, including a representative group of teachers, we do not assume that the participants' comments represent the views of all educators. This report documents the strongest themes that arose during our conversations with participants.

2. The history of the curriculum-levelling construct

The curriculum-levelling construct has been a feature of New Zealand's curriculum documents since the early 1990s (Ministry of Education, 1992, 1993b, 1994b, 1995, 1997, 1999, 2000, 2007). This section looks at how the construct emerged. It describes how the curriculum-levelling construct has been presented over time and outlines some of the factors that informed its development.

Changes to curriculum between 1984 and 1994

The decade leading up to the development of the curriculum-levelling construct involved several large-scale changes within New Zealand's educational landscape. The most notable of these were changes to the governance, management, and administration of schools that were part of the Tomorrow's Schools reforms (Department of Education, 1988c). Also notable was the focus on curriculum review. Table 2 outlines some of the significant developments associated with curriculum between 1984 and 1994.

TABLE 2 **Significant developments associated with curriculum in Aotearoa New Zealand between 1984 and 1994**

Year	Event	Notes
1984	A report entitled *A Review of the Core Curriculum for Schools* was published (Ross & Department of Education, 1984)	A report was published on a curriculum-review process that had originally been set up by the National Government's Minister of Education, Merv Wellington. National had been voted out in 1983 and a new Labour Government was in power when the report was released. The stated aim of the review was to define "the structure and balance of the core curriculum in primary and secondary schools" (Ross & Department of Education, 1984, p. 1).
1984	The curriculum review was picked up by the new Minister for Education, Russell Marshall	The aim of the review that started in 1984 was to develop a national curriculum with broad guidelines (flexible enough to allow schools to develop their own programmes). Public consultation was substantial (21,500 submissions were received after initial requests for sector input, and 10,000 submissions were made in response to the draft report).

Year	Event	Notes
1986	A report on the curriculum review was published: *The Curriculum Review: Report of the Committee to Review the Curriculum for Schools* (Department of Education, 1988b)	The review recommended a national curriculum for all schools from new entrants to Form 5 (Years 1–10). There were numerous national syllabuses, but there was not an overarching national curriculum.
1988	A draft national curriculum statement was circulated for feedback (Department of Education, 1988a)	A draft national curriculum statement was circulated (Department of Education, 1988a). The document was intended to support schools and their communities to see their curriculum as a whole and to develop broad school-based curricula. As other syllabuses and guides were revised, they were to "take into account their relationship with this framework" (p. 4). The statement described eight learning areas (aspects) and provided suggested "learning outcomes for balanced programmes for Junior Primary through to Senior Secondary" (p. 5). Five bands/levels were used: junior primary; middle primary; senior primary; junior secondary; and senior secondary. This document set out a series of curriculum principles to guide development.
1990	The Achievement Initiative was announced (Ministry of Education, 1991a)	The new National Government, with Lockwood Smith as the Minister of Education, embarked on a project to revise the curriculum in primary and secondary schools under the banner of the Achievement Initiative.
1991	A discussion document was circulated that proposed a new national curriculum framework: *The National Curriculum of New Zealand: A Discussion Document* (Ministry of Education, 1991c)	A discussion document on the New Zealand national curriculum was circulated. The document introduced the idea of levels and indicated that curriculum statements in different subject areas would follow based on a levels model. The first of these was the draft Mathematics learning area curriculum statement, which was published later in the same year (Ministry of Education, 1991b).
1993	*The New Zealand Curriculum Framework* was published (Ministry of Education, 1993c)	The curriculum framework defined seven broad essential learning areas: health and well-being; the arts; social sciences; technology; science; mathematics; and language. The framework required that syllabus documents describe clear learning outcomes that could be assessed against and which were divided into eight levels. These levels were intended to describe progression from Years 1 to 13.
1993	Two iterations of *Education for the 21st Century* were published (Ministry of Education, 1993a, 1994a)	A discussion document seeking feedback on aims for education for the 21st century was published. Both the discussion and final document outlined how the new levelled school curriculum and the Qualifications Framework would produce a seamless education system.

The Achievement Initiative

In 1990, a new National-led Government was elected, and Lockwood Smith was appointed as Minister of Education. Proposals for changes to the curriculum that involved restructuring it around levels were heralded by the Government's Achievement Initiative policy (Ministry of Education, 1991a). The policy indicated that level statements would be used to clarify "the desired levels of achievement to be attained in the various subjects" (p. 2). It was expected that teachers would use the levels statements along with assessment exemplars to make judgements about the achievement levels of their students. It noted that: "Typically, students will be at various levels of achievement in a particular class and progress of an individual will vary from subject to subject" (p. 2).

A number of assumptions underpinned the Achievement Initiative policy. These included the ideas that:

- Individuals learn at different rates, at different stages and in different ways;
- Sound learning builds on the learner's current knowledge and previous experience;
- Most classes include learners with a range of achievement and needs. (Ministry of Education, 1991a, p. 1)

The influence of the national curriculum for England and Wales

The curriculum innovations outlined in the Achievement Initiative were closely aligned to ideas that were developed in England and Wales as part of the design of their new national curriculum (Department of Education and Science & the Welsh Office, 1988; Ministry of Education, 1991a). The idea of structuring a national curriculum around levels of achievement had been developed by the Task Group on Assessment and Testing (TGAT) set up in 1987 by Kenneth Baker, the Secretary of State for Education and Science (Department of Education and Science & the Welsh Office, 1988).

The task group, which was chaired by Paul Black, was asked to propose a plan for assessment that would support the implementation of national testing and reporting at ages 7, 11, 14, and 16 (called Key Stages one to four). The group's response (Department of Education and Science & the Welsh Office, 1988, p. 32) was to recommend an approach to assessment based on levels:

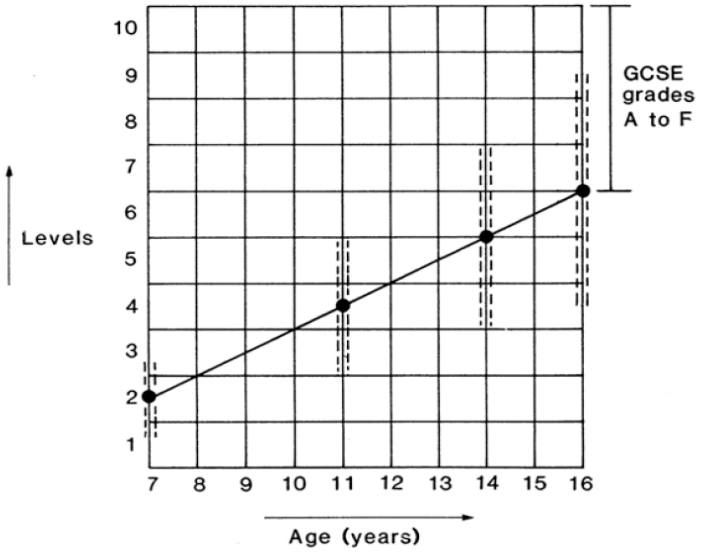
> We recommend that each of the subject working groups define a sequence of levels in each of its profile components, related to broad criteria for progression in that component. For a profile component which applies over the full age range 7 to 16, there should be ten such levels, with corresponding reduction for profile components which will apply over a smaller span of school years.

The TGAT report noted that structuring the curriculum by using levels allowed for assessment that was criterion referenced (Department of Education and Science & the Welsh Office, 1988). It was emphasised that students would achieve any given criterion at different ages. The report suggested that 10 levels would be needed and that students should be expected to progress though a level every 2 years:

> We propose that the criteria defining successive levels be so chosen that a pupil could reasonably be expected to progress by one level in two years of work in that profile component. Over the age range 7–16 this would imply a need for 5 or 6 levels. At both ends of the age range, however, some will be unable to progress as fast as others, and some will be able to make quicker progress. This leads us to recommend that a total range of ten levels will need to be defined. (p. 32)

The main TGAT report used a pictorial representation to help describe the assessment scheme (Department of Education and Science & the Welsh Office, 1988). This representation or diagram, which can be seen below in Figure 2, used vertical bars at each of the key national testing ages to show "a rough speculation" of the range of levels within which about 80% of students might be expected to be achieving (p. 32). A bold line through the centre of the bars was used to show how the expected level of achievement changed by age. The four upper levels (7 to 10) were designed to line up with the achievement expectations of the General Certificate of Secondary Education (GCSE).

FIGURE 2 **The diagram included in the TGAT report that shows the relationship between achievement levels and age**



The TGAT report argued that teachers should be able to relate their frequent classroom assessments to the system of levels tied to criteria and urged that appropriate "procedures and training programmes be developed to help teachers relate their own assessments to the targets and assessment criteria of the national curriculum" (Department of Education and Science, & the Welsh Office, 1988, p. 36). In terms of reporting, emphasis was put on providing a profile of results within and across subjects. The profile components would "help to convey and draw upon the diversity of performance that a pupil may exhibit in any one subject" (p. 17).

The TGAT report went to some lengths to rationalise the proposed scheme as good assessment practice (Department of Education and Science & the Welsh Office, 1988). Assessment was described as "an integral part of the educational process, continually providing both feedback and feedforward" (p. 7). Four criteria were given for evaluating the quality of a system of national assessment. These were that:

- the assessment results should give direct information about pupils' achievement in relation to objectives: they should be criterion-referenced;
- the results should provide a basis for decisions about pupils' further learning needs: they should be formative;
- the scales or grades should be capable of comparison across classes and schools, if teachers, pupils and parents are to share a common language and common standards: so the assessments should be calibrated or moderated;

- the ways in which criteria and scales are set up and used should relate to expected routes of educational development, giving some continuity to a pupil's assessment at different ages: the assessments should relate to progression. (pp. 8–9)

Referring to the criteria, the members of the task group noted: "Our recommendations have been composed in the light of these. Unless the criteria are met, the potential value of national assessment in assisting learning and supporting the professional development of teachers is unlikely to be realised" (p. 8). Likewise, the authors of the TGAT report noted that these criteria had not generally been met by any system, and that their task was to create such a system while avoiding damage to learners. The task group members described their recommendations in the following terms:

> They are evolutionary in that they build on examples of good practice that we have studied, some of them of recent origin. They are radical in that they are developed and will be adopted on a national scale, and because our remit can be fulfilled in a positively helpful way only by some quite new departures. (Department of Education and Science & the Welsh Office, 1988, p. 12)

Developments in criterion-referenced assessment

As noted above, the TGAT report's list of general criteria for a national system of assessment included a requirement that assessment results should be criterion referenced (Department of Education and Science & the Welsh Office, 1988). Criterion referencing involves reporting achievement against curriculum aims rather than against the achievement of other students (normative assessment). The criterion-referencing approach to assessment became popular in the 1970s and 1980s and led to the development of new types of reporting frameworks. One example was a reporting framework for writing that was developed in Australia. Within this framework, which has been described by Griffin and Mount (1989), Rasch measurement techniques were used to develop a described scale spanning from prep to grade 12 and involving nine achievement bands. Teachers could use the framework to show how their students were progressing. Griffin and Mount noted that students would not generally master a band before beginning to exhibit some of the behaviours described in the next band. Commenting on a graphical representation of the framework, they wrote:

> The plots for the bands overlap. Any individual should therefore exhibit a broad range of development at any one time. In reading it can be expected that a student will exhibit behaviours covering about three bands or even four of the current bands at the upper level. The extent to which the behaviours will be exhibited will also vary. Identification of a specific level of development defined by a single descriptive indicator (score or a single band level) would be, in all likelihood, inaccurate. (Griffin & Mount, 1989, p. 8)

When describing a similar framework for reading, Griffin (1990) commented on a criticism that the use of a described framework could result in the described indicators becoming "a de facto centralised curriculum" (p. 305). He noted that this was a possibility but questioned whether such an approach would be successful. He noted that, although some indicators might provide useful teaching activities, "teaching the assumed effect of reading development, i.e. the indicator or the observable behaviour pattern, may not result in the cause (reading ability) to develop" (p. 305).

It is likely that work on criterion-referenced reporting frameworks, such as that described above, was well known to curriculum developers in New Zealand.[2] For instance, a side-note within the

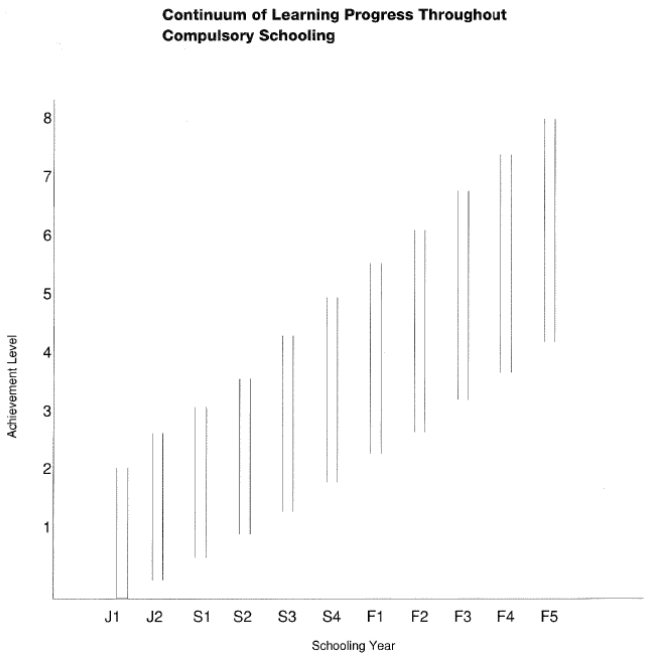
2 Griffin (1990) described how a similar reporting framework for reading was "circulated among a representative sample of academics, consultants, school inspectors and other advisers in several Australian states, in New Zealand and in the United Kingdom" (p. 298).

aforementioned 1991 discussion document stated, “The selection of eight levels provides consistency with the Australian Cooperative Assessment Project, of which New Zealand is a member” (Ministry of Education, 1991c, p. 21). Certainly, Griffin (1987) had shared earlier work on the development of literacy frameworks with the Australian Cooperative Assessment Project.

The 1991 national curriculum discussion document

The first published pictorial representation of New Zealand’s curriculum-levelling construct appeared in a discussion document on the national curriculum that was circulated in 1991 (Ministry of Education, 1991c). This representation, which can be seen below in Figure 3, bears a striking resemblance to the above-mentioned diagram (see Figure 2) that appeared in the TGAT report (Department of Education and Science & the Welsh Office, 1988). This early representation of New Zealand’s curriculum-levelling construct was presented in two separate places within the discussion document: once to illustrate how achievement levels related to school years and once to show when national monitoring would occur across the year levels. Figure 3 shows the first of the pictorial representations included in the discussion document (Ministry of Education, 1991c, p. 22).

FIGURE 3 **The version of the curriculum-levelling construct that is included in *The National Curriculum of New Zealand: A discussion document***



The representation was accompanied by a short explanation which emphasised that curriculum levels were not to be equated with year levels, that students in the same class operated at different levels, that there would be no requirement for students to reach a particular level by a particular age, and that teachers should know what level students could be expected to have achieved at different stages to inform their planning:

> The achievement levels are not to be confused with years of learning. In any class there will be some students who are achieving at higher levels than those of most of their peers, while a few others will be performing at lower levels. Students will also be operating at different levels in

> different subjects, and even in the achievement aims of the same subject in any one year. Thus, there will be no requirement for students to reach a particular level by a particular age. However, teachers will be expected to know what levels of achievement learners are likely to reach at particular stages to assist them in their planning of appropriate activities. (Ministry of Education, 1991c, p. 22)

Drawing upon their knowledge of the era, one of the systems-level experts with whom we spoke talked about the rationale behind the then Minister of Education Lockwood Smith's belief that year levels should not be equated with curriculum levels. They explained:

> He [Lockwood Smith] wanted to be really clear that everyone got the idea that kids were at different levels. Just because they were in Year 4 or 6 or 8, it didn't mean that everybody in the class was at the same level. He was the original personalised learning man actually . . . instinctively I think lots of teachers knew that anyway, but he wanted that to be really spelled out. (Systems-level expert: Interview 3)

The 1991 discussion document indicated that all subject syllabuses would be revised to provide clear statements of the achievement aims and objectives to be met at the different levels (Ministry of Education, 1991c). It noted that the development of objectives would be carried out starting in 1991 and that work in English, science, mathematics, and technology would be prioritised. Interestingly, the document noted that not all curriculum aims were able to be included as objectives. Specifically, it stated that:

> The objectives will not incorporate all the aspects of learning required by a syllabus. It would not be appropriate to set out some of the more highly developed understandings and skills in eight levels of achievement to be learned throughout school (for example: the ability to enter imaginatively into events of the past, to evaluate style in literature, or to perform music according to the composer's intention). Furthermore, there are qualities, such as integrity, which are vital to learning but which do not lend themselves to progressive measurement at all. (p. 23)

The discussion document noted that the number of levels was yet to be finalised and that the number might vary across subjects (Ministry of Education, 1991c). It indicated that "the Government has specified that for the basic subjects of English, mathematics, and science there will be either eight or ten levels of achievements" (p. 21).

Our conversation with an expert who had been involved in curriculum development at the Ministry of Education during the 1990s provided us with some additional insights into how and why the decision to present the curriculum in eight levels was ultimately reached. Talking about the debate that surrounded this issue, this participant explained that some mathematicians argued for as many as 32 levels, while others, involved in the development of the English curriculum, made a case for there being as few as three. They explained:

> So, the question of how many levels were there I think is . . . quite important. Those of us who were on the policy side of this debated this for quite some time and finally, put to the Minister a sort of compromise option of eight levels to explicitly acknowledge the Minister's [Lockwood Smith] concern that the curriculum allow kids to progress at their own rate. He definitely did not want the levels to line up with each of the years of schooling. We found that tricky to imagine in terms of the qualifications end of the schooling system. And so, the compromise we put to him was that there was a level each for the last three years of schooling, for the different levels of leaving qualification, and that the rest of the 10 years, there were five levels to be spread across

> the remaining years of schooling. So that was, if you like, the underpinning of the actual levels. (Curriculum developer interview)

As previously noted, the discussion document also used a diagrammatic representation of the curriculum-levelling construct to describe proposals for systematic national monitoring (Ministry of Education, 1991c). This would occur "at S4 [Standard 4] and F2 [Form 2], based on the systematic reporting of achievement as defined by the levels of achievement" (p. 25). It was also noted that School Certificate would be used to monitor national standards in Form 5. No mention was made of expected achievement levels at the proposed monitoring points.

The structuring of the curriculum into levels was also mentioned in a section that outlined curriculum principles. Principle 3, for instance, indicated:

> The National Curriculum will establish direction, defining clearly the achievement standards expected of students. It will establish a continuum of clear learning objectives throughout the school years. Progress and achievement will be monitored against the learning objectives to enhance students' learning. (p. 6)

The 1993 curriculum framework

In 1993, the Ministry of Education published a revised curriculum framework (Ministry of Education, 1993c). This version of the framework did not contain a pictorial representation of the curriculum-levelling construct and detail about the levelled nature of the curriculum was limited.[3] The 1993 framework noted that curriculum statements would contain sets of achievement objectives. It explained that these objectives would be presented in levels (usually eight) and would "indicate progression and continuity of learning throughout schooling from year 1 to year 13" (p. 22). This document also included the statement, "In any one class, students may be working at a range of levels, both in the different learning areas, and within a learning area. They will work at their own rate while being encouraged to strive for higher goals" (p. 23). Furthermore, the 1993 framework acknowledged that assessment would take place at key transition points (school entry, Year 7, and Year 9). There was, however, no mention of systematic national monitoring. Instead, it explained that school entry would rely on "more systematic use of current diagnostic procedures for five-year-olds" (p. 25). According to the framework, at Years 7 and 9, banks of nationally standardised assessment tasks were to be developed. The banks of items would "be used by schools to assess the relative performance of their students against national standards in the areas of learning covered by the tasks" (p. 25).

Like the 1991 draft curriculum framework, the structuring of the curriculum into levels was also mentioned in the revised document. Within the 1993 framework, the second principle stated: "The New Zealand Curriculum fosters achievement and success for all students. At each level, it clearly defines the achievement objectives against which students' progress can be measured" (Ministry of Education, 1993c, p. 6).

3 A diagram was used to show that curriculum statements would be organised around strands. Each strand would be based on one or more achievement aims and would be divided into a number of levels of achievement with each level containing a set of achievement objectives.

The curriculum-levelling construct within *Mathematics in the New Zealand Curriculum*

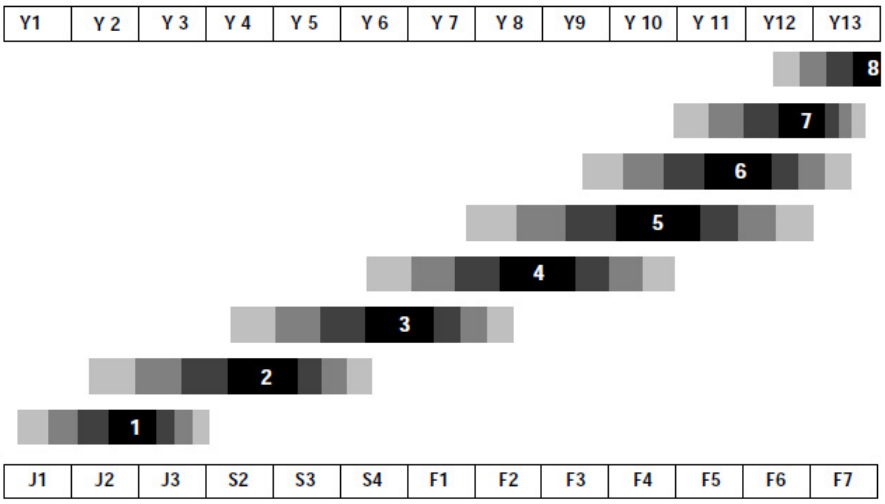
The 1991 publication of the draft mathematics curriculum statement (Ministry of Education, 1991b) represented another important landmark in terms of the evolution of New Zealand's curriculum-levelling construct. This document, which was the first of the updated syllabuses organised around achievement objectives, was released for feedback from schools and teachers. Although the draft mathematics curriculum did not include a pictorial representation of the curriculum-levelling construct, it provided a detailed written description of the relationship between year levels and curriculum levels. This description noted that each learner was an individual whose learning development and rate of progress was different from others. In addition, it stated that the curriculum levels were not to be seen as the "rungs of a ladder which was to be climbed as quickly as possible" (p. 14). The text that described the curriculum-levelling construct in the draft mathematics statement is provided in full below:

> Level 1 should be achieved by most children some time during J1[4] or J2. Some children will reach this level of achievement earlier (perhaps even before arriving at school), and some only later.
>
> Level 2 will be achieved by some children in J2 or even earlier, but most will achieve at this level in J3 or S2. A few children will not reach this level of achievement until later.
>
> Level 3 will be achieved by most children some time in S3 or S4. A few children will reach this level of achievement earlier than S3 and some will not reach it until later.
>
> Level 4 will be reached by the majority of learners during F1 or F2, with some achieving it considerably earlier and some later.
>
> Level 5 should be achieved some time in F3 to F5. A large proportion of students will have achieved at this level by the end of F3. Most of the rest will reach it before the end of F4.
>
> Level 6 should be achieved by a large proportion of students about the end of F5. Some will reach it earlier. Most should be able to achieve at this level after four years at secondary school.
>
> Some students may achieve at Level 7 (and a few even at Level 8) at the end of F5, but these levels describe the achievement typically expected of students performing at F6 and F7 standard, respectively. (Ministry of Education, 1991b, pp. 13–14)

In 1992, a revised version of the mathematics curriculum was published (Ministry of Education, 1992). Within this document, which was entitled *Mathematics in the New Zealand Curriculum*, the written description of the curriculum-levelling construct was replaced by a pictorial representation. This representation, which can be seen below in Figure 4, was prefaced with the introduction, "The general relationship between the levels and years at school is described in the diagram on the following page" (p. 16).

4 J1–3 = Y1–3, S2–4 = Y4–6, F1–7 = Y7–13. Refer to Figure 4 for futher clarification.

FIGURE 4 **The representation of the curriculum-levelling construct that is depicted in *Mathematics in the New Zealand Curriculum***



Notably, the pictorial representation of the curriculum-levelling construct that is contained in the revised mathematics curriculum (Ministry of Education, 1992) bears a strong resemblance to the curriculum-levelling construct diagram that is depicted in our current curriculum (Ministry of Education, 2007). Like the 2007 representation, the curriculum-levelling construct that is depicted in the 1992 mathematics curriculum uses horizontal shaded bars to show the relationship between year levels and curriculum levels. Interestingly, no explanation was given in the mathematics statement for the meaning of the shading. This was something that we discussed with the participant who had been involved in curriculum development at the Ministry of Education during the 1990s. They explained:

> You see the way those bars fade out at the ends? This was a terrific bit of computer drawing in those days . . . It was supposed to represent that they're [the curriculum levels are] open-ended. So that the majority of kids [in Year 6] will be at level 3, there'd be a significant number still not having achieved level 2. There'd be a significant number who had already embarked on level 4, and so on at the extremes of either side of that . . . It [the shading] was not supposed to represent the fact that some of the level 2 or 3 objectives were the same, or were the same level of difficulty . . . It's all about the x-axis representing your socially promoted year of schooling. (Curriculum-developer interview)

Here, it is interesting to note that the shaded sections in the 1992 mathematics curriculum did not necessarily line up with the written descriptions that were provided in the 1991 draft mathematics statement. For example, the draft mathematics statement made it clear that most students would be achieving curriculum level 1 sometime during Year 1 (J1) or Year 2 (J2) (Ministry of Education, 1991b). In contrast, as can be seen above in Figure 4, the shading for curriculum level 1 in the 1992 version is darkest at Year 2 (J2) and Year 3 (J3). In general, the shading in the 1992 curriculum-levelling construct seemed to indicate that students would be achieving at a given curriculum level at a slightly later point in their schooling than was specified in the written version of the construct that was provided in the 1991 draft document.

There was some discussion within the mathematics curriculum about the relationship between year levels and curriculum levels (Ministry of Education, 1992). This discussion appeared in a

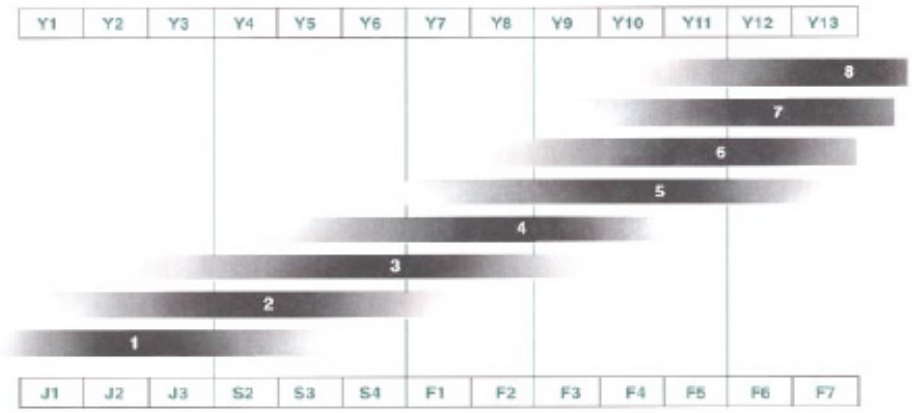
separate section of the document, where the idea of a "development band" was introduced (p. 19). The document explained that the levels structure was not meant to imply that students should be accelerated onto the next level once they had mastered the content at the level within which they were operating. It noted that such an approach had the potential to limit student learning. It also warned against inhibiting mathematical development by requiring students to repeat work they had previously mastered. The development band, which included sample activities and accompanied the achievement objectives for each level, was described as follows:

> The intention of the development band is to encourage teachers to offer broader, richer, and more challenging mathematical experiences to faster students. Work from the development band should allow better students to investigate whole new topics which would not otherwise be studied and to work at a higher conceptual level. Talented students should have their interest in mathematical ideas further stimulated and their understanding of the nature of mathematics deepened. Teaching approaches which may build on the interest of students include: allowing students themselves to select the topic or content they wish to pursue and to set their own goals; allowing the opportunity for individual and independent study, perhaps using a contract plan; and encouraging access to a broader range of higher level resources. (p. 19)

The curriculum-levelling construct within *Science in the New Zealand Curriculum*

An updated representation of the curriculum-levelling construct appeared a year later in *Science in the New Zealand Curriculum* (Ministry of Education, 1993b, p. 15). This representation, which is below shown in Figure 5, was subtly different from the one that had appeared a year earlier in the mathematics curriculum (Ministry of Education, 1992). For example, the shaded bars in the science representation appeared to stretch over a greater range of year levels than they did in the mathematics curriculum. In addition, as can be seen in the figure below, the science representation used vertical lines to separate the year levels into five bands: J1–J3, S2–S3, F1–F2, F3–F5, and F6–F7 (Ministry of Education, 1993b). No explanation was given for the inclusion of these bands.

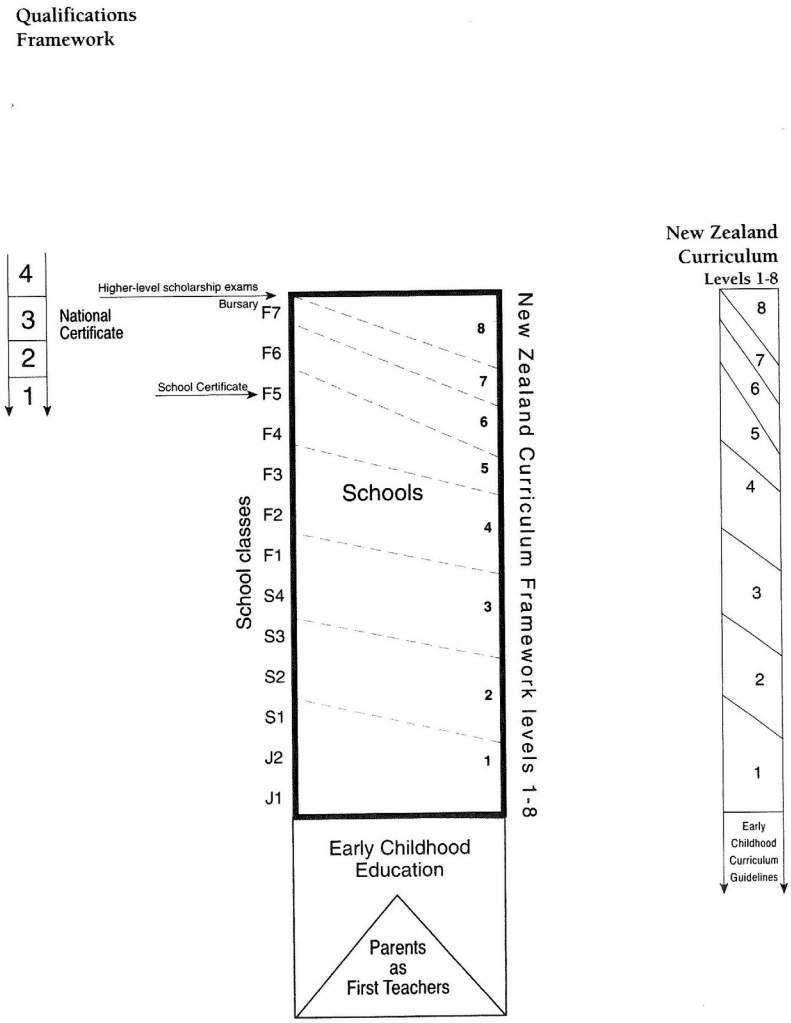
FIGURE 5 **The representation of the curriculum-levelling construct that is depicted in *Science in the New Zealand Curriculum***



Educating for the 21st century

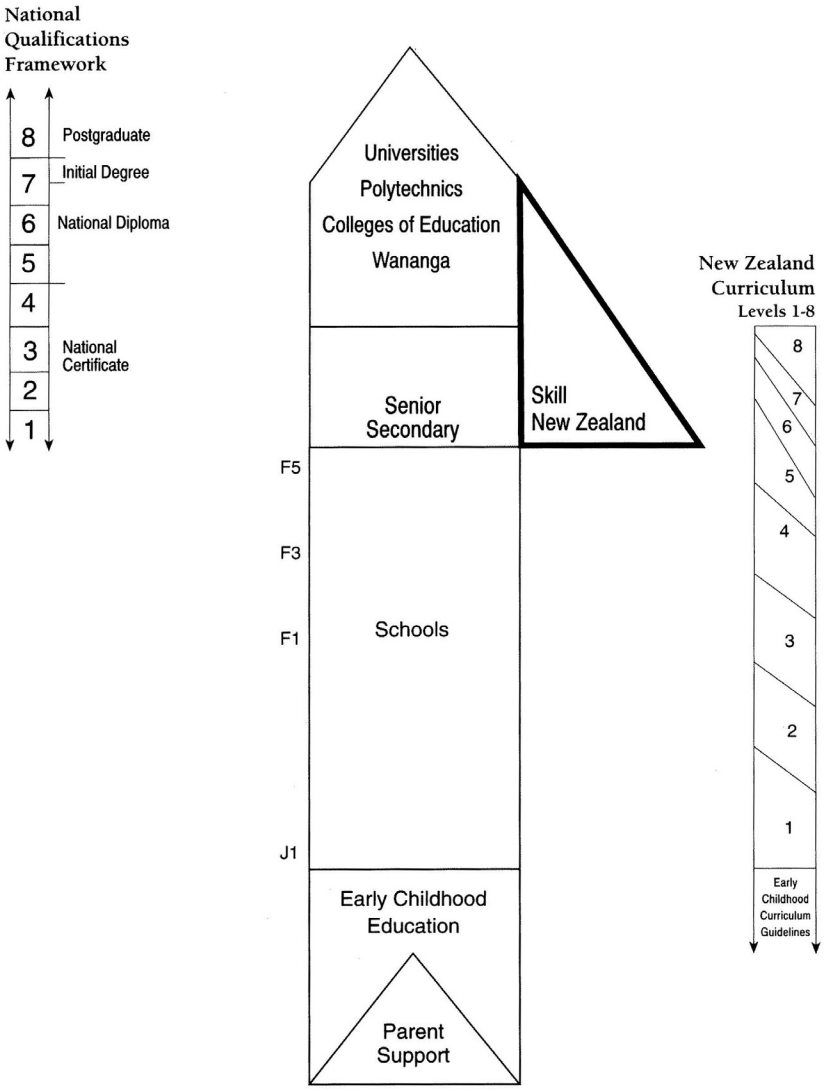
A very different representation of the curriculum construct was included in another discussion document that was released by the Ministry in 1993. Entitled *Education for the 21st Century: A Discussion Document* (Ministry of Education, 1993a), it was designed to stimulate public debate around national goals for education. The document contained a diagram that showed how curriculum levels were related to year levels. Within this diagram, which can be seen below in Figure 6, dotted lines were used to show how each level was associated with a different band of year levels (Ministry of Education, 1993a, p. 10). Level 4 of the curriculum, for instance, seems to be mainly associated with Form 2 (Year 8) and Form 3 (Year 9).

FIGURE 6 **The relationship between curriculum levels, year levels, and the National Qualifications Framework, as shown in *Education for the 21st Century***



The diagram was built up over five pages. The final iteration, which can be seen below in Figure 7, used the diagram to relate the levels of the New Zealand curriculum and the New Zealand Qualifications Framework to a seamless education system, stretching from parents as first teachers through to tertiary institutions (Ministry of Education, 1993a, p. 20).

FIGURE 7 **Curriculum levels and the seamless education system as shown in *Education for the 21st Century***



The use of the curriculum-levelling construct in the curriculum statements for English, technology, and the arts

Three differing representations of the curriculum-levelling construct can be seen below in Figures 8–10. These figures depict the construct as it was presented in the English (Figure 8: Ministry of Education, 1994b, p. 20), Technology (Figure 9: Ministry of Education, 1995, p. 11), and Arts (Figure 10: Ministry of Education, 2000, p. 16) curriculum documents. As well as the obvious colour differences, there are additional more subtle differences between the ways in which these constructs were represented. An example of such a difference can be seen by comparing the representation of the curriculum-levelling construct that appeared in the Arts curriculum, which can be seen below in Figure 10, with other versions of this construct. Within the Arts curriculum, some of the numbers that were used to label the curriculum-level bars appeared in a slightly different position than the equivalent numbers in other iterations of this diagram (see, for example, the position of the number 4).

FIGURE 8 **The representation of the curriculum-levelling construct that is depicted in *English in the New Zealand Curriculum***

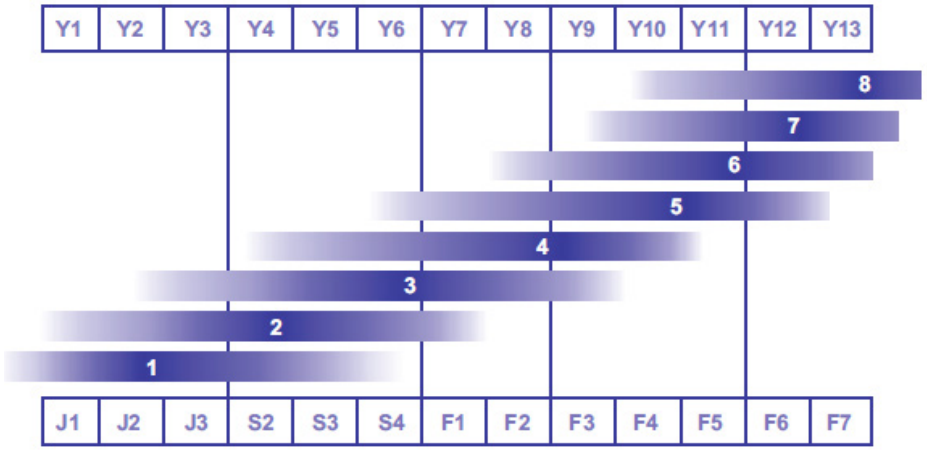


FIGURE 9 **The representation of the curriculum-levelling construct that is depicted in *Technology in the New Zealand Curriculum***

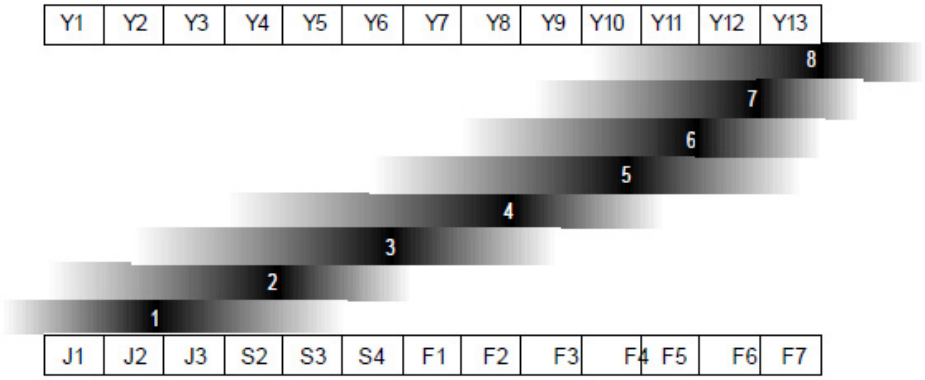
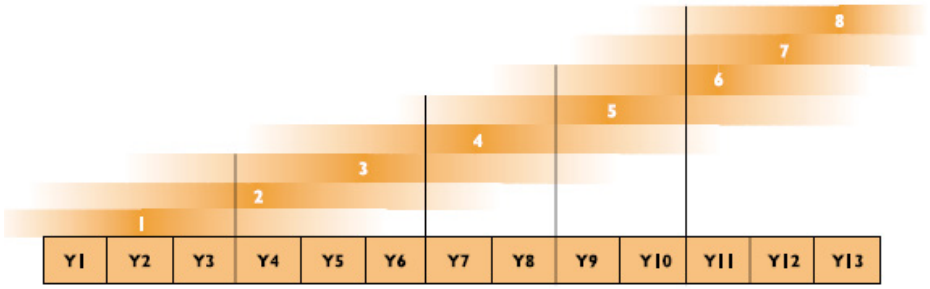


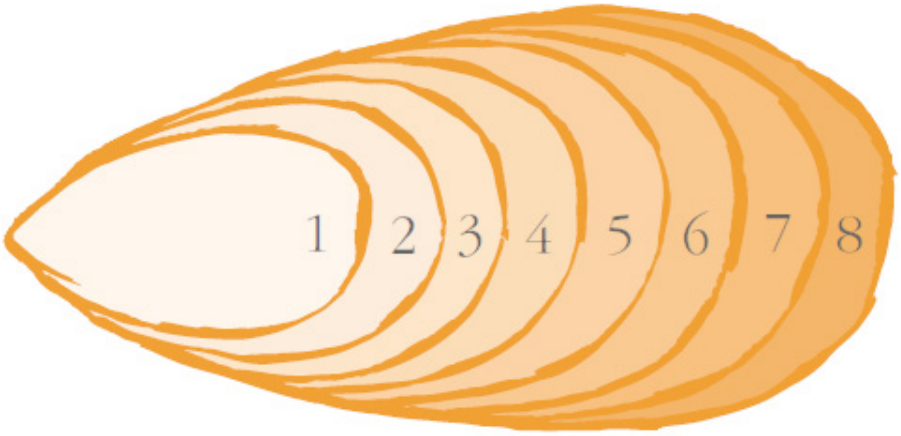
FIGURE 10 **The representation of the curriculum-levelling construct as depicted in *The Arts in the New Zealand Curriculum***



Moreover, the Arts curriculum statement included a second diagram to represent the organisation of levels and emphasise the spiralling nature of learning. The diagram, which can be seen below in Figure 11, was accompanied by the following text (Ministry of Education, 2000, p. 15):

> Learning in each discipline is spiral in nature and, at each level, it includes and builds on learning from previous levels. Opportunities to revisit, make connections with, and extend existing skills, knowledge, and understanding assist students to learn in depth.

FIGURE 11 **A diagram from *The Arts in the New Zealand Curriculum* that represents the organisation of curriculum levels and emphasises the spiralling nature of learning**



The development of the 2007 curriculum framework

In 1996, concerns related to the speed and scope of curriculum change and implementation led to a commitment by the then Minister of Education to new timelines and longer transitions between draft and final curriculum statements. This also included an understanding that a time of "consolidation and reflection" would be undertaken when the last curriculum document was released (Ministry of Education, 2002, p. 7). Part of this involved a stocktake review which resulted in the *Curriculum Stocktake Report to Minister of Education* (Ministry of Education, 2002). That report noted that the use of achievement levels rather than class/year levels was a fundamental structuring mechanism within the curriculum and outlined a rationale for this arrangement:

> This policy recognises that children learn and develop at different rates, that children of the same age will be at different levels of development and that a child may be further along the continuum of development in one area than another. (p. 43)

The curriculum stocktake report noted that a curriculum built around levels of achievement had strengths and weaknesses (Ministry of Education, 2002). For instance, it acknowledged theoretical concerns and stated that "the structure of the achievement objectives into eight levels is artificial and does not match the realities of learning and teaching" (p. 29). On the strengths side, the report's authors pointed to evidence that teachers found the "levels of the curriculum statements and ngā tauākī marautanga mō te motu useful for multi-level teaching and planning to meet the needs of individual students" (p. 29).

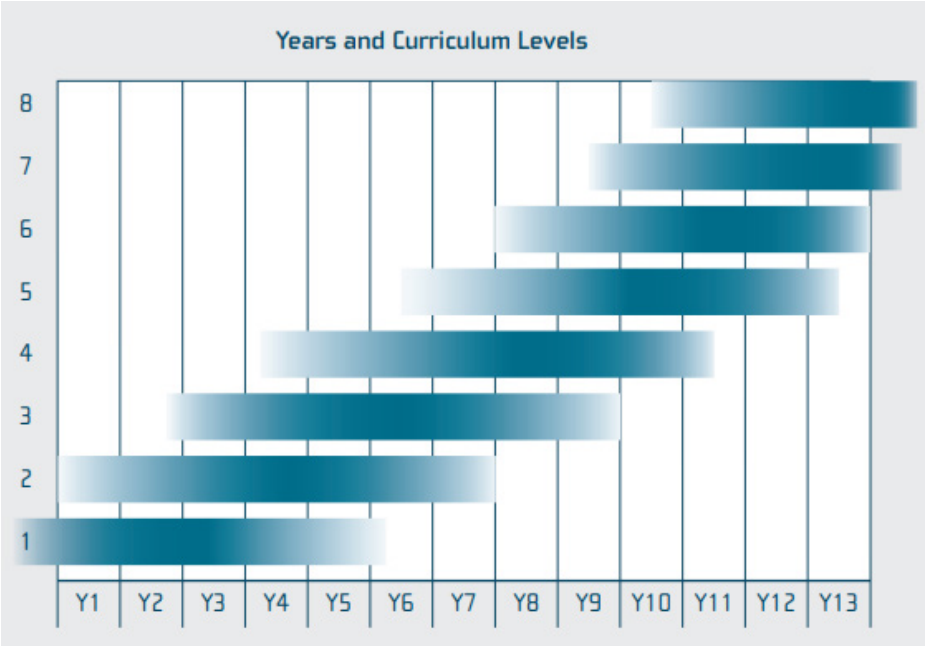
On balance, the report's authors argued that the levels structure should be maintained (Ministry of Education, 2002, p. 26):

> The eight level and strand structures are useful for organising and clarifying expectations of learning. They are not intended to specify a one-size fits all learning progression. Although the rationale for and the number of levels has been questioned there are significant risks associated with changing the number of levels. This structure should be maintained, but the number of strands and objectives specified at each level should be reviewed.

The stocktake process led to the development of *The New Zealand Curriculum: Draft for Consultation* (Ministry of Education, 2006). As can be seen below in Figure 12, the document contained a new graphical representation of the curriculum-levelling construct (Ministry of Education, 2006, p. 34). Notably, no explanation accompanied the graphic. Text that supported the idea that students progressed at different rates had, however, been presented earlier in the document:

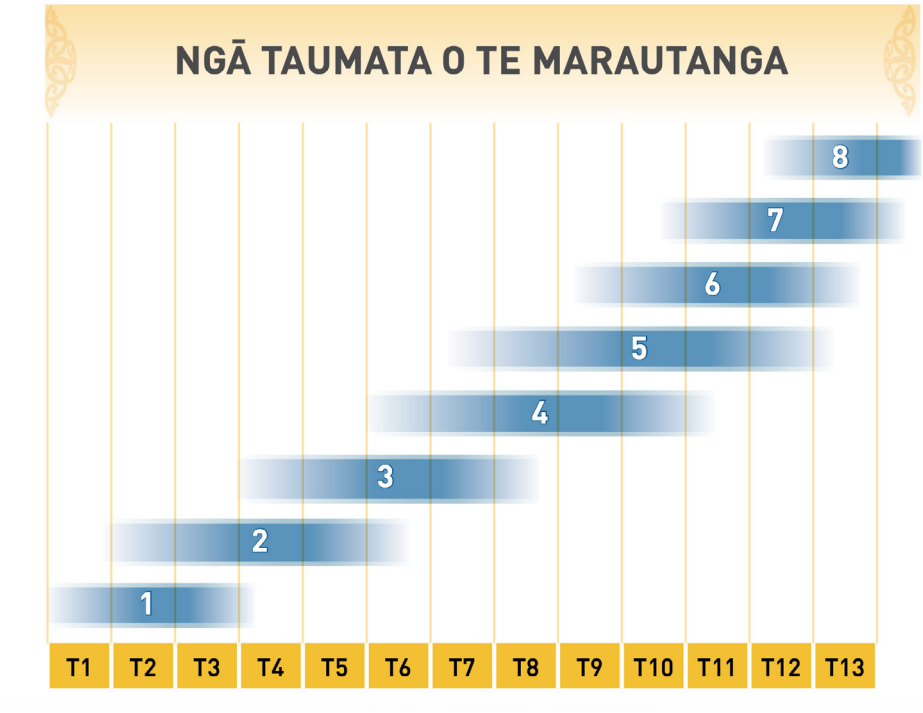
> The curriculum assumes that all students can learn and succeed, but not necessarily on the same day, at the same time, or in the same way. It assumes that schools influence many of the conditions that directly affect the learning of their students. It imposes no limits on how many students can be successful, on how much they can learn, or how rapidly they can advance. (p. 28)

FIGURE 12 **The representation of the curriculum-levelling construct in the *New Zealand Curriculum: Draft for Consultation***



The 2006 draft curriculum was followed in 2007 by *The New Zealand Curriculum* (Ministry of Education, 2007). Within this document, the curriculum-levelling construct was represented using a very similar diagram to that which appeared in the 2006 draft document (see Figure 1 in Section 1 of this report). A further version of the curriculum-levelling construct appeared in *Te Marautanga o Aotearoa* (Ministry of Education, 2008a, p. 21). This construct can be seen below in Figure 13.

FIGURE 13 **The representation of the curriculum-levelling construct that is depicted in *Te Marautanga o Aotearoa***



The research that is reported on here has focused on the curriculum-levelling construct that is depicted in *The New Zealand Curriculum* (Ministry of Education, 2007).

Summary

The curriculum-levelling construct emerged in the early 1990s. It appears to have gained much of its inspiration from curriculum developments in England and Wales and was accommodated into thinking about how to frame a national curriculum that had been actively worked on in New Zealand over the preceding decade. For the most part, graphical representations have been used to present the curriculum-levelling construct in curriculum documents. These have varied to some degree and it is difficult to find a definitive source that explains exactly how the construct should be interpreted. The history of the curriculum-levelling construct provides a useful backdrop for the next section, which looks at how experienced leaders and teachers in schools interpret and use this construct.

3. Interpretations and uses of the curriculum-levelling construct

A key goal of this research was to investigate how the curriculum-levelling construct was being interpreted and used in schools. Our overarching finding was that differing interpretations of the curriculum-levelling construct existed, and that these interpretations shaped the ways in which teachers and school leaders used the construct. This finding suggests that the curriculum-levelling construct may, at times, hinder teachers' judgement-making and planning processes. This section begins by establishing the existence of divergent interpretations of the curriculum-levelling construct. It then examines the four factors that have brought about these differing understandings of the curriculum-levelling construct.

Differing interpretations of the curriculum-levelling construct exist

Our conversations with teachers, school leaders, and PLD facilitators revealed that differing interpretations of the curriculum-levelling construct existed. In many cases, the existence of these differing interpretations was reported to us by participants who had a view across a range of schools. For example, one primary school teacher explained how the experience of students transferring to their school from other schools had alerted them to the different ways in which teachers understood the expectations associated with a given curriculum level. They commented: "You get children who come to you from a different school and they've been told they're at this [curriculum] level, but you think there's no way they're there" (Teacher interview: Primary). Likewise, two other primary school teachers who had taught at a number of schools commented on the different ways in which the curriculum-levelling construct had been understood at each of the schools that they had worked at. One of these teachers explained: "I see it [the curriculum-levelling construct] as a foundation that schools can build from, like the anchor. The flipside is that so many schools have different interpretations, so that when you flip from school to school you see different sides of it" (Focus group discussion: Session 1).

The views of these primary school teachers were echoed by the deputy principal of an innovative new secondary school. They explained that conversations with teachers and school leaders from other schools had alerted them to the fact that interpretations and uses of the curriculum-levelling construct differed from school to school. In particular, they noted that conversations with visiting educators had drawn their attention to key differences in the ways in which their school—as compared with others—understood and used the curriculum-levelling construct with students in Years 11–13. Likewise, another secondary school teacher commented:

> We found when doing transitioning from other schools to our school, their [the other schools'] curriculum levels are very different . . . The child is put on curriculum level 4, but . . . when I test them, they're on curriculum level 2. (Focus group discussion: Session 3)

The impressions of these primary and secondary school teachers were confirmed by an experienced PLD facilitator who noted: "We're all these years on, from 1993 to 2020 and I personally have found huge amounts of confusion [about the curriculum-levelling construct] out in schools" (PLD facilitator: Interview 2).

In the next part of this section we identify a number of the factors that have contributed to the existence of differing interpretations and uses of the curriculum-levelling construct. These factors include the lingering influence of the National Standards, variability in the ways in which the shading in the curriculum-levelling construct is understood, the emergence of sub-levelling language, and avoidance of the curriculum-levelling construct. We investigate how each factor has influenced the ways in which teachers and school leaders draw upon the curriculum-levelling construct to inform curriculum delivery and design decisions, and to guide their judgements of student achievement.

Factors contributing to differing interpretations of the curriculum-levelling construct

Contributing factor 1: The National Standards

The first factor contributing to differing interpretation of the curriculum-levelling construct involved the National Standards. There was a widespread belief amongst teachers and PLD facilitators in the study that the National Standards had shaped, and indeed, continued to shape, people's understanding and use of the curriculum-levelling construct. Here, it is important to note that participants were not asked about the National Standards or about the influence that this policy might have had upon how people interpret the curriculum-levelling construct. Instead, participants' comments about the National Standards emerged, unprompted, as they sought to explain how the curriculum-levelling construct was understood and used in schools. Their comments indicate that the National Standards have shaped teachers' understanding and use of the curriculum-levelling construct in three ways. First, for some teachers, the National Standards expectations have effectively become the default levelling construct. Secondly, some teachers are aware of and use the curriculum-levelling construct, but their understanding of it continues to be shaped by the National Standards. Finally, in at least some instances, teachers use the National Standards expectations to inform their planning and assessment of numeracy and literacy, but draw upon the curriculum-levelling construct to guide their planning and assessment in other learning areas. The following sections provide additional details about each of the ways in which the National Standards have influenced teachers' understanding and use of the curriculum-levelling construct.

National Standards: Impact 1

Our conversations with teachers and PLD facilitators indicated that, in some primary schools, the expectations associated with the National Standards continued to dominate. In such schools, many teachers were unaware of the curriculum-levelling construct. The National Standards were introduced in 2010 (Ministry of Education, 2009b) and were removed 8 school-years later at the beginning of 2018 (Hipkins, 2017). Therefore, a large cohort of teachers undertook teacher training and began their teaching careers while these standards were in effect. Despite having been discontinued over 2 years ago, participants' comments indicated that the expectations associated with the National Standards continued to shape educators' understandings of the relationship between curriculum levels and year

levels. One of the PLD facilitators with whom we spoke had been involved in the implementation of *NZC*. They talked about how the introduction of the National Standards diverted teachers' attention away from the new curriculum (and the levelling construct that it contained). They explained:

> One of my first roles as a facilitator . . . was to go out and help schools get their heads around this document [*NZC*] and start using it. That was going quite swimmingly and then we had a change of government, and we had the National Standards and pretty much, most schools just put that [*NZC*] away. And . . . the National Standards documents became the default curriculum. Not that that was what we were encouraging as facilitators, but that is the reality of what happened. (PLD facilitator: Interview 2)

This PLD facilitator later talked about the ongoing effect that the National Standards have had upon teachers' understandings of how curriculum levels relate to year levels. When talking about work that they had done since the removal of the National Standards, they explained: "some of them [the teachers] couldn't find this document [holds up *NZC*] when we started doing local curriculum design last year. So, [the] National Standards became the default levelling system, I think" (PLD facilitator: Interview 2).

Likewise, a number of the teachers with whom we spoke talked about the ongoing impact that the National Standards have had on how people understand the relationship between curriculum levels and school year levels. The deputy principal of one primary school talked about why many of their colleagues have continued to focus on the expectations that are communicated within the National Standards. They explained:

> You have got to think, that we had National Standards for 8 years, and there was a massive cohort of teachers that came through that National Standards [period] that knew nothing else. So, it's trying to shift everyone back to actually, look at the curriculum levels, forget about National Standards and what happened in there. And actually look at this [the curriculum-levelling construct] here. (Teacher interview: Primary)

The deputy principal of another primary school made a very similar comment. While talking about the ways in which the teachers at their school understood the curriculum-levelling construct, they noted:

> I just find that within our staff, for instance, at the moment there are actually very few teachers that were around before National Standards. So that's like the only thing [they know], so to say that there's another way [of thinking about how curriculum levels relate to year levels], it's like 'woah' you know. It's quite a big deal. But I imagine in different settings depending on the experience of the staff, it might be a different story. (Focus group discussion: Session 3)

As this participant acknowledged, teachers' understandings of the curriculum-levelling construct—and indeed their awareness of its existence—were inevitably shaped by the point in time that they entered the profession. Here, it is important to note that even those teachers who were, in this participant's words, "around before National Standards" may have had limited opportunities to develop an understanding of the version of the curriculum-levelling construct that is depicted in the current New Zealand curriculum (Ministry of Education, 2007).

The introduction of the National Standards occurred at a time when most experienced teachers were still transitioning from using multiple curriculum statements (Ministry of Education, 1992, 1993b, 2000), each containing slightly different representations of the curriculum-levelling construct (see Section 2), to using one curriculum document containing a recognisable, but new, curriculum-levelling construct for all learning areas (Ministry of Education, 2007). Given this, at the time that the National Standards were introduced, it seems likely that most teachers were still developing an understanding of the curriculum-levelling construct that is depicted in the 2007 curriculum. Very little is known about the

degree to which experienced teachers had developed deep and/or shared understandings of the current curriculum-levelling construct prior to the introduction of the National Standards.

National Standards: Impact 2

A number of teachers talked specifically about how the expectations associated with the National Standards had informed their colleagues' understandings of the curriculum-levelling construct. For example, several teachers explained that the introduction of the National Standards had effectively removed the shading from the curriculum-levelling construct. This was commented upon by one intermediate school teacher, who explained:

> When I came to [name of intermediate school] and we started having discussions about it [the curriculum-levelling construct] . . . around the [time of the] shift out of National Standards, I started discovering that my colleagues were reading it [the curriculum-levelling construct] in a different way. I felt that what they'd done was put a National Standards model over the top of it. They took it to mean, the dark bits [in the curriculum-levelling construct] are where you should be. You're there if you're in the dark bits, but you're 'above' and 'below' if you're in the other bits . . . And I presume that [interpretation] was because of the National Standards. (Teacher interview: Intermediate)

This sentiment was echoed by a primary school teacher, who commented: "the experience that a lot of people have had with the National Standards has sort of tainted people's view of using those [curriculum-levelling construct] bands, if you would. I think it became, rather than bands, it became like boxes" (Focus group discussion: Session 3). This teacher's comment about "boxes" rather than "bands" aligns with the descriptions of expected progress that are presented within the National Standards documents (Ministry of Education, 2009a, 2009b). While these standards were in effect, there was an expectation that students should meet the demands associated with each curriculum level within a 2-year period. Evidence of this can be seen in the following extract from *The New Zealand Curriculum Reading and Writing Standards for Years 1–8* (Ministry of Education, 2009b, pp. 18–31):

- After one year at school, students will create texts as they learn in a range of contexts across the New Zealand Curriculum within level 1.
- After two years at school, students will create texts in order to meet the writing demands of the New Zealand Curriculum at level 1.
- After three years at school, students will create texts in order to meet the writing demands of the New Zealand Curriculum as they work towards level 2.
- After four years at school, students will create texts in order to meet the writing demands of the New Zealand Curriculum at level 2.
- By the end of Year 5, students will create texts in order to meet the writing demands of the New Zealand Curriculum as they work towards level 3.
- By the end of Year 6, students will create texts in order to meet the writing demands of the New Zealand Curriculum at level 3.

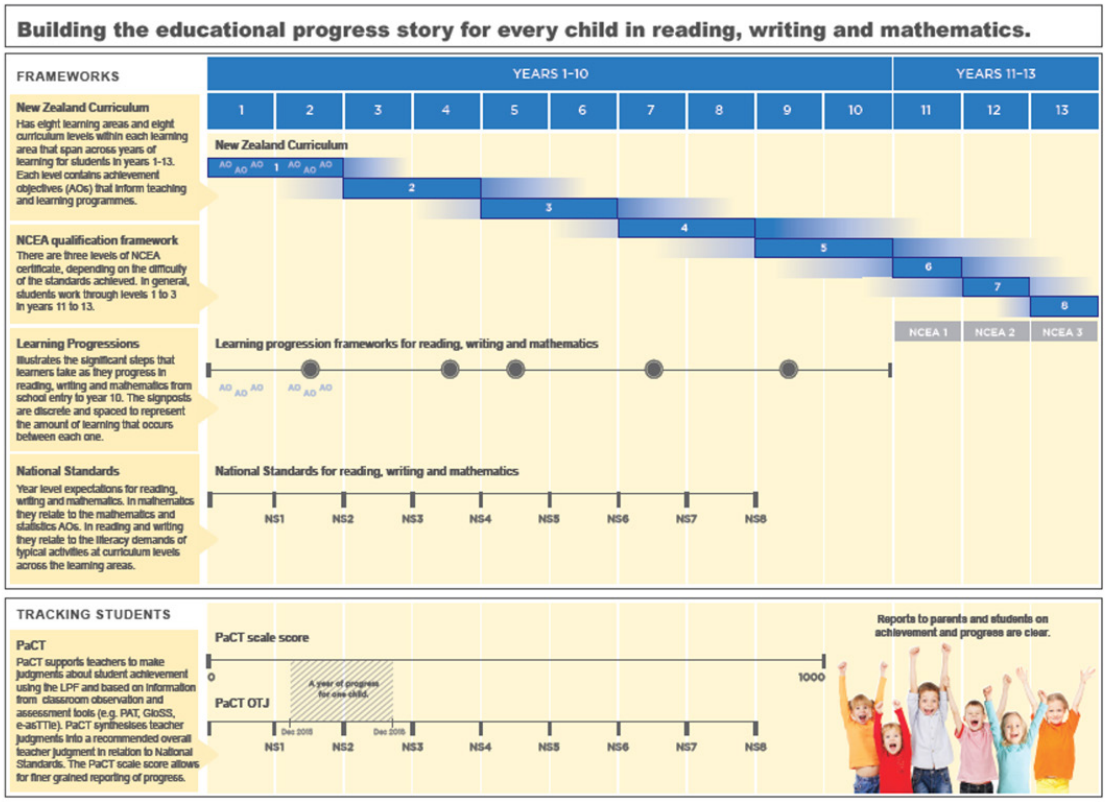
This description of the relationship between year levels and curriculum levels is more precise than the fluid way in which this relationship is depicted in the curriculum-levelling construct diagram.

The idea that the introduction of the National Standards had the effect of turning the curriculum-levelling construct into a series of defined boxes, as opposed to shaded bands, was also explored by a PLD facilitator. This participant, who expressed concern about the way in which some teachers of Years 7 and 8 students interpreted the curriculum-levelling construct, spoke favourably about a graphic that had been developed during the National Standards period. In their view, this graphic

(which they shared with us and can be seen below in Figure 14) helped to clarify the intended meaning of the curriculum-levelling construct. They explained:

> Whether you liked the National Standards or not, I honestly believe that the work done around that and some of the graphics that were shown around that helped clarify that [expectations for students in Years 7 and 8] for people . . . There is particularly one graphic, which they showed, for the first time ever, they [the Ministry of Education] had the skid graph, but within Years 7 and 8 they had an actual box around it showing, while the skid mark still extended beyond Years 7 and 8, the main part was sitting in level 4. (PLD facilitator: Interview: 1)

FIGURE 14 **Diagram explaining the relationship between school year levels, New Zealand Curriculum levels, the NCEA qualifications framework, the Learning Progressions Frameworks, the National Standards, and Progress and Consistency Tool (PaCT) scale scores**



For teachers in some schools, however, diagrams like this one have contributed to an ongoing sense of confusion about how to interpret the curriculum-levelling construct. One teacher explained:

> I think there can be quite a lot of confusion around the [curriculum-levelling construct] diagram in terms of National Standards [expectations]. Because the [curriculum-levelling construct] diagram shows that a child can be in Year 3 and still be achieving at level 1 and that's ok. However, National Standards does not say that, it's shifted our thinking. (Group interview: Reorua)

National Standards: Impact 3

At one primary school, the teachers explained how they used the expectations conveyed in both the National Standards documents (Ministry of Education, 2009a, 2009b) and the curriculum-levelling construct (Ministry of Education, 2007) to inform their teaching and assessment. Specifically, they

used the National Standards to inform their teaching and assessment of literacy and numeracy, and the curriculum-levelling construct to guide their teaching and assessment in other learning areas. The deputy principal of this school explained it this way:

> If I am being honest, you know, when we are looking at that graph in particular [the curriculum-levelling construct] . . . when we are reporting on our students, we will use that to inform the other things, outside of our core. So outside of numeracy and literacy we tend to look at that graph [the curriculum-levelling construct] and say, oh yes, the kid is sitting inside that band. So, for all of the other subject areas, PE, health we tend to use that [the curriculum-levelling construct] in terms of our overall judgment. But . . . with literacy and numeracy, although we don't use the National Standards, basically we have kept those benchmarks and that's what we adhere to. (Group interview: Reorua)

These teachers, who worked at a low decile primary school that served a predominantly Māori population, talked about the responsibility that they felt in terms of ensuring that their students had the necessary skills and knowledge in numeracy and literacy to succeed at intermediate and high school. For them, the National Standards had highlighted that most of their kids were achieving below where they should be. They explained: "when you put National Standards over the top of it [the curriculum-levelling construct] then it changes where they [the students] should be, and it's those fringe kids, and the majority of our kids fit in those areas" (Group interview: Reorua). Although these teachers preferred the fluid way in which the relationship between curriculum levels and year levels was described in the curriculum-levelling construct, they felt that their students were not well served by this. They explained:

> As primary school teachers we're happy to keep that fluid. But then the panic will set in once they [our students] get to intermediate and high school. So, we need to keep these tamariki moving so that when they do reach intermediate or high school they are at a level where they can cope. (Group interview: Reorua)

These comments raise the question of whether all students are equally well served by the way in which the relationship between curriculum levels and year levels is depicted in the current curriculum-levelling construct. Although the teachers at this school had significant reservations about the National Standards, they felt that an approach involving clearly defined benchmarks could offer a way forward. These ideas are explored in further detail in Section 4.

The last section has related how participants believed that the lingering effects of National Standards have contributed to the existence of differing interpretations and uses of the curriculum-levelling construct. Within the following section, we explore a second factor that has contributed to the differing interpretations and uses of the curriculum-levelling construct: the differing ways in which teachers understand the construct's shaded bands.

Contributing factor 2: Variability in the ways in which the shading in the curriculum-levelling construct is understood

The curriculum-levelling construct diagram depicts eight stepped bars—or bands—of varying lengths. Each band, which represents a curriculum level, has a darker central area and progressively fades out at either end. Because of its stepped nature, the shaded areas of the bands for levels 2–7 overlap with the bands immediately above and below them. In general, most teachers understood that the shading within the curriculum-levelling construct was intended to communicate that children learn and make progress at different rates. One primary school teacher explained:

> The shading is to show that it's [learning is] not just a straight line, and that all students in a particular year level won't be working at the same curriculum level. It shows the progression of learning. The development of understanding as children go through school. (Focus group discussion: Session 1)

Likewise, another primary school teacher commented:

> If you had your . . . year group run a race, there's going to be some kids who go really fast and they are kind of in the grey bit towards the next level and there's some kids who are going to come in a bit slower and they might be working on the level below. So, that's the shading to me is the spread out of the different kids and their abilities. And it might be different for different subjects as well. (Focus group discussion: Session 1)

In keeping with this notion, some teachers talked about the shading in terms of a bell curve. One intermediate school teacher explained:

> I always took it to be that each of the bars was a bell curve basically, so they were showing that, let's say, if I was to be looking at level 4, for example, the dark image shows the middle of the bell curve, where most children would be. So most children would be working at level 4 from about Year 8 till the end of Year 9, with a few of them [at that level] in Year 7. Then, the more transparent it gets, the more to the edge of the bell curve you are getting to. So, obviously there's a small percentage who are still working on level 4 in Year 10, and even some in Year 11. And conversely there are some who are starting into it in Year 6. So, they are in Year 6 and they are working at level 4 already. (Teacher interview: Intermediate)

Although there was widespread agreement amongst teachers about the basic function of the shading within the curriculum-levelling construct diagram, it was also clear that the shading had led to some differing interpretations of the construct. Two key issues emerged. The first of these related to teachers having varying interpretations of what the shading communicated with regards to expected or accepted achievement. The second issue was associated with differing understandings of the intention of the overlapping shaded sections at the end of each band.

Varied interpretations of shading: Impact 1

A number of participants noted that the shading resulted in teachers having varying interpretations of expected or accepted achievement. One primary school teacher acknowledged:

> We have some weird things going on with the grey bits around the edge and the solid bit in the middle, how people interpret that . . . I think that's where it gets maybe a bit, dicey, isn't the right word, but where people interpret it in a different way. The bit around the edges, the bit when they [the level bands] go blurry. (Focus group discussion: Session 1)

Two experienced PLD facilitators noted that they sometimes observed teachers using the shading within the curriculum-levelling construct to justify having low expectations. One PLD facilitator explained:

> That's . . . just alerted me to a few of the times when teachers have pointed to the skid marks [shading] and said, look, level 4 goes right up to Year 10, or whatever, so they [the students] are fine where they are. (PLD facilitator: Interview 1)

This sentiment was echoed by another PLD facilitator, who commented:

> My fear is . . . and has been for a long time, that that [the shading] leads teachers to not take seriously the sorts of things that are outlined in each learning area. And that a lot of what I see in schools that I work in … [is] quite low level learning opportunities for many kids. And that's not

> necessarily just in lower decile schools . . . If people took the high end of the fade out rather than the low end of the fade out, then I would be happier. (PLD facilitator: Interview 2)

Interestingly, the participant who had been involved in curriculum development at the Ministry of Education during the 1990s noted that the curriculum-levelling construct was conceived, at least in part, to prevent learners from being held back. They explained:

> We didn't invent the idea that kids develop at their own rate. That was invented by the kids. But the explicit acknowledgement, in the graph [curriculum-levelling construct], might've been the first time we'd tried to express it in a curriculum document. Probably due to the Minister's [Lockwood Smith's] insistence that we mustn't hold back fast learners. (Curriculum developer interview)

When asked to comment explicitly on the possibility that the shading could be used to justify having low expectations, this participant responded:

> I never thought of it [the shading within the curriculum-levelling construct] in terms of excusing [having low expectations], because the belief was—as much by the Minister [Lockwood Smith] as by the rest of us—that kids do develop at different rates, and teachers do get that happening [in their classes] . . . Teachers were always really proud of the fact that they had a whole range of kids working at their own pace in classrooms. So the [curriculum] developers weren't thinking in terms of excusing [low expectations] . . . It never crossed my mind to be honest. (Curriculum developer interview)

Although most teachers and school leaders acknowledged that the shaded areas could be understood differently by different teachers, few believed that the shading resulted in teachers interpreting and using the curriculum-levelling construct in unintended ways. In general, teachers and school leaders emphasised that maintaining a progress-oriented approach meant that teachers couldn't use the curriculum-levelling construct to justify having lower than intended expectations. One principal stated: "you can't use the shading to justify lower expectations if you are progress orientated" (Principal interview: Intermediate). Similarly, a primary school teacher commented:

> I haven't come across . . . teachers say[ing] they're [the student is] in the grey but it's fine they're not moving. Teachers today all want kids to shift . . . I don't think that [the curriculum-levelling construct] gives them [teachers] permission to leave kids in the grey. (Focus group discussion: Session 1)

Likewise, another primary school teacher noted: "[it's] nice how in this group we embrace the grey . . . Because that's what we do as teachers. We look at those students in front of us and we move them from where they are to that next step" (Focus group discussion: Session 1).

One systems-level expert acknowledged that unintended interpretations of the shading could enable teachers to justify having low expectations. They emphasised, however, that such expectations did not stem from the curriculum-levelling construct. They explained:

> When you look at those [fuzzy] boundaries, you could interpret that as . . . if the kid's in that band somewhere, they're ok and if they're out of that band they're either gifted or have special needs . . . So, it [the curriculum-levelling construct] could have been used that way. [But] I think there are many other social and cultural things that lead to people having possible low expectations. If you're under pressure, then you might use the diagram as a backup or a justification. But I don't think you would look at that and then say, 'I'm going to set my expectations low'. I can't imagine that. I've never come across any teacher saying that. (Systems-level expert: Interview 2)

This participant's comment points to the fact that few things can be understood in isolation, and that the broader educational, social, cultural, and political landscape inevitably shapes how people understand and interpret the curriculum-levelling construct. This is an idea that was explored extensively within the section that examined how the National Standards have affected the way in which people understand the curriculum-levelling construct.

Varied interpretations of shading: Impact 2

One systems-level expert noted that people understood the overlapping shaded sections at the ends of each curriculum-level band in different ways. As explained earlier, the stepped nature of the curriculum-levelling construct means that the shaded areas of the bands for levels 2–7 overlap with the bands immediately above and below them. This participant explained that many of the school leaders they had worked with understood the overlapping bands to mean that the expectations associated with the end of a given curriculum level were the same as those associated with the beginning of the next level. They stated:

> I don't know where the . . . whole idea . . . [came from] that the blurriness was to do with the levels overlapping. That's how that diagram is interpreted by a lot of people . . . That diagram does not mean that all levels overlap, it means that if you've got a Year 4 class you have kids at different levels. Fundamentally different . . . I don't think that diagram has been in the least bit helpful, quite frankly. It's led to this strange idea that the levellings all overlap, so the end of level 3 is the same as the beginning of level 4. (Systems-level expert: Interview 3)

Although none of the teachers with whom we spoke explained the shading in the way that this systems-level expert described, this understanding was alluded to by a PLD facilitator. They talked about the purpose of the shading in the following terms:

> The shading, the intention and understanding around it was to give a sense that each curriculum level has some cross-over . . . with each of them [the curriculum levels] there is a cross-over and there is not a clean break. I think that has created some issues in interpretation. (PLD facilitator: Interview 1)

These data indicate that educators are reading the overlapping bands in at least two different ways. While some people understand that the overlapping bands communicate that students in the same year level will be working within different curriculum levels, others understand the overlapping bands to mean that the learning demands associated with the end of a given curriculum level are the same as those associated with beginning of the next. Clearly, these understandings have implications in terms of the ways in which teachers use the curriculum-levelling construct to guide both their planning and their judgements of student achievement.

Contributing factor 3: The use of sub-levelling language

The use of sub-levelling language also led to differing interpretations and uses of the curriculum-levelling construct. Because each curriculum level spans multiple year levels, many schools have adopted and/or adapted sub-levelling language to enable them to describe student progress and achievement. In this regard, our conversations with primary and intermediate school teachers indicated that the use of the e-asTTle terms *basic*, *proficient*, and *advanced* (BPA) was commonplace. We found that schools often used these terms in novel and potentially unintended ways and concluded that this could lead teachers to mistakenly assume that the meaning of the terms was commonly understood. Because the terms *basic*, *proficient*, and *advanced* are used to describe

judgements of student achievement, the way in which teachers understand these terms inevitably shapes the way in which they make and interpret judgements of student achievement.

In some instances, teachers appeared to be employing the e-asTTle sub-levelling terms without fully understanding their origin. For example, one experienced teacher commented: "You know, because you get that sort of BPA [terminology], which I don't know if that's officially anywhere, but it ends up being a terminology that people use for levelling" (Focus group discussion: Session 1). A brief discussion with this teacher revealed that they were unaware that this terminology was linked with the e-asTTle assessment tool. The e-asTTle online assessment tool was developed to enable teachers to assess students' achievement and progress in reading, mathematics, writing, and in pānui, pāngarau, and tuhituhi (Ministry of Education, n.d.-a). Teachers whose students have completed an e-asTTle test can use an e-asTTle scale score to determine the curriculum level that each of their students is working at. In each case, the curriculum level is accompanied by the letter B, P, or A to provide further information about the student's proficiency at that curriculum level. According to the e-asTTle website, each of these letters/terms carries a very specific meaning that corresponds with how a student has performed on an e-asTTle assessment. For example, the term/letter proficient (P) means "there is evidence that the student is controlling or mastering the criteria elements. They should correctly answer items at this level about two-thirds of the time" (Ministry of Education, n.d.-b). As the previous example has shown, however, schools sometimes uncouple these terms from the e-asTTle tool and use them in novel, and perhaps unintended, ways.

The practice of adopting and adapting e-asTTle terminology appeared to be fairly widespread. For example, one high school teacher explained how their school "borrowed" both e-asTTle and National Standards terminology and used these in combination to describe achievement in writing at Years 9 and 10 (Focus group discussion: Session 3). They went on to explain:

> We use that BPA, basic, proficient, advanced language. But then in our report comments, we unpack it further and say 'B' is at the beginning of and 'A' is for at the top, and then [we] cross-reference it to the National Standards as well.

Likewise, another primary school teacher commented:

> I think that BPA thing is quite interesting. My last school used the letters round in a different way. So, it's taken me a while, I have only been at [my current school] for this year and last year, so to get around the 'B' meaning something different has been tricky. So, I think that interpretation is very open in schools. (Focus group discussion: Session 1)

If, as our research has suggested, some teachers are using e-asTTle terms without utilising the assessment tool or having an awareness of the terms' intended meanings, there is considerable scope for misunderstandings to arise. For example, because this e-asTTle sub-levelling terminology is used across schools, teachers could mistakenly assume that the meanings of these terms were commonly understood.

A number of the PLD facilitators with whom we spoke noted that the adoption and adaption of e-asTTle sub-levelling language could be problematic. For example, an experienced PLD facilitator commented: "one thing that I have done with schools recently, in regard to the levels of the curriculum, is I have asked teachers to disregard the BPA concepts" (PLD facilitator: Interview 3). Another PLD facilitator, who had worked for a long time as an e-asTTle facilitator, acknowledged how common the adoption of that tool's terminology was. They noted that a desire to make sense of curriculum-level achievement had led to the development of "lots of different copied, adopted, adapted systems" (PLD facilitator: Interview 1). They shared their concerns about the way in which many teachers adapted the e-asTTle approach:

> E-asTTle was developed to understand progress a little bit better . . . within a curriculum level . . . So, if you are using psychometrics and lots of robust data, you can probably try and achieve that through the BPA [system]. It's a lot harder for teachers to be able to do that themselves . . . They try and take that sort of concept across to other areas of the curriculum [but] the specificity doesn't equate with their ability to do so.

Contributing factor 4: Not using the curriculum-levelling construct

Finally, there were indications that some teachers did not use the curriculum-levelling construct. The findings that are reported on here are distinct from, and add to, those that were shared in the section about the impact that the National Standards have had upon teachers' interpretation and use of the curriculum-levelling construct. Although all the teachers with whom we spoke reported that they made at least some use of the curriculum-levelling construct, their comments indicated that this was not true of all teachers. For example, the principal of an intermediate school commented:

> I suppose . . . we see this perhaps more than other schools do, as an intermediate, because we get a cross section of kids from the community. There are at least two schools who contribute to us whose parents are consistently negatively surprised, because they haven't had any reporting about curriculum levels. They're just often reports about their kids' personalities. (Principal interview: Intermediate)

Likewise, one secondary school teacher told us about how two of their colleagues had responded when they had talked with them about participating in the current research project. They noted that these colleagues had reacted by saying: "Oh gosh, the last time I really looked at it [the curriculum-levelling construct] was probably when I was at teachers' college" (Teacher interview: Secondary).

Overall, secondary school teachers were more likely than their primary and intermediate school counterparts to talk about circumstances in which the curriculum-levelling construct was not used. In general, secondary school teachers attributed this to the influence of the National Certificate of Educational Achievement (NCEA). One teacher noted:

> When you hit the senior school it's [your use of the curriculum-levelling construct is] a little bit different because of NCEA. Because while we try not to teach to assessment and you try to do all these other things as well, the reality is that it [NCEA] kind of looks after a lot of that curriculum stuff. (Teacher interview: Secondary)

Similar views were expressed in focus group sessions, with one secondary teacher stating: "I actually really don't think schools use curriculum levels an awful lot at senior level, because they often, at that point, switch over to NCEA language" (Focus group discussion: Session 2). Likewise, a secondary school teacher in another focus group session commented: "once we get to Year 11, we don't talk about curriculum levels" (Focus group discussion: Session 3).

Summary

The findings that have been presented within this section indicate that teachers and school leaders interpret, and therefore use, the curriculum-levelling construct in differing ways. These findings suggest that the curriculum-levelling construct may, at times, hinder teachers' judgement-making and planning processes. The following section examines participants' views about the efficacy of the curriculum-levelling construct within the current educational environment.

4. The efficacy of the curriculum-levelling construct

New Zealand's educational landscape has undergone numerous changes since the first diagrammatic representation of the curriculum-levelling construct appeared in the 1991 national curriculum discussion document (Ministry of Education, 1991c). In this section, we examine the efficacy of the curriculum-levelling construct within today's curriculum and pedagogical environment. To do this, we present participants' views about the strengths and weaknesses of the current curriculum-levelling construct, and—where relevant—share their ideas about how the construct's weaknesses might be addressed. The section is organised around five issues that the participants perceived were possible threats to the efficacy of the curriculum-levelling construct. It begins by looking at the construct's openness to interpretation.

Issue 1: The construct's openness to interpretation

Many of the educators with whom we spoke indicated that the curriculum-levelling construct was, as one teacher put it, "open to interpretation" (Focus group discussion: Session 1). This was seen by many participants as both a strength and a weakness. When discussing the strengths of the curriculum-levelling construct, a number of teachers noted that they appreciated that it helped them to keep learning-focused conversations with students and their whānau positive. For example, one primary school teacher explained:

> If you have children who are really anxious, and parents who are stressed, and they're putting unnecessary pressure on children, then you could use it [the curriculum-levelling construct] as a way of saying, look they're still within the band. That's a positive. (Teacher interview: Primary)

Implicit in this statement is the notion that the length of the shaded curriculum bands provided this teacher with a way of reassuring parents that their child was making acceptable progress. A similar sentiment was expressed by an intermediate school teacher who commented: "young children need to have aspirations and feel good. If we narrowed the bands, and they were sitting outside them, they might think, school isn't for me" (Teacher interview: Intermediate).

In general, those teachers who perceived that the curriculum-levelling construct's openness to interpretation was a strength also acknowledged that this subjectivity could lead to problems. For example, the primary school teacher cited above, who commented positively about being able to reassure anxious parents that their kids were "still within the band", concluded that statement with the caveat, "but I do see how people [teachers] could mess with that a bit" (Teacher interview: Primary). Within this statement, this teacher appeared to acknowledge that teachers could—with the best of intentions—use the curriculum-levelling construct to provide parents with a false sense of

security about their child's achievement. The possibility that the curriculum-levelling construct could be used to justify low expectations was examined in Section 3.

A number of the teachers with whom we spoke identified the existence of a tension between their desire for increased clarity and specificity with regards to expectations, and a fear that greater specificity could result in an overly rigid approach. One primary school teacher commented:

> I don't want to get into a position where we say, 'we need kids to be in this box'. It [the curriculum-levelling construct] needs to stay the way it is unless they can come up with a different way, but without putting children into a box. (Teacher interview: Primary)

Likewise, another primary school teacher explained:

> It's [asking for clarity is] one of those double-edged swords though. In that, when we ask . . . for clarity sometimes we get things like National Standards, which is not what we want . . . I'd hate it if that [clarified] purpose came, and . . . we got what we asked for and it's made it more rigid and it hasn't acknowledged the professionalism of teachers to be able to interpret it [the curriculum-levelling construct]. (Focus group discussion: Session 1)

Issue 2: The need for key benchmarks to be more clearly communicated

The belief that a curriculum-levelling construct should communicate key benchmarks was voiced by a number of participants. For example, one systems-level expert commented: "it [a curriculum-levelling construct] has to be able to tell you when to intervene. It has to have some sense of benchmarks or worry points" (Systems-level expert: Interview 2). Likewise, another systems-level expert commented: "teachers need to understand when they should get worried and what they should be noticing" (Systems-level expert: Interview 3). A similar view was articulated by a PLD facilitator who explored the notion of threshold concepts. They explained: "the description of [a] threshold is that if a student has these specific capabilities, they will progress in their learning. If they don't, they will be marginalised" (PLD facilitator: Interview 3). They went on to say:

> I believe that they [threshold concepts] have to be a subset of what we understand the curriculum to be. And it could be a way of freeing up some parts of the curriculum so that we can better append our curriculum to real life situations and community needs . . . I think that the thresholds are significant in that they impact across all learning.

The idea that threshold or fundamental concepts might be identified only for some learning areas was also explored by a systems-level expert. They noted: "There are some fundamentals that kids need, or they don't have access to the curriculum. They have got to have the . . . important tools . . . maths, and reading, and writing" (Systems-level expert: Interview 1). Sharing their personal view about how this might relate to a future curriculum-levelling construct, they explained:

> I would only have that construct for what I would call the backbone subjects. Reading, writing, maths. Ones where you want clear and robust evidence of progress, and that we can do well . . . So, I'd want it data driven and say that these are the backbone subjects. For the other subjects, I would not have the curriculum constructed like that. I would very much go for the kind of big ideas. I would go to big ideas in the different subject areas, capabilities. Probably in Years 1 and 2 up to Year 8 and then up to Year 10. And then [take a] different [approach], and not even try to do that kind of [thing], I just don't think it's relevant. (Systems-level expert: Interview 1)

Some teachers also shared the view that numeracy and literacy benchmarks needed to be built into any future conceptualisation of the curriculum-levelling construct. As explained in Section 3,

the teachers in the reorua setting with whom we spoke felt that using the year-level expectations associated with the National Standards, rather than those that are conveyed within the curriculum-levelling construct, helped them to equip their students to succeed at intermediate and secondary school. Although these teachers acknowledged that they had come to the National Standards with "dragging feet", they noted that an alternative type of standards for numeracy and literacy—one with "buy in from New Zealand teachers"—could provide a way forward (Group interview: Reorua). However, as can be seen in the following statement, these teachers were well aware of the challenges associated with, and the tensions implicit in, adopting such a standards-driven approach:

> As kaiako, when you know that that child is doing the best that they can in terms of showing an achievement [and] they are still 'well below' it's disheartening and they lose confidence, and you never want that. So, for me it could be around the wording. But to be honest, we need to know where children are. We need to know where they're achieving, we need to know exactly what they're doing, because if we don't, we can't help them to do more . . . I think there's harshness around the wording . . . but there is a lot of good in knowing where they're at. And where they should be at. So, I guess it's just in how we report. (Group interview: Reorua)

As can be seen in the upcoming section, these reorua teachers voiced other concerns about the current curriculum-levelling construct's fitness for purpose. The juxtaposition of these somewhat competing concerns highlights the challenges that teachers working in bilingual settings can experience.

Issue 3: The need for the identities and learning journeys of Māori and Pacific learners to be reflected

A number of the teachers who worked with high proportions of Māori leaners and/or Pacific learners expressed the view that the curriculum-levelling construct did not adequately reflect either the cultural identity or the learning journeys of their students. For example, a teacher who worked in a reorua setting that served a predominantly Māori student population felt that the curriculum-levelling construct did not take into account the additional demands associated with learning a second language. They commented: "They [our reorua students] come to kura and this is the only place they get the reo, so you would expect that progress would be slower. So, they [reorua students] would last in a particular level, for longer" (Group interview: Reorua). This teacher, who explained that they used both *NZC* and *Te Marautanga o Aotearoa* (Ministry of Education, 2008a) to inform their teaching and assessment, noted that the curriculum-levelling construct looked virtually identical in both of these documents. When asked to reflect on the efficacy of the curriculum-levelling construct in relation to their students, they responded: "is this [curriculum-levelling] structure here, is it taking into consideration those things we know about our learners in particular? . . . You know quite often we don't think that it does. However, there is no alternative for us" (Group interview: Reorua).

The idea that the curriculum-levelling construct did not adequately reflect the learning journeys of second language learners was also acknowledged by a teacher who worked in their primary school's Samoan bilingual unit. This teacher, who noted that they drew heavily upon *The English Language Learning Progressions* (Ministry of Education, 2008b), talked about needing a curriculum-levelling construct that better acknowledged the skills, knowledge, and experiences of those Pacific learners who did not speak English as a first language. Reflecting upon a way forward, they commented:

> In terms of the levelling and what that would look like . . . it's coming back to those key competencies and so forth, wanting to measure our children against [these]. It's not trying to box things in more, it's trying to have that broader kind of thinking. (Focus group discussion: Session 3)

Echoing some of the ideas that were expressed by teachers who worked in bilingual settings, one PLD facilitator talked about the curriculum-levelling construct being a "Eurocentric model" (PLD facilitator: Interview 3). When contemplating the future of the curriculum-levelling construct, they commented:

> If we go [to] thresholds, or if we stay with a levelled curriculum, I just absolutely plead that the developers of that bring in a Treaty of Waitangi component, a bicultural stance . . . so that we are all in this as Aotearoa New Zealand. I don't believe we have that in place. It [the curriculum-levelling construct] doesn't have that level of credibility across all people in New Zealand that we are committed to. And when I say that 'committed to' I am talking about the mandated commitments to biculturalism first. So, we have a Eurocentric model here, and we could continue to develop a Eurocentric model here [but] we have such a lot to learn from our Māori colleagues, who know this stuff, have a tradition around it and bring in that beautiful element of relationship building and its place in a way that is all too often overlooked . . . With that . . . learning is safe, without that . . . learning is a hopeful outcome. (PLD facilitator Interview 3)

Issue 4: Concerns about the construct's empirical basis

A number of participants were critical of the fact that empirical data had not informed the development of the curriculum-levelling construct. Several of the participants who articulated concern about the curriculum-levelling construct lacking an empirical basis possessed insights into the way in which it had been developed. Talking about the 1992 mathematics curriculum (Ministry of Education, 1992), one systems-level expert explained:

> that [the 1992 mathematics curriculum] came out and we got what we called the *fuzzy-level* diagram, [and] it was always known by the educators that this was slightly nutty . . . it was perfectly clear that we had no empirical evidence for these levels. (Systems-level expert: Interview 1)

Likewise, an experienced PLD facilitator—who had worked as a mathematics facilitator when that curriculum (Ministry of Education, 1992) was being implemented—also talked about the fact that empirical data were not used to inform the development of the curriculum levels. They noted:

> Going way back . . . the levels for the maths curriculum for example, people think that there was some kind of deep science behind establishing what was in those levels, there wasn't. It was a bunch of teachers in Wellington who got together with [name] and said, these sorts of things look about right for these year levels, these sort of things look about right for [these year levels]. But there was no real psychometrics or anything that went on behind that. I know, from talking to [name], absolutely the same thing [happened] with the English [curriculum]. (PLD facilitator: Interview 2)

Within the curriculum-levelling construct, both as it first appeared in the 1992 mathematics curriculum statement (Ministry of Education, 1992) and as it is presented in the current curriculum document (Ministry of Education, 2007), shaded bands are used to indicate not only when a child might be at particular curriculum level but also how many years they might spend working at that level. These bands are differing lengths. For example, in the current curriculum-levelling construct, the band for curriculum level 1 spans just over 3 school years. In contrast with this, the band for curriculum level 5 covers an almost 6-year period. Given the graph-like appearance of the curriculum-

levelling construct, it is understandable that people might assume that data were used to inform its development. Certainly, our conversations with teachers indicated that they often assumed that the curriculum-levelling construct had an empirical basis.

For some teachers, the identification of a mismatch between their knowledge of typical student achievement and the way in which the relationship between curriculum levels and school-year levels is presented in the curriculum-levelling construct prompted them to ask questions about how the construct had been developed. For example, during two focus group sessions, teachers independently questioned whether the relationship between curriculum levels and school-year levels that is presented in the curriculum-levelling construct was aspirational. One of these teachers commented that they had noticed a misalignment between the average scores for norm-referenced assessments and the expectations that they felt were conveyed in the curriculum-levelling construct. They explained:

> I have noticed something interesting . . . when you look at tools like PAT, STAR, asTTle—where it gives you an indication about whether the student who has just sat an assessment is working at the norm—it is always lower than the suggested curriculum level. For example, a Year 6 writer, the average is actually 3B [3 basic], whereas that's not what we would expect. So, I do find it interesting and I do wonder to a certain extent whether this [the curriculum-levelling construct] could be a bit aspirational. (Focus group discussion: Session 1)

This teacher went on to talk further about the mismatch that appeared to exist in relation to where an "average" Year 6 student actually scores on a norm-referenced e-asTTle assessment (i.e., level 3 basic or at the beginning of level 3) and where—according to their interpretation of the curriculum-levelling construct—an "average" Year 6 student should be achieving, which they described as "moving towards the top end of level 3" (Focus group discussion: Session 1).

Likewise, a secondary school teacher talked about the discrepancy that they had noticed in relation to how students achieved at their school and the expectations that were conveyed in the curriculum-levelling construct. They explained:

> That diagram . . . seems to suggest, with the shading, that each of those [bands] is a kind of normal distribution curve, and if that is the case, then our students are very, very different to the average, because they certainly don't fit into anything like the distribution that is shown on that chart. So, then you start asking, is that chart meant to be aspirational . . . or is it just that our students aren't a statistical sample? (Focus group discussion: Session 2)

The findings that have been presented within this section indicate that some educators have questions about both the origins and credibility of the expectations that are conveyed within the curriculum-levelling construct.

Issue 5: The proliferation of curriculum-linked tools, systems, and resources

Since the development of the original curriculum-levelling construct, various assessment tools (e.g., e-asTTle and PaCT) have been created and/or revised to assist teachers with describing student progress and achievement. Likewise, a number of assessment systems (e.g., the National Standards and NCEA), and curriculum-linked resources (e.g., *The English Language Learning Progressions*) have been developed. Without exception, each of these tools, systems, and resources has brought with it a set of terms that can be used to talk about student achievement. Some teachers noted that this has resulted in them using a vast, and at times confusing, array of terms to talk about student progress and achievement. For example, one primary school teacher commented:

> I know that in our school we have tried really hard to get rid of some of the language from some of the tools that doesn't fit with the curriculum. So, for example, we don't use the Numeracy Project stages anymore. We use 'curriculum levels' instead because it's exactly that confusion. People were thinking, well what am I talking about? Am I talking about curriculum levels? Am I talking about this, am I talking about that? It's a confusing environment if you're using a number of tools that don't—well they probably all align—but they don't use the same language. (Focus group discussion: Session 1)

In keeping with this idea, two secondary school teachers questioned whether this proliferation of tools, terms, and systems might suggest that the current curriculum-levelling construct was no longer fit for purpose. Specifically, one teacher commented:

> What I find really interesting is how many schools are using . . . other sorts of assessment language . . . So, a lot of people are using asTTle and a lot of people are using the Literacy [Learning] Progressions, or the National Standards kind of wording. So, for them all to be using those different measurements, I would say that this [the curriculum-levelling construct] must not be working, because if this was working for them, then everyone would use it. (Focus group discussion: Session 3)

The possibility that a new system might be needed was voiced by another secondary school teacher. They noted:

> I just think there's lots of different systems. So, a system that sort of covers everything would be handy, so we're not talking about level 1 to 8 of the curriculum, level 1 to 3 of NCEA, the learning progressions, the 100 million different languages that explain the same thing. (Focus group discussion: Session 3)

These teachers' comments draw attention to the possibility that ongoing efforts to keep an ageing curriculum-levelling construct viable may have necessitated the development of a (perhaps) overwhelming number of tools, systems, and resources.

Summary

This section has examined the efficacy of the curriculum-levelling construct within today's curriculum and pedagogical environment. Drawing on participants' views about the strengths and weaknesses of the current curriculum-levelling construct, the section has identified five issues that may undermine the efficacy of New Zealand's curriculum-levelling construct. Within the following section, we examine how curriculum experts in England and in NSW have responded to perceived problems with the way in which curriculum levels were used to structure their respective curriculum documents.

5. Recent responses to the use of curriculum levels in England and New South Wales

This section considers how decisions about the use of levels have come to the fore in two recent curriculum reviews in England and in New South Wales (NSW).

Levels in England

As described in Section 2, a national curriculum based around levels was put in place in England and Wales in the late 1980s (Black, 1994). Since that time, there have been a series of reviews and adjustments to their curriculum. In 2010, a newly appointed Education Secretary, Michael Gove, initiated a curriculum review and appointed an expert panel to look at the framework for the national curriculum in England. The panel, which reported in December 2011 (Department for Education, 2011), noted they had concerns with the use of levels to judge student progress. They argued that levels "may actually inhibit the overall performance of our system and undermine learning" (p. 44). According to the review group, the use of levels:

- exacerbated social differentiation rather than promoting a more inclusive vision that aimed to "secure learning of key curricular elements by all" (p. 44)
- distorted learning—"some pupils become more concerned for 'what level they are' than for the substance of what they know, can do and understand" (p. 44).

The expert panel based some of its criticisms of the levels system on a review of Key Stage 2 testing that was also completed in 2011 (Bew, 2011). The Bew report acknowledged hearing criticism that levels "are too broad, not consistent across Key Stages, not specific enough about a pupil's ability in any given subject and too open to interpretation" (p. 13).

The expert panel indicated significant concern that levels added to social differentiation. They commented that high-performing jurisdictions around the world work to ensure all students "achieve adequate understanding before moving on to the next topic or area" (Department for Education, 2011, p. 45). These jurisdictions interpret achievement "in terms of the power of effort rather than the limits of ability" (p. 45). They argued that in Western countries there is often a fixed view of intelligence that creates limits as to what students can achieve.

The expert panel recommended what they called a "mastery model" that would be based on "high expectations for all" (Department for Education, 2011, p. 47). They noted: "This conveys necessary teacher commitment to both aspiration and inclusion, and implies the specific set of fundamental achievements that all pupils should attain" (p. 47).

The panel listed 10 dimensions required of a system committed to high expectations for all. Two of the dimensions were directly associated with the curriculum. The first of these was "a focused curriculum with appropriate depth" (p. 48). According to the panel, "Such clarity supports high quality learning of essential knowledge, and is particularly important in primary education" (p. 48). The second dimension was "resolute commitment to essential knowledge for all" (p. 48).

The panel argued for an assessment system that focused on the specific elements students have achieved and those they had yet to achieve, rather than on the generalised idea of a level. They noted that it was important that any new system avoid "highly cumbersome and bureaucratic assessment and reporting arrangements" (p. 50). According to the panel, the use of levels:

> Is itself over-burdensome, obscures the genuine strengths and weaknesses in a pupil's attainment, obscures parental understanding of the areas in which they might best support their child's learning, and likewise, weakens teachers' clear understanding and identification of pupils' specific weaknesses or misunderstandings. (pp. 50–51)

In 2014, the Department for Education in England announced that the systems of levels would cease to be used to report achievement (Poet et al., 2018). While Key Stage assessment would remain, schools would be required to develop their own approaches to monitoring and reporting progress towards the requirements for each Key Stage. In a speech that he delivered in early 2015, Nick Gibb—the then Minister for Schools—outlined the case for removing levels (Gibb, 2015). In that speech, he reiterated many of the concerns raised by the expert panel. Two extracts from the speech are reproduced below.

> What these other nations do, and what effective schools in England do, is focus on the specifics of key areas of the curriculum, and ensure deep, secure knowledge and understanding in these specifics. Levels have been a distracting, over-generalised label, giving misleading signals about the genuine attainment of pupils. They have driven undue pace as Ofsted insisted on 'progress against levels'. They have resulted in a lack of trust between primary and secondary schools and they have clogged up the education system with undependable data on pupil attainment. (p. 2)

> In short, levels were just too vague and imprecise. They were misleading as to what pupils knew and could do. The use of levels was pushing pupils on to new material—in the name of pace—when they had not adequately understood vital content, and had serious gaps in their knowledge. We had a system swimming in defective data on attainment and failed to see that our legal commitment to giving all children access to all of the national curriculum had been compromised. (p. 3)

The New South Wales review

In Australia in 2018, the NSW Government asked the NSW Education Standards Authority to review the curriculum from kindergarten to Year 12. The review was led by Professor Geoff Masters, Chief Executive Officer of the Australian Council for Educational Research.

The final review report identified three concerns with the existing curriculum. These were:

1. crowded content;
2. unhelpful divisions between knowledge and skills, theory and application, and academic vocational learning; and
3. time-based syllabuses that leave some students behind, while others "mark time rather than advance to the more challenging material for which they are ready" (Masters, 2020, p. v).

According to Masters:

> A consequence of structuring the curriculum to mirror the structure of schooling is that, when students move to the next year of school, they simultaneously move to the next stage of the curriculum—whether they are ready for it or not. This is sometimes referred to as the 'lock-step' nature of schooling, where students are required to progress in the curriculum based on their age rather than on the basis of what they are ready to learn. This can disadvantage students who lack the prerequisites for the next stage of the curriculum and also students who are ready for learning challenges well beyond that stage. (p. 54)

Masters (2020) noted that:

> In Australia, the most advanced 10 per cent of students in each year of school are typically five to six years ahead of the least advanced 10 per cent. This variability is present from the time children commence school and, in most subjects, is largely unchanged across the school years. (p. 89)

The review proposed that the new curriculum be based on a sequence of syllabuses organised into progressive levels. In this arrangement:

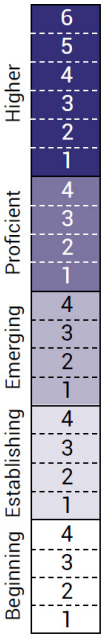
- no student should be required to progress to the next syllabus until they have adequately mastered the content of the prior syllabus (as judged by their teacher); and
- a student who has mastered the content of a syllabus (as judged by their teacher) should be able to progress to the next syllabus when ready. (Masters, 2020, p. 90)

The review stressed that:

- content within the syllabuses be based on evidence and not on stakeholder interests or historical arrangements
- each syllabus should take months rather than years to complete
- the number of syllabuses should not be the same as the number of school year levels or a multiple of that number
- the system of labelling for the syllabuses should indicate progression while avoiding labels that appear to simply score students.

The arrangement for labelling the sequence of syllabuses that has been suggested by Masters (2020, p. 92) is shown below in Figure 15. According to Masters, the names given to the syllabuses are not labels to be applied to students, rather "they are names for absolute levels of attainment through which every student progresses (much like 'Grade 3 Piano')" (p. 92).

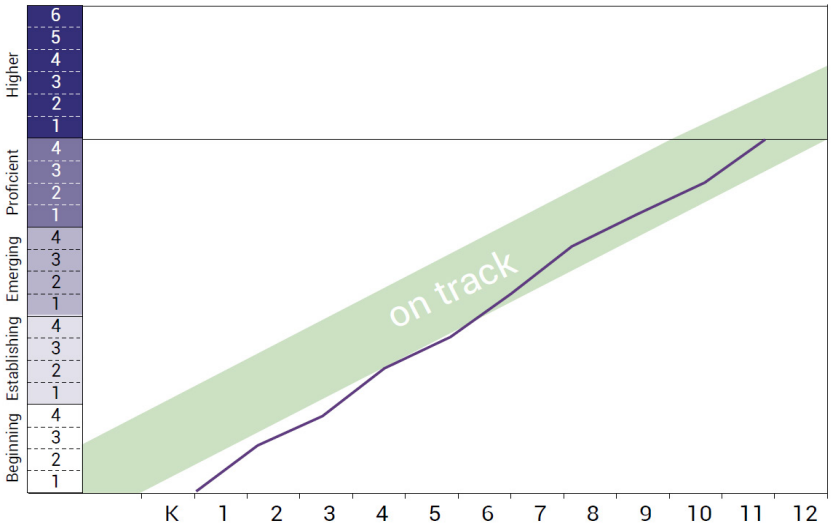
FIGURE 15 **A possible labelling scheme for a sequence of 'new syllabuses' as proposed by Masters**



Masters (2020) argued that the new arrangement would provide "a superior basis for monitoring the long-term progress individuals make in a subject" (p. 93). He explained that, "the expectation should be that every student will make excellent progress every year, regardless of their starting point, and achieve at least a minimally acceptable level of proficiency by the time they leave school" (p. 93).

An additional diagram, presenting a framework for monitoring long-term learning progress, was also provided in the review document. This diagram is reproduced below in Figure 16 (Masters, 2020, p. 94). Within this diagram, the horizontal line towards the top has been used to identify a syllabus (Proficient 4) "as the minimum standard every student should reach (and ideally surpass) by the time they leave school" (p. 93).

FIGURE 16 **Framework proposed by Masters (2020) for monitoring long-term progress**



Insights from Professor Masters

As previously explained, we interviewed Professor Geoff Masters as part of this research. Prior to our interview, we shared the graphical representation of New Zealand's current curriculum-levelling construct with him. We began our conversation by asking Professor Masters how he would interpret that diagram. He responded:

> So, when I look at your [curriculum-levelling construct] diagram, if I am interpreting it correctly, you thought—back in 2007—about a different way of structuring the curriculum. That is, you defined a sequence of curriculum levels through which students progress. But there is not a 1–1 correspondence between a curriculum level and a year level. The diagram recognises that students working at a particular curriculum level could be spread across several year levels. I may be misinterpreting it—I don't think I am—but what this picture suggests to me is that an attempt has been made to recognise that students, within year levels, are very variable in their levels of attainment—that they have different learning needs, and that rather than assuming all students in the same year level are ready for the same material, an alternative structure has been developed. Which is also something that has been attempted in places like Scotland and Wales, to develop a framework of this kind. And students then presumably progress through these levels. I'd be interested to know how that works in practice. Because, when I suggest this [approach] in Australia, people immediately say, well how would that work? How could we have—in year 8—some students at level 3, some at level 4, and some at level 5?

Professor Masters noted that, unlike *NZC*, most curricula in the world are organised around year levels. He explained:

> So, there is a grade 4 curriculum, a grade 5 curriculum, a grade 6 curriculum and students work their way through those curricula, moving ahead when the time's up. When the year is finished you move onto the next curriculum.

Professor Masters commented that curricula structured around year levels are often defended on the grounds of equity:

> And often people will say, it's also equitable, that all kids are taught the same thing when they are in Year 5. And they will often argue that this is the way to lift standards as well. If you are clear about what you want every child to learn in Year 5 and you set high standards, and you hold everyone to account to achieve those standards when they are in Year 5, then overall results will improve. Everybody will benefit. It's equitable because everyone is held to the same standard. And at one level, that makes a lot of sense, until you look at what is actually happening in schools.

According to Professor Masters, however, standards weren't necessarily lifted by structuring curricula around year levels. He explained:

> The argument about equity, I think . . . confuses equity with equality. It's not equitable to give everybody exactly the same thing if they will not all benefit from it in the same way, or they're not ready to benefit from it in the same way.

Professor Masters emphasised that students in any given class had different starting points in terms of achievement and that a curriculum based on levels addressed this directly:

> So, this idea of trying to teach every student exactly the same material and holding them to the same standards based on their year level or their age sounds good in theory, but there is a practical issue that we currently [face], whether we like it or not . . . Our goal may be to get rid of this variability, but the truth is that there is this variability in schools. To the extent that we ignore it, to the extent that we pretend every student is ready to learn the same things, we are disadvantaging kids at both ends of the spectrum. We disadvantage kids who are just not ready for the curriculum that teachers are being asked to teach, and we disadvantage some of the more advanced students as well because they are forced to learn things that they have already mastered or have pretty much got under control.

He noted that a curriculum based on year levels can also make it difficult to help students appreciate the real progress they have been making:

> The other thing that happens when you have a curriculum that is structured only into year levels, is that you end up giving some students low grades. So, you can end up with students getting a 'D' this year, a 'D' next year, and a 'D' the year after. And that isn't very helpful in terms of assisting students to see the progress they are making—the absolute progress they are making. In fact, they [the students] might be excused for thinking that they were making no progress at all because they are [still] getting a 'D'.

He commented that a levels-based structure avoided this:

> Whereas, a framework of this [New Zealand's] kind—a sequence of curriculum levels provides a frame of reference against which every student's progress could be assessed and monitored over time.

According to Professor Masters, one of the big issues in NSW was a fixation on teaching the curriculum for the year level. In his view, a challenge associated with moving to a levels-based system would be adjusting the mindset of teachers. He argued that doing this would necessarily involve supporting teachers by providing them with appropriate resources and models:

> I wouldn't underestimate the difficulty of trying to do something like this [the curriculum changes that he has proposed] . . . In Australia, it would come back to the mindset teachers have: I'm the Year 5 teacher so I teach the Year 5 curriculum to everybody. That is the current mindset. And I do what I can to differentiate but I can't do much because I have so much [material that] I have to get through. If this is going to work, the biggest challenge—I think—is to give teachers the support

> they need to work out how they can deal with students in the same classroom who are working at different levels. That might mean resources, it might mean strategies. For example, a Year 8 teacher might have students in curriculum levels 3, 4, and 5. Does that mean that there are three totally different sets of activities going on in the classroom? Well, maybe, sometimes. It could also be that there are broad learning activities that all students engage with in different ways because of their different levels of knowledge and skill. So, teachers need to be helped to understand, maybe, that one of the ways to deal with this situation is not to have three groups doing totally different things but to give them examples of teaching and learning activities that could engage students who are at different points in their learning.

Professor Masters commented that for a levels-based approach to be successful there had to be clarity about what the levels meant in terms of teaching and learning. This was especially true when teachers had been used to detailed prescriptions:

> So, my proposal was to continue to give teachers clarity in terms of what they need to do. So, if you have a student who is at curriculum level 3, you need to be explicit and clear about what a student should be learning in curriculum level 3. If you don't do that, then teachers will just throw up their hands and say, 'I don't know what's going on here.' . . . Teachers need that [clarity] because they've had it in the past. They need clarity about what they should be doing. I'm not suggesting it has to be very detailed. I think that is a problem with the current curriculum. But it does need to be clear . . . what teachers should be teaching and students should be learning at each curriculum level.

Professor Masters was asked to comment on the tension between providing clarity and allowing flexibility at the school level to develop curricula that meets local needs and contexts. He described this as a "balancing act" that required focusing on a smaller amount in depth and basing the sequencing of material on theory and research:

> It's always a balancing act being sufficiently flexible to accommodate local conditions and circumstances and being specific enough to ensure that everybody has access to some common entitlement in learning and [that] teachers have sufficient clarity to know what they should be doing. In New South Wales, I recommended moving away from [the] highly prescriptive dot points that they currently have [and] moving towards a greater focus on important concepts, principles and methods within subjects. So, a smaller amount in more depth . . . is what I was really . . . recommending, instead of lots of superficial content. But I was also recommending, as you may have noticed, that the sequencing needs to be informed by what we know about how these things develop, so there has to be a theoretical base and also an empirical base. Prerequisites often play a role in learning success and so there is often a logical sequencing. But there are also things we know about typical sequences in learning; [there's] research that's looked at how concepts develop over time. For example, a lot of work [has been done] around what are often called 'learning progressions' in areas like science and mathematics and how important understandings develop. So ideally . . . the sequencing, which is always part of the curriculum, should be informed by what we know about learning within that area.

In general, Professor Masters saw many commonalities between the way the New Zealand curriculum's curriculum-levelling construct used levels to structure the curriculum and the recommendations he had made for curriculum revision in NSW. When asked how the New Zealand curriculum-levelling construct could be improved, he commented that the representation needed to more clearly show the cumulative nature of learning:

> One thing that I would say, is that in addition to this picture . . . and you may have it, there is a need for another picture which makes clear that [curriculum] levels 1, 2, 3, 4 actually build onto each other. [That] the fuzzy edges on these [bars] are fuzzy edges because of the correlation between curriculum level and time. In terms of the content of a curriculum level, I assume that's pretty clear.

Summary

This section has explored how recent curriculum reviews in England and NSW came to very different conclusions about the usefulness of levels for structuring curricula. After levels had been in place in England for over 25 years, an expert review group argued that their use did not support assessment and limited opportunities for students by promoting a fixed-level view of ability (Department of Education, 2011). In contract, in NSW, curriculum levels were promoted as a way out of a lock-step adherence to year-level-based syllabuses (Masters, 2020). Here, levels were promoted as a mechanism that would help ensure students' varying needs were met. In both cases, equity was used as a key part of the argument. The conclusions that were reached regarding curriculum levels in each of these jurisdictions cannot, however, simply be applied to the Aotearoa New Zealand context. It is interesting to note though, that in both cases, attending to how the curriculum was arranged in levels was seen as a way to reset expectations and promote new ways of working. The next section briefly summarises the findings that have been presented in this report and comments on the future potential of Aotearoa New Zealand's curriculum-levelling construct.

6. Research summary and implications

The purpose of this research project was to investigate the levelling construct that sits at the heart of *NZC*. A key goal of the research was to investigate whether—and if so, how—the construct helps (or hinders) teachers and school leaders as they plan learning programmes and make judgements of student progress and achievement.

The findings from this research indicate that teachers and school leaders interpret and use the curriculum-levelling construct in varying ways. Four factors appeared to contribute to these varied interpretations and uses of the construct. These were the ongoing influence of National Standards expectations, differing understandings of the shading within the construct, the adoption and adaption of sub-levelling terminology, and simply not using the construct.

The research also identified five issues that educators believed posed potential threats to the efficacy of the construct. These were its openness to interpretation, the need for clearer benchmarks, a need for better representation of the identities and learning journeys of Māori and Pacific learners, concerns about the empirical basis for the levels, and a perceived lack of coherence stemming from the proliferation of curriculum-linked tools, systems, and resources.

A brief examination of the use of curriculum levels in two other jurisdictions revealed two very different reactions to the potential of a levels-based curriculum. On the one hand, England discontinued its use of curriculum levels in 2014 (Poet et al., 2018). Notably, levels had previously been a feature of its national curriculum for over 25 years. In England, the expert panel who recommended the removal of levels argued that they did not provide a solid basis for assessment. They maintained that levels led teachers to adopt a fixed mindset regarding student ability, which they felt compromised the curriculum entitlement of many learners.

On the other hand, in NSW, Australia, a recent review led by Professor Geoff Masters promoted a curriculum based around levels as an alternative to the existing year-level-based approach (Masters, 2020). Here, the use of curriculum levels was seen as an important way to move beyond a "lock-step", year-level-based system which—in Masters' view—appeared to leave some students behind while others "marked time" as they trudged through each year. Masters indicated that New Zealand's curriculum-levelling construct had some commonalities with the approach that he had promoted. His approach, however, appeared to go further than New Zealand's. For example, the approach he envisaged involved the provision of additional detail and supporting information for teachers at each curriculum level. Likewise, it included a clear commitment to an empirically-based progression.

Through an exploration of the history of New Zealand's curriculum-levelling construct, the current research has revealed inconsistencies in the way that the construct has been presented over time. Over the past 30 years, the construct has generally been presented in curriculum documents using

pictorial representations, with limited supporting text. The details of these pictorial representations of the construct have varied and readers have been required to infer the intended meaning of these representations.

As explained in Section 2, the curriculum-levelling construct emerged in the early 1990s during a time when New Zealand's educational landscape was changing radically (Philips, 1993). The idea of curriculum levels was a fundamental part of a new government's educational policy and was inspired by recent curriculum developments in England and Wales (Ministry of Education, 1991a). Two key ideas underpinned the development of New Zealand's curriculum-levelling construct. The first was that everyone in the education system, including parents and students, would be better served if there was a standardised way of tracking progress and achievement across the compulsory years of schooling. Coupled with a systematic approach to national monitoring (Ministry of Education, 1991a), the curriculum levels, with their clear aims and achievement outcomes, were intended to provide a criterion-referenced framework that could be used for that purpose (Ministry of Education, 1991a). Founded upon the understanding that students progress at different rates, the second key idea stemmed from a belief that decoupling curriculum aims from year levels would allow a greater range of students to experience a curriculum that was appropriate for them.

The levels policy was accommodated into a curriculum-development landscape that, at the time, had been actively exploring how a national curriculum framework could be used to support schools to develop more coherent and cohesive local curricula (Department of Education, 1988b). These developments had been guided by a strong commitment to a child-centred philosophy, as well as to biculturalism and equity. For instance, the introduction of the 1988 curriculum review document included the statement, "The learner is the central focus of schools. Schooling should encourage students to fulfil the hopes and expectations they have for their future. The sparkle in five-year-olds' eyes when they begin school must be sustained" (Department of Education, 1988b, p. 6). The need to accommodate the new levels policy within a context of ongoing curriculum reform arguably resulted in a gentler presentation of levels than was originally envisaged. Ultimately, greater emphasis was placed on the flexibility that a levels-based approach could provide—in terms of meeting individual student needs and illustrating progress—than on how the construct could be used to set expectations and both measure and track achievement.

Taken as a whole, this research indicates that careful consideration needs to be given to New Zealand's curriculum-levelling construct in any future curriculum-development initiatives. While there is little evidence to suggest that the current construct is causing widespread damage or consternation, in its current form the construct does not appear to be supporting teachers and school leaders to develop shared understandings of what students are entitled to. Nor does it appear to be assisting them with identifying how local curriculum should be designed to meet varying needs and encourage progression.

The research does not necessarily imply that it is time to call for the removal of the curriculum-levelling construct or the levels themselves. As Professor Masters has argued, there are strong rationales for using a curriculum-levelling construct to highlight progression and support the personalisation of curricula. The research does, however, indicate that it is time for a reset.

Levels and the curriculum-levelling construct are fundamental building blocks for *NZC*. Ensuring that they are fit for purpose is therefore very important. A reset would provide an opportunity to clarify their purpose and make adjustments. For instance, it could be that the construct is better

suited to some areas of learning than others. It may also need to be supported by more developed systems of progress indicators that have strong theoretical and empirical backing and provide rich exemplification. These kinds of supports would help teachers to understand what it means for students to make progress and help them make critical decisions regarding students' progress journeys. At a minimum, further information must accompany the curriculum-levelling construct to clarify its purpose and meaning. In providing that clarity, it is very likely that other aspects of the curriculum and the logic that underpins it will come to the fore.

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Appendix 1: Interview schedule for Professor Geoff Masters

1. How would you interpret the New Zealand curriculum-levelling construct?
2. Does the curriculum-levelling construct remind you of constructs used in Australia or in other jurisdictions?
3. Do you think that New Zealand's curriculum-levelling construct is fit for purpose?
   a. Can you describe any strengths or weaknesses in the construct?
   b. Could the construct be improved?
   c. Does the construct need to be replaced?
4. You have been leading an independent review of the NSW curriculum. The review released a report (*Nurturing Wonder and Igniting Passion*) which describes a new design for a future school curriculum.
   a. Does New Zealand's curriculum-levelling construct have any commonalities with the design ideas proposed in the interim report?
   b. Where does New Zealand's curriculum-levelling construct diverge from these ideas?
5. The NSW report includes an "on track" diagram. Does that diagram have anything in common with the New Zealand curriculum-levelling construct?
6. Are there any other thoughts about curriculum design and development that you think New Zealand's Ministry of Education should bear in mind as it considers how the curriculum should be developed in the future?
7. New Zealand took its lead regarding curriculum levels from developments in England and Wales during the 1980s. In 2014, the curriculum in England was revised and levels were abolished in favour of what was called a "mastery" approach. This focuses on a core curriculum approach that all students are expected to master. Do you have any comment on the removal of levels by the English?
8. Is there anything else that you would like to add?

Thank you very much for taking the time to talk with us

Appendix 2: Interview schedule for the expert involved in curriculum development at the Ministry of Education during the 1990s

Rationale behind the curriculum-levelling construct

1. We would like to deepen our understanding of how the curriculum-levelling construct was developed. We were hoping that you could cast your mind back to the early 1990s and talk to us about your involvement in the development of that construct AND in particular the thinking that informed this process.
2. An early version of the curriculum-levelling construct appeared in the DRAFT version of the mathematics curriculum in written form. Can you please talk to us about how that text was translated into the construct-levelling diagram?

Intended interpretation and use of the curriculum-levelling construct

3. How were teachers meant to interpret the curriculum-levelling construct? That is, how was the construct intended to shape their practice (e.g., their judgement-making processes and curriculum design and delivery decisions)?

Efficacy of the curriculum-levelling construct within the current educational landscape

The educational landscape has changed considerably since our current curriculum-levelling construct was developed. I'm interested in hearing your thoughts on the efficacy of that construct in today's educational landscape.

4. What do you think are the enduring strengths and/or benefits of the current levelling construct?
5. What, if any, do you think are the weaknesses of the current levelling construct?
   a Do you think teachers might lower their expectations for some students based on the construct?
6. What alternative systems or approaches do you think should be considered if New Zealand was to replace or adapt its current curriculum-levelling construct?
7. Were you consulted about the inclusion/ongoing use of the "1992" curriculum-levelling construct during the development of the 2007 curriculum?

Other/participant generated topics

8. Is there anything else that you would like to add?
9. Is there anyone we should talk to or read the work of?

Thank you very much for taking the time to talk with us

Appendix 3: Interview schedule for systems-level experts

Development of the curriculum-levelling construct

1. We would like to deepen our understanding of how the curriculum-levelling construct was developed. We were hoping you could cast your mind back to the early 1990s (and perhaps even to the late 1980s) and talk to us about anything that you know about the thinking that informed the development of the construct.

Interpretations and uses of the curriculum-levelling construct

My next set of questions relates to your knowledge of the ways in which teachers and school leaders interpret and use the curriculum-levelling construct BUT before we get into that I wanted to ask:

2. How do you personally understand the curriculum-levelling construct?
   a What does the shading within the band for each level mean to you?
3. If you were asked to make a generalisation, how do you think most teachers understand the curriculum-levelling construct?
   a How do you think most teachers understand the shading within the band for each level?

Judgement making

4. Drawing on your work with teachers, how—if at all—do you think the curriculum-levelling construct shapes their judgement-making processes?
   a In what ways, if any, do you think that the construct **helps** teachers to make judgements of progress and achievement in relation to curriculum levels?
   b In what ways, if any, do you think that the construct **hinders** teachers as they make judgements of progress and achievement in relation to curriculum levels?

Curriculum design and delivery

5. Reflecting upon on your work with teachers and school leaders, how much, if at all, do you think that the levelling construct informs their decisions about curriculum design and delivery?
   a If the levelling construct does shape teachers' and school leaders' decisions (about curriculum design and delivery), in what ways does it shape them?
   b If the levelling construct does not shape teachers' and school leaders' decisions (about curriculum design and delivery), why do you think this is the case?

Efficacy of the construct within the current educational landscape

The educational landscape has changed considerably since our current curriculum-levelling construct was developed. I'm interested in hearing your thoughts on the efficacy of the curriculum-levelling construct in today's educational landscape.

6. What are the enduring strengths of the current curriculum-levelling construct?
7. What, if any, do you think are the weaknesses of the current curriculum-levelling construct?
   a Do you think that the way the curriculum-levelling construct is presented prompts/leads some teachers to compromise their expectations for some groups of students?
8. What alternative systems or approaches do you think should be considered if New Zealand was to replace or adapt its current curriculum-levelling construct?

Other/participant generated topics

9. Is there anything else that you would like to add?
10. Is there anyone we should talk to or read the work of?

Thank you very much for taking the time to talk with us

Appendix 4: Interview schedule for PLD facilitators

Interpretations and uses of the curriculum-levelling construct

As a PLD facilitator, you work very closely with people in schools. I am really interested in hearing from you about how teachers and school leaders interpret and use the curriculum-levelling construct, BUT before we get into that I wanted to ask:

1. How do you personally understand the levelling construct?
   a What does the shading within the band for each level mean to you?
2. How, if at all, do you make use of this construct when you are working with teachers [and school leaders]?

Judgement making

3. Drawing on your work with teachers, how—if at all—do you think the curriculum-levelling construct shapes their judgement-making processes?
   a In what ways, if any, do you think that the construct helps teachers to make judgements of progress and achievement in relation to curriculum levels?
   b In what ways, if any, do you think that the construct hinders teachers as they make judgements of progress and achievement in relation to curriculum levels?
   c Have you ever observed instances in which teachers appeared to be using the levelling construct to justify having lower expectations for some [groups of] students?

Curriculum design and delivery

4. Reflecting upon on your work with teachers and school leaders, how much, if at all, do you think that the levelling construct informs their decisions about curriculum design and delivery?
   a If the levelling construct does shape teachers' and school leaders' decisions (about curriculum design and delivery), in what ways does it shape them?
   b If the levelling construct does not shape teachers' and school leaders' decisions (about curriculum design and delivery), why do you think this is the case?

Efficacy of the construct within the current educational landscape

The educational landscape has changed considerably since our current curriculum-levelling construct was developed. I'm interested in hearing your thoughts on the efficacy of the curriculum-levelling construct in today's educational landscape.

5. What, if any, do you think are the strengths of the current curriculum-levelling construct?
6. What, if any, do you think are the weaknesses of the current curriculum-levelling construct?
   a Have you ever observed instances in which teachers appeared to be using the levelling construct to justify having lower expectations for some [groups of] students?
7. What alternative systems or approaches do you think should be considered if New Zealand was to replace or enhance its current curriculum-levelling construct?

Other/participant generated topics

8. Is there anything else that you would like to add?

Thank you very much for taking the time to talk with us

Appendix 5: School-based curriculum experts

Principal interview

Interpretations and uses of the curriculum-levelling construct

1. How would (or do) you explain the curriculum-levelling construct to parents?
   a How would you explain the shading at the ends of each band?
2. In your opinion, what is the purpose of the curriculum-levelling construct?
3. Do you think that the current construct fulfils that purpose?
   a If not, what changes would need to be made to ensure that the construct did fulfil the purpose that you identified?
4. Before receiving my invitation to participate in this research, when did you last make use of the curriculum-levelling construct AND why did you use it?
5. As a school principal, are there other ways in which you use the curriculum-levelling construct in your work? If yes:
   a Can you please tell me about these/the other ways in which you use the curriculum-levelling construct?
6. How, if at all, do the teachers at your school use the curriculum-levelling construct when they are making judgements about student progress and achievement?
7. How, if at all, do the teachers at your school use the curriculum-levelling construct when they are planning?
8. How, if at all, does your school use the curriculum-levelling construct in its reporting to parents and whānau?

Efficacy of the construct within the current educational landscape

A lot has changed since the curriculum-levelling construct was developed back in the early 1990s. I'm interested in hearing your thoughts on the strengths and weaknesses of the curriculum-levelling construct in today's educational landscape.

9. Thinking about all the ways in which you have used the curriculum-levelling construct, what are its strengths?
10. Thinking about all the ways in which you have used the curriculum-levelling construct, what are its weaknesses?
    a In your experience, does the curriculum-levelling diagram ever lead to confusion about appropriate achievement expectations? If yes, explore this.

Other/participant generated topics

11. Is there anything else that you would like to add?

Thank you very much for taking the time to talk with us

Reorua interview

Interpretations and uses of the curriculum-levelling construct

1. Within your reorua classes, do you use *The New Zealand Curriculum* or *Te Marautanga o Aotearoa* OR both? IF *Te Marautanga o Aotearoa* is used:
   a In your experience, are there any key differences between the ways in which teachers understand and use the curriculum-levelling construct in *The New Zealand Curriculum* or *Te Marautanga o Aotearoa*?
2. How would (or do) you explain the curriculum-levelling diagram to whānau in your community?

a How would you explain the shading at the ends of each band?

3. In your opinion, what is the purpose of the curriculum-levelling construct?
4. Do you think that the current construct fulfils that purpose?
   a) If not, what changes would need to be made to ensure that the construct did fulfil the purpose that you identified?
5. How, if at all, do you use the curriculum-levelling construct when you are making judgements about student progress and achievement?
6. How, if at all, does your kura use the curriculum-levelling construct in its reporting to whānau?

Efficacy of the construct within the current educational landscape

A lot has changed since the curriculum-levelling construct was developed back in the early 1990s. I'm interested in hearing your thoughts on the strengths and weaknesses of the curriculum-levelling construct in today's educational landscape. Here, I am especially keen to hear about how well you think it serves the students in your class[es].

7. Thinking about all the ways in which you use the curriculum-levelling construct, what are its strengths?
8. Thinking about all the ways in which you use the curriculum-levelling construct, what are its weaknesses?
9. Do you have any ideas or suggestions about ways in which the construct could be reconceptualised so that it better serves the learners you work with?

Other/participant generated topics

10. Is there anything else that you would like to add?

Thank you very much for taking the time to talk with us

Teacher interview

Introductory questions

1. What year level or levels are the students you currently teach?
   a What curriculum level or levels are most of the children in your class working at?
   b Which other curriculum levels, if any, are the children in your class working at?

Interpretations and uses of the curriculum-levelling construct

2. How would/do you explain the curriculum-levelling diagram to a parent/s?

a How would you explain the shading at the ends of each band?

3. In your opinion, what is the purpose of the curriculum-levelling construct?
4. Do you think that that the construct is "fit for" or serves the purpose that you just described?
   a If not, what changes would need to be made to ensure that it was [fit for purpose]?
5. Before receiving my invitation to participate in this research, when did you last make use of the curriculum-levelling construct AND why did you use it?

Aim to ask all of the following questions, even if there is some overlap with Q5.

6. How, if at all, do you use the curriculum-levelling construct when you are making judgements about student progress and achievement?
7. How, if at all, do you use the curriculum-levelling construct when you are planning [learning opportunities/for learning]?
8. How, if at all, do you use the curriculum-levelling construct when you are reporting to parents and whānau?
9. Are there other ways in which you use the curriculum-levelling construct in your work? If yes:
   a Can you please tell me about these/the other ways in which you use the curriculum-levelling construct?

Efficacy of the construct within the current educational landscape

A lot has changed since the curriculum-levelling construct was developed back in the early 1990s. I'm interested in hearing your thoughts on the strengths and weaknesses of the curriculum-levelling construct in today's educational landscape.

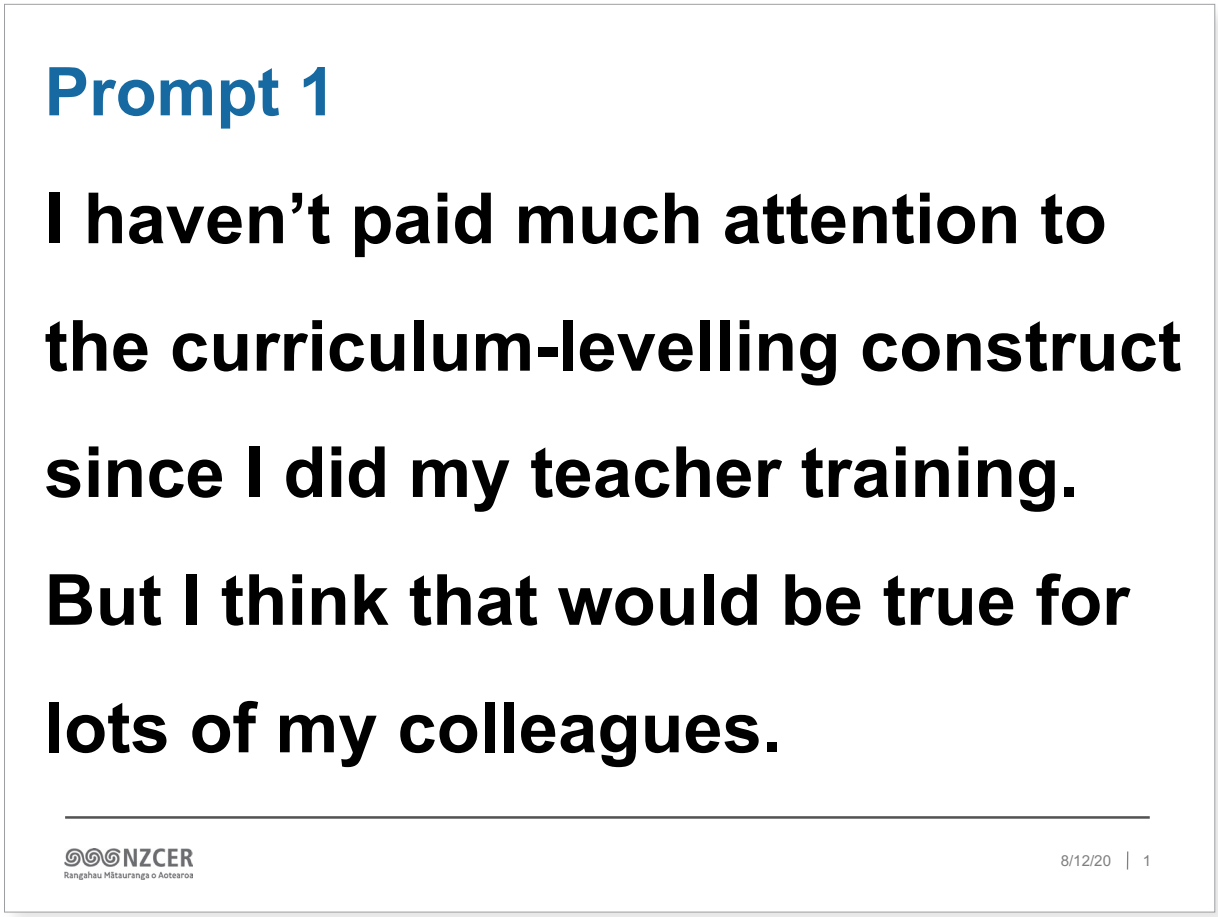
10. Thinking about all the ways in which you use the curriculum-levelling construct, what are its strengths?
11. Thinking about all the ways in which you use the curriculum-levelling construct, what are its weaknesses?
    a In your experience, does the curriculum-levelling diagram ever lead to confusion about appropriate achievement expectations? *If yes, explore this.*

Other/participant generated topics

12. Is there anything else that you would like to add?

Thank you very much for taking the time to talk with us

Appendix 6: Focus group discussion prompts



Prompt 2

"Most teachers have a strong understanding of the curriculum-levelling construct."

1. Strongly disagree
2. Disagree
3. Neutral (unsure)
4. Agree
5. Strongly agree

NZCER Rangahau Mātauranga o Aotearoa

8/12/20 | 2

Prompt 3

At my school, we interpret the curriculum-levelling construct in a _____ way to teachers from other schools.

1. Very similar
2. Somewhat similar
3. Different
4. Very different

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8/12/20 | 3

Prompt 4

The curriculum-levelling construct helps teachers make consistent judgements about progress and achievement.

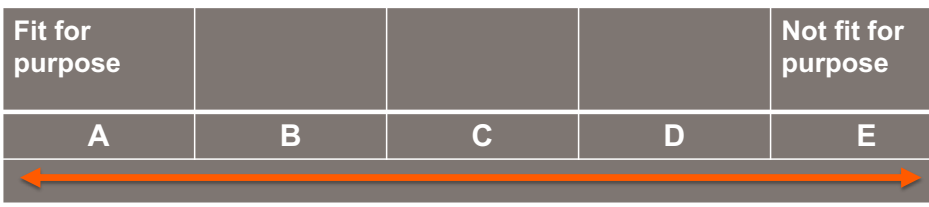
NZCER Rangahau Mātauranga o Aotearoa

8/12/20 | 4

Prompt 5

The curriculum-levelling construct is …

Fit for purpose				Not fit for purpose
A	B	C	D	E



NZCER Rangahau Mātauranga o Aotearoa

8/12/20 | 5

Prompt 6

Some students are better served by the curriculum-levelling construct than others.

Prompt 7

If we changed our curriculum-levelling construct, what might it look like?

Prompt 8

Other ideas….

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