New Zealand Curriculum Refresh

Determining how learning is progressing: Options for calibrating teacher judgements

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Introduction

This paper builds on an earlier paper that outlines the case for a bicultural progression-focused curriculum. It discusses ways to support teacher, ākonga, and whānau decision-making about how learning is progressing. The paper also explores how to build bridges between the intentions expressed by a bicultural progression-focused curriculum, assessment, and classroom practice.

Outside the scope of this paper, but also important to consider, is how system learning is progressing. This paper does not discuss the information needed for system-level decision making such as identifying and sharing practices that are making a difference for ākonga, and investing in things that will lead to increasing excellence and equity across the system.

The paper begins by briefly describing how dependable teacher judgements and good decision making are needed to inform a system that learns. It considers the people who need information from teacher judgements and the implications of important principles related to the New Zealand Curriculum, assessment and aromatawai. Clear purposes and principles are critical when considering how judgements should be made and actions undertaken to support ākonga progress. The paper then describes the elements needed to support decisions about how learning is progressing in a system based on a progression-focused curriculum. The elements include: curriculum purpose statements; waypoints; waypoint elaborations; tools to support decision-making; and opportunities to interact within a community of practice.

Informing a system that learns

In a system that learns[1] all stakeholders need information about ākonga progress and achievement (see Appendix 1). Ākonga need to see their growth and look forward to their next steps. Whānau and iwi want to know how their children are doing in the things they see as important. Teachers, school leaders, and policy makers need to make good, defensible decisions about the actions they should take to support ākonga learning and progress.

It is critical that all processes used to generate progress and achievement information for reporting and decision making purposes are guided by appropriate principles. This is especially true when the information is shared across contexts. The paramount principle is a commitment to the progress, mana, and well-being of ākonga.

Table 1 outlines some principles for making judgements and decisions that support future progress. It foregrounds Aromatawai[2] by setting out the four key principles of *Rukuhia Rarangahia* [3]. It also brings a judgement-making/decision-making lens to the curriculum principles first set out in the 2007 NZC, by outlining what these principles mean in the context of making judgements about ākonga progress.

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[1] Improving equity and excellence in an education system that serves and grows diverse learners is a 'wicked' problem; complex, important, and enduring. The Curriculum Progress and Achievement Ministerial Advisory Group proposed addressing this problem through becoming a 'system that learns'.

[2] Aromatawai is derived from, and builds on our early childhood curriculum, *Te Whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa* (Te Whāriki). Aromatawai supports and upholds a bicultural approach to our national curriculum. While it was developed for the Māori-medium education context, the principles of aromatawai can also benefit English-medium education.

[3] Ministry of Education. (2014). Rukuhia Rarangahia - Aromatawai position paper. Wellington: Ministry of Education.

Table 1. Principles for making judgements to inform decision making

Me pēhea koe e mōhio ai ki te teitei o te kahikatea mehemea ka poroa e koe?   How do we know how tall the kahikatea will grow if we cut it down?

Aromatawai Principles	Implications of the Aromatawai[4] principles for decision-making	Implications of the NZC principles for judgements for decision making	NZC Principles
NZC Principle 1: Treaty of Waitangi. Judgements and decisions should be made in ways that reflect mātauranga Māori, the well-known '3Ps' (partnership, protection, participation) and an expanded set of principles derived from The Waitangi Tribunal such as the duty to act reasonably, honourably, and in good faith; reciprocity; and mutual benefit.[3]			
Mana mokopuna – Education that is mokopuna-centred.	Judgements and decisions need to reflect the ways of knowing, doing and being that ākonga bring with them including their experiences, talents, knowledge, and skills. Judgements and decisions need to reflect ākonga needs, interests and aspirations. Approaches need to support ākonga to make judgements and decisions about their own learning, where they are at, and where to next.	Judgements about progress need to be conveyed in ways that are clear and relevant to the range of people in the community that sit around learners. Decisions need to be made together with all of those who care for the progress of ākonga.	Principle 2: **Community engagement** Principle 3: **Coherence**
Rangatiratanga – Education that is unique to the individual.	Judgements and decisions need to lead kaiako to shape learning experiences and opportunities that foster the unique and natural talents of ākonga, capture their potential and encourage their participation in learning.	Judgments need to be made together with learners so there are shared a view of how to move forward in their learning Judgements and decisions need to support ākonga to be and become the people they are capable of being and aspire to be. Decisions should support progress that weaves together knowledge, skills and dispositions.	Principle 4: **Learning to learn** Principle 5: **Future focus**
Toitū te mana – Education that affirms whānau, hapū and iwi.	Mātauranga Māori needs to be positioned with status in the judgements and decisions made in relation to each learning area. Whānau, hapū and iwi need to be contributors to and participants in judgements and decisions about what is being learnt, how it is taught, who teaches it, and how we know when it has been learnt. Judgements and decisions need to take account of the unique tuakiritanga: identity, reo: language, ahurea: culture of the whānau, hapū, and iwi that ākonga are from.	Judgement and decision making processes need to reflect mātauranga Māori. Judgement and decision making processes need to reflect the diverse traditions of ākonga . Judgements need to be supportive of learners' progress while holding tight to high expectations for excellence for learners and for the system.	Principle 6: **Cultural diversity** Principle 7: **High expectations**
Whanaungatanga – Education that values whanaungatanga.	Relationships between kaiako, ākonga, and whānau need to be used to support commitments to student progress and development. Nurturing of relationships needs to be given the importance it deserves given the role of relationships in processes of judgement and decision making.	Judgements and decisions need to be non-sexist, non-racist, and non-discriminatory. They should recognise and affirm all students' identities, languages, abilities, and talents and ensure that their learning needs are addressed.	Principle 8: **Inclusion**
Core assessment principles			
Reliability Assessment decisions that are made in different contexts should be comparable and consistent. Judgments should be made using frameworks and tools which assess or measure learning consistently. Processes to develop shared understandings of progress should support consistency between teachers.		**Validity** Judgements should be: • clearly linked to significant learning, reflect real world contexts and be defensible. • made using frameworks and tools that clearly measure the significant learning they are supposed to measure.	

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[4] Aromatawai serves two purposes: 1. to determine how well students are learning; 2. to determine how well the school is supporting community aspirations. Aromatawai directs attention to: Māori values, beliefs and aspirations; meaningful learning and assessment experiences that Māori learners can engage with; the distinct body of knowledge and awareness held by Māori (reo: language, ahurea: culture, tuakiritanga: identity); and the kinds of success valued by whānau, hapū and iwi. The principles are derived from Matauranga Māori.

Note: These principles preclude the use of approaches such as the high-stakes testing regimes used in some jurisdictions.

What helps teachers make dependable judgements about ākonga progress?

In a progress-focused curriculum, judgements about the following are key:
- the progress and pace of learning
- the impact of actions designed to promote learning
- what feedback is appropriate
- where learning can go next
- likely processes supporting next learning steps.

Teachers are well-placed to recognise and respond to the rich learning described by the proposed curriculum and to make and apply judgements about learning and progress in ways that support ākonga. However, the complexities involved in making dependable judgements—that is, judgements that are trusted and useful across contexts— should not be underestimated. It takes effort and access to appropriate resources for teachers to develop the shared understandings these judgments require.

It is important to highlight that these complexities are heightened when the judgements involve ākonga who are transitioning from Māori medium to English medium and vice versa or who are second-language learners. When ākonga transition between different language contexts they bring with them understandings, knowledge, and capabilities in the language they have learnt them in. Ākonga need to be given opportunities to demonstrate what they understand, know, and can do in that language, or be provided with scaffolding to support the transfer of what they understand, know, and can do into the other language. When making judgements about ākonga who have been learning in te reo Māori or languages other than English, school leaders and teachers need to know how to design appropriate opportunities for ākonga to demonstrate their learning and progress.

The decisions teachers make about progress and achievement will be more dependable when they are calibrated with the support of a strong decision infrastructure. A carefully designed decision infrastructure will enable teachers to keep sight of and develop shared understandings about the overall purposes for learning and the multifaceted elements that make up the waypoints at each learning phase.

The proposed curriculum sets the foundation for decision-making by providing purpose for learning and waypoint statements. These provide important "anchor points" that help teachers to calibrate their understandings and interpretations of what constitutes quality and progression against a national viewpoint. In other words, they provide a vital reference point with a description and vocabulary to frame what progression looks like.

We propose that the framing provided by the mata/purpose statements and waypoints in the refreshed curriculum are supported by three additional elements: waypoint elaborations, tools and resources for informing decision making, and opportunities to interact with a community of practice. Together, these elements will provide an effective infrastructure for robust decision making that is supported by well calibrated teacher judgements. Our proposed judgement and decision making infrastructure is set out in Table 2.

Table 2: The elements of a decision-making infrastructure

Proposed curriculum elements	Purpose statements and learning area essence statements
	Waypoints
Recommended additional elements	Waypoint elaborations
	Tools for informing decision making
	Communities of practice

Each of these elements is discussed in what follows. The focus is on how each element contributes to judgement and decision-making that looks forward and that is explicitly focused on supporting student progress.

A decision-making infrastructure

1. Purpose statements, learning area essence statements, and waypoints

As noted above, the proposed curriculum itself will form a critical resource for calibrating decision-making by orienting teachers to the learning that cannot be left to chance and linking this coherently across phases of learning from year 1 to year 13. The purpose statements, learning area essence statements, and waypoints[5] for each phase will provide a high level description of progression by signalling:

- progressively broader and deeper understanding and more complex and ambiguous contexts
- progressively more refined and sophisticated use of competencies and inquiry processes
- important connections and the application and transfer of new learning.

By themselves, these curriculum resources will not solve the problem of how to support teachers to make dependable judgements about the extent to which a child is progressing across the whole curriculum, and in all of the areas that really matter. We believe this requires the additional elements of the infrastructure that follows.

2. Waypoint elaborations

The waypoints in the proposed curriculum build on the purpose statements and describe progression in each learning area using a relatively broad 'grain size'. That is, they provide high level descriptions of progress. They describe changes that occur over relatively long periods (two or more years). Although waypoints will serve as a basis for many key decisions, they will be more limited in terms of informing day-to-day decisions about ākonga learning or for tracking progress. To provide a stronger support for decision-making about learning and progress, the purpose statements and waypoints in the curriculum need to be further elaborated.

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[5] See Part 6 of the Progressions Paper for an explanation of these proposed curriculum structures and the way they relate to each other.

Elaborated information about each waypoint (waypoint elaborations) would provide important detail about how the aspirations described by purpose statements and waypoints emerge and develop as ākonga engage in rich opportunities to learn. In doing this, they would help teachers to develop a common understanding of how to frame judgements and support them as curriculum builders.

We see these elaborations as either being part of the national curriculum or being shared with schools nationally as 'strong guidance'. We provide three options for what these elaborations could contain:

1. Written descriptions of progress
2. Indicators
3. Annotated exemplars.

These options could be used in combination or separately.

The first option involves using written descriptions of progress to provide a holistic sense of what it means for ākonga to develop the elements expressed by each waypoint. Starting at an emergent level, the first parts of the description would describe ākonga who have begun to work with the new ideas that are critical aspects of the knowledge and capabilities described by the waypoint. Later parts of the description would describe ākonga who showed a broad appreciation of the capabilities described in the waypoint and who are progressing beyond these. At this level, ākonga use of the knowledge and capabilities described by the waypoint would often appear intuitive and effortless as they leveraged the capabilities in new and creative ways, and transferred their learning to progressively wide-ranging and more complex contexts, understanding when and how to do so, and using increasingly sophisticated critical inquiry practices.[6]

A second option involves developing indicators that would help teachers notice, recognise, and respond to learning as it grows and deepens in increasingly sophisticated ways within a phase and 'I can' statements to support ākonga, teachers, and whānau to recognise progress and design future learning pathways.

The indicators would foreground important facets of learning area waypoints. They would signal the key competencies associated with the waypoint[7] in more detail and steer teachers towards progressively challenging contexts and concepts that could be explored.

The 'I can' statements would be clear statements linked to progression within a phase. The statements would help ākonga see their progress and look forward. They would help teachers apply assessment for learning principles. The 'I can' statements could be ordered

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[6] The idea of a 'broadening' stage has been inspired by the idea of a 'development band' outlined in the 1992 Mathematics in the New Zealand Curriculum statement. The band was used to provide examples of how ākonga who were progressing faster than others could be challenged by broadening their learning experiences within a curriculum level rather than by simply accelerating them to the next level. The first part of the description of the development band taken from the 1992 Mathematics Curriculum document is provided below (Ministry of Education. Mathematics in the New Zealand Curriculum. Wellington, New Zealand: Learning Media, 1992., p.19).

[7] Over the years since NZC was published the term "capability" has evolved to signal important weaving of multiple curriculum elements to achieve multi-faceted outcomes. These elements typically include one or more key competencies along with traditional "content". Key competencies are defined in NZC as "capabilities for living and lifelong learning" but we have learned that they cannot meet this aspiration in the absence of sophisticated curriculum weaving. The "science capabilities" were essentially a prototype for this curriculum design thinking. See McDowall, S. & Hipkins, R. (2018). *How the key competencies evolved over time: Insights from the research.* https://www.nzcer.org.nz/research/publications/key-competencies-insights

from emerging to more complex and signal how key competencies and inquiry practices progress as they are applied and transferred to different contexts.

A third option is to develop annotated exemplars. These would use combinations of words, sound, pictures, and video to provide rich illustrations of ākonga working towards the aspirations of a waypoint. The annotated exemplars could draw on both the indicators and 'I can' statements.

As noted above, these options for elaboration could be used separately or combined in various ways. How they are used might also differ across phases.

Regardless of how the elaborations are presented, we believe that one focus of the waypoint elaborations should be to allow the progress of all learners to be understood in terms of the phase of learning they are currently in. For instance, an ākonga with learning support needs should be able to see their progress in terms of the purpose statements associated within their age-appropriate phase of learning and in relation to the waypoints that phase involves. This means providing descriptors of progress as part of the waypoint elaborations that illustrate progression for ākonga with learning support needs.

Structuring the elaborations

We see two options for structuring the elaborations. One option would be to develop separate elaborations for each waypoint. These would ensure that a finer-grain level of information about progress was provided for each learning area waypoint at each phase.

A second option would be to provide elaborations that consider all the learning area waypoints for that phase—a more holistic elaboration of the whole phase, rather than a single waypoint approach. This would offer the opportunity to easily see patterns of progress and achievement across learning areas, and compared with the first approach, could provide a more manageable number of elaborations. It would also provide the flexibility to foreground learning that is more important at a particular phase. For instance, in years 1-3 more detail might be provided about progress in literacy, numeracy, and learning to learn, including the contribution of oracy. This option could also provide some elaborations that illustrate integrated progress and application of learning across learning areas in years 9-10 for example.

Developing waypoint elaborations

The development of waypoint elaborations should be informed by both theory and empirical evidence. The theoretical basis for an elaboration can be informed by research literature and by the lived experience of practitioners and curriculum experts. The empirical evidence can be derived from ākonga' work and assessments, including observations of their learning in different contexts and the empirical data we already have from international studies, NMSSA, PaCT, e-asTTle and PAT. We recommend that work from a range of ākonga and contexts is used to supplement this evidence and to create exemplification.

The theory and evidence can then be used to generate the descriptors, indicators and exemplars associated with an elaboration. These would then be tested with teachers and ākonga and the results used to make adjustments. If needed, statistical processes could be used to support validation decisions. For instance, paired-comparison trials could be used to support a claim that the elaborations are being interpreted by teachers as intended.

3.   Tools for informing decision making

The purpose statements, along with the waypoints and the waypoint elaborations would support teachers' judgements by providing nationally agreed upon descriptions of what constitutes progress and achievement. This section describes tools for informing decision making that are aligned with the curriculum and waypoint elaborations and that help teachers to elicit and interpret evidence of learning and progress. These tools would be provided at a national level to help calibrate decision making at a local level. They include Learning Progression Frameworks, Rich Assessment Tasks (e.g. ARBs and NMSSA tasks), Concept Maps (e.g. building conceptual understandings in social sciences, Building Science Concepts), and assessment tools (e.g. e-asTTle, PAT, PaCT).

Learning Progression Frameworks

Learning progression frameworks are tools that support teachers to make decisions about important capabilities that are needed across the curriculum as essential enablers for progress. The frameworks do this by describing, in some detail, how these capabilities emerge and become more sophisticated as learning progresses. The Learning Progression Frameworks (LPFs) for reading, writing, and mathematics are examples of existing learning progression frameworks. The LPFs describe how important literacy and numeracy skills develop from school entry to early secondary and beyond. They can be used to understand and anticipate the literacy and numeracy demands associated with different levels of schooling and to track progress.

The existing LPFs should be used to support a progressions-based curriculum by linking them to the purpose for learning and waypoint statements.

In time, other learning progression frameworks could also be developed to support a refreshed curriculum. For instance, learning progression frameworks that describe progression in Oracy, Critical Inquiry and/or Social and Emotional Learning.

Learning progression frameworks could also be developed at a local level. These would describe the growth of capabilities that a school and iwi or community have agreed are an important aspect of their graduate profile. Such a framework would be used to inform planning, teaching, and assessment decisions and to share progress in partnership with parents and whānau.

Rich assessment tasks

Rich assessment tasks are specific activities ākonga undertake that have real-world value and use, and through which ākonga are able to display their grasp and use of important ideas and capabilities. Rich assessment tasks provide multiple opportunities to observe how students select and use different capabilities to carry out investigations and solve problems. Well crafted observation schedules can support teachers to interpret what they observe when ākonga respond to the tasks and link these interpretations to curriculum goals.

Rich assessment tasks would be centrally created and designed to promote assessment for learning. The tasks would be designed to elicit information in the context of real-time learning in ways that helped teachers to generate feedback and ākonga to self and peer-assess. The Ministry's Assessment Resource Banks (ARBs) could be repurposed to manage and curate the rich tasks. Many of the existing resources within the ARBs already support teachers to elicit information, generate feedback, and make 'next-step' decisions.
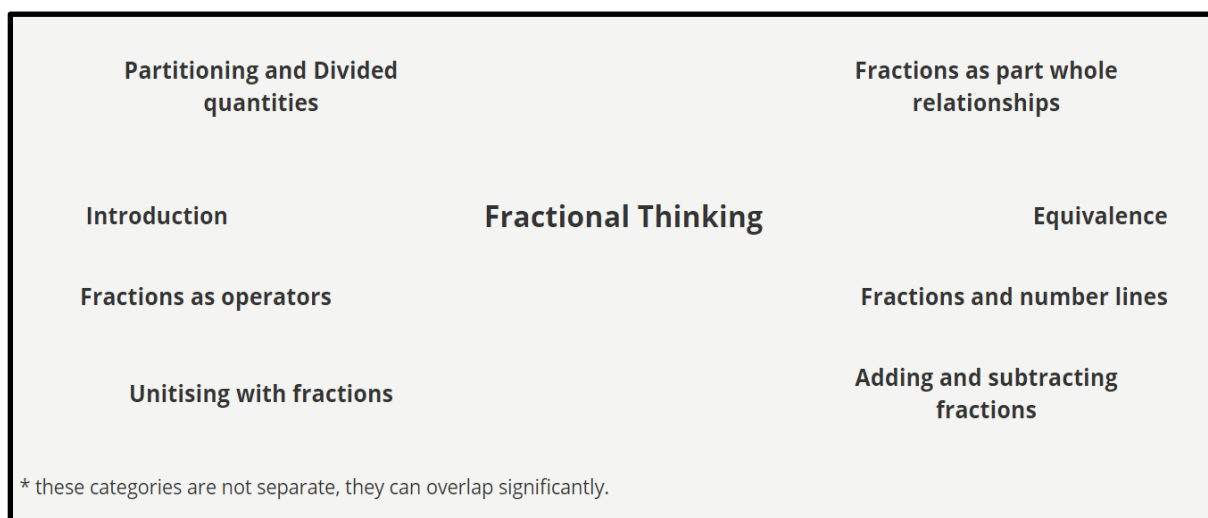
Concept maps

An online library of conceptual progress descriptions (concept maps) would provide teachers with a carefully researched and fine-grained view of how some of the big-ideas, threshold concepts, and capabilities that underlie a curriculum progression typically develop. Concept maps would be aimed at supporting the design of rich opportunities to learn and responsive decision making in the classroom.[8] They would foreground the meaning of important elements of the curriculum progressions and provide rich descriptions of how they typically develop with instruction. The concept maps could describe learning that might occur over shorter or longer periods of time. One important function of the concept maps could be to support teachers to identify and respond to 'worry points' that are critical parts of progression.

The concept maps would be informed by empirical evidence as well as professional knowledge. There could be multiple maps in each learning area and these could be added to and improved over time.

Figure 1 shows a version of a concept map currently available in the ARB site. The map allows teachers to explore different elements of thinking with and about fractions. For instance, by selecting the heading 'Fractions as part whole relationships' they can find information about how students' understanding of part-whole relationships emerges and develops. The map also provides links to resources that can be used to elicit and decide how to respond to students' thinking and ideas about part-whole relationships.

Figure 1: A concept map for fractional thinking

Partitioning and Divided quantities

Fractions as part whole relationships

Introduction

Fractional Thinking

Equivalence

Fractions as operators

Fractions and number lines

Unitising with fractions

Adding and subtracting fractions

* these categories are not separate, they can overlap significantly.

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[8] Wilson, Mark. 'Measuring Progressions: Assessment Structures Underlying a Learning Progression'. *Journal of Research in Science Teaching* 46, no. 6 (August 2009): 716–30. https://doi.org/10.1002/tea.20318

Appendix 2 shows an example of a concept map from the research literature in science (Wilson, 2009)[9]. This map focuses on a set of understandings ākonga are expected to develop by the eighth-grade as part of an American science curriculum. The written descriptors attempt to provide some detail about ākonga' growing conceptual understanding and the common misconceptions that can be addressed as part of learning about planet Earth in the solar system.

The example has not been selected to represent best-practice. It could be improved, for instance, by providing associated examples of students' work. It also has a focus on one specific set of concepts and could be readily enriched by a complementary focus on one of the science capabilities. What it does show however, is that there is a learning journey associated with meeting the associated learning intentions. This will involve a purposeful and informed programme of learning and include multiple decision points. This journey might look different in different contexts and for different ākonga but there will be commonalities that teachers should anticipate and design for.

Assessment tools

Current literacy and numeracy assessment tools use different rubrics and different scales and this can cause unnecessary confusion. All existing assessment tools should help teachers calibrate their understanding of how a student is progressing in relation to the refreshed curriculum. For instance, if e-asTTle is part of a new curriculum environment, teachers should be able to easily link performance on the tool to progressions in the refreshed curriculum. This may require re-purposing some existing assessment tools.

Some new assessment tools may be useful in areas other than literacy and numeracy. One option is to build on recent work done by the National Monitoring Study of Student Achievement (NMSSA) in science. This new online tool allows teachers to assess their ākonga using items based on those used in the NMSSA study. Once marked, the assessment can locate ākonga achievement on the scale used in the science monitoring study. The tool also supports teachers to understand the underlying science construct being assessed by involving them in the marking process and by providing rich item by item reporting. Reporting generated by the tool could be linked to the new learning waypoints as part of a refresh of the science learning area.

All new and existing assessment tools should be able to report against curriculum expectations by relating performance on the tool to waypoint expectations for a phase of learning. Tools that assess numeracy and literacy should also be able to show how performance relates to the NCEA literacy and numeracy standards.

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[9] Wilson, Mark. 'Measuring Progressions: Assessment Structures Underlying a Learning Progression'. *Journal of Research in Science Teaching* 46, no. 6 (August 2009): 716–30. https://doi.org/10.1002/tea.20318.

4. Communities of practice

Our final element for an effective decision-making infrastructure is communities of practice. Teacher decision making is strengthened when it is embedded within a community of peers who are accountable to each other, to their ākonga, and to their ākonga whānau and communities. In the context of making assessment decisions, Mark Wilson refers to this as a "community of judgment"[10]. The community is a social setting where interactions between people bring meaning to the descriptions of progress outlined above. A community of practice supports decision making when its members are involved in group-decision making activities about ākonga and their learning and have access to shared resources and language. If teacher decisions are to have meaning across our schooling system, the community that supports them has to extend beyond the local school to groups of schools and to schools nationally.

Ongoing collaboration between groups of educators will enable them to come to a shared understanding of what progress looks like at different phases and waypoints. It will also help establish and maintain consistency in analysing evidence, and providing feedback that highlights next learning steps for ākonga.

What would this mean for ākonga, teachers, and whānau?

In this paper we have described the elements and supports that we believe are needed to determine how learning is progressing.

These elements illustrate and illuminate learning paths that enable ākonga to look forward, see possible futures for themselves and tell stories about their growth. Together, the elements describe what we would see if a student was making progress, enabling teachers to develop rich learning opportunities and anticipate 'worry points' and challenges.

We also believe that the clear, easily understood ways of determining how learning is progressing, as outlined in this paper, would better enable teachers and whānau to work, together in ways that help our young people grow into well rounded adults who are confident, connected, actively involved, lifelong learners in a bi-cultural society, and who are well equipped with the knowledge, competencies, and values they need to realise their potential and contribute to the wellbeing of Aotearoa and the planet.

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[10] Wilson, Mark. 'Assessment, Accountability and the Classroom: A Community of Judgment'. *Yearbook of the National Society for the Study of Education* 103, no. 2 (4 April 2005): 1–19. https://doi.org/10.1111/j.1744-7984.2004.tb00046.x

Appendix 1

Who needs information from teacher judgements?[11]

Stakeholder voice	What progress and achievement information do I need to support my own and others learning?	What do I want to move away from?
Ākonga	I want descriptions of learning paths that I can understand so that I can look forward, see possible futures for myself and tell stories about my growth. I want to check where I am in my learning and I want to talk with my teacher and my peers about what I need to do to improve. I want feedback about my learning and progress. I want the whole picture – not just a view of where I am now, but also what I might do next. And not just the places where there are gaps in my learning, but also where others see my strengths and the things I can contribute. I want to be valued for who I am and for everything I bring from the different worlds to which I belong. Success for me is not just about marks. It's about wellbeing and relationships, and about getting stronger and better at managing my own life and my own learning. It's about being active in my community – I am already a citizen.	I want to move away from judgements that show I am not appreciated for who I am, the cultures I belong to, or what I bring to my learning. I want to move away from waiting for the teacher to tell me what to do next. And I want to move away from judgements that label or marginalise me, my friends, or my school.
Teacher	I want to provide rich, holistic descriptions of the skills, knowledge, and aptitudes of ākonga and to do this, I need processes, tools, and routines that help me notice, recognise, and respond to all valued learning – not just literacy and numeracy. I want information that will be useful when talking with parents and whānau. I want to be clear about what I would see if a student was making progress and I want to be able to describe student progress and achievement in terms of our school's vision, values and graduate profile. I want to recognise what ākonga can do relative to expectations, and I want to determine their next steps in learning and design forward. I want to make judgements about how well learning has taken place and I want to use those judgements to help inquire into and evaluate the impact of our teaching practice. I want to make judgements in ways that enable us to work smarter.	I want to move away from situations where ākonga arrive in my classrooms with no information about their wellbeing needs, interests, progress or achievements to date. I want to move away from 'over assessment' in some areas and I want help to figure out how to make judgements about things that are harder to measure but that our community sees as most important. I don't want assessment practices and achievement information that are cumbersome to administer, difficult to understand and which creates added workload issues.

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[11] The information in this table has been synthesised from Kōrero Mātauranga and the CPA MAG report.

Stakeholder voice	What progress and achievement information do I need to support my own and others learning?	What do I want to move away from?
	I want information about how big ideas typically develop as ākonga learn so that I can develop rich learning opportunities and anticipate challenges.	
Whānau	We want to know how our children are doing in things that are important to us i.e. we want to have a say on the type of information we are given and how it is provided. Are they progressing at about the right pace? Are they happy? Do they have friends at school? Do they feel they belong? We want information that we understand and in a format that we understand and we want to know what is being done to help them learn and develop, and what we could do at home. We want you to ask us about the things that may impact on our children's learning at school. All of our children bring knowledge, hopes and dreams of their own. We want you to know and understand our children and to value the richness of their lives away from school, because they carry the hopes and dreams of our whānau. We want to work with you so that, together, we can help our children grow into well rounded adults.	We know our children better than anyone. We want to move away from situations where our knowledge is not valued, and the exchange of information is not reciprocal. Where we receive a limited amount of information about our children's progress and experiences at school, and it does not always answer the questions we have. Where the language and format used to convey the information makes it difficult for us to understand what it means. We want to move away from situations where we get too much or too little information, and where we don't have the time or opportunities to make sense of it.
School Leader	I want to use dependable teacher judgements to support: ● learning focused conversations between ākonga, whānau and teachers ● dialogue between teachers about progression ● short term and long term decision making at ākonga, teacher and school level. I want to use dependable judgements to support my decisions about how to improve equity, and ākonga participation, engagement, wellbeing, progress, and achievement. I want quality information to evaluate the impact of my leadership, especially in our areas of strategic focus. In relation to valued outcomes, I want to know: ● how different groups of ākonga are progressing and achieving in our school ● how our ākonga are progressing and achieving overall ● what is working to promote learning and address equity.	I don't want to provide information or teacher judgements to others that could be used to create simplistic and damaging league tables that name and blame schools. I don't want to use assessment information for streaming ākonga, creating self-fulfilling prophecies about them, or making overly simplistic judgements about teaching effectiveness. I want to move away from a system where important information does not always follow ākonga and can be lost when ākonga transition. I want to move away from over-assessment in some areas, and I want help to figure out how to assess the things that are harder to measure but that our community sees as most important.

Stakeholder voice	What progress and achievement information do I need to support my own and others learning?	What do I want to move away from?
Hapū and iwi	We want to understand how well our tamariki are doing in terms of mātauranga Māori. We want to have a say in the type of information that is gathered and provided and how. We want information that tells us how well the system is educating our tamariki. Our tamariki bring their language, culture and identity to schools. We want you to know and understand our tamariki and value their hapū and iwi identities, and them as Māori, because they are our future generations, our future leaders, mātauranga Māori-Māori knowledge holders, and kaitiaki of our marae and tikanga. We want to work together with you to ensure our future generations (all tamariki) are bicultural/bilingual and are able to bring mātauranga Māori to problem-solving and innovation.	We want schools to value te reo Māori and to teach it beyond colours and numbers year after year. We want to move away from a system where mātauranga Māori is not valued in schools and Aotearoa. We want to move away from a system where some schools do not value mātauranga Māori or address our educational aspirations for our tamariki.

Appendix 2

An example of a concept map (description of progress) for ākonga understanding of Earth and the solar system. Taken from Wilson (2009)

Level	Description
5 8th grade	Student is able to put the motions of the Earth and Moon into a complete description of motion in the Solar System which explains: • the day/night cycle • the phases of the Moon (including the illumination of the Moon by the Sun) • the seasons
4 5th grade	Student is able to coordinate apparent and actual motion of objects in the sky. Student knows that • the Earth is both orbiting the Sun and rotating on its axis • the Earth orbits the Sun once per year • the Earth rotates on its axis once per day, causing the day/night cycle and the appearance that the Sun moves across the sky • the Moon orbits the Earth once every 28 days, producing the phases of the Moon COMMON ERROR: Seasons are caused by the changing distance between the Earth and Sun. COMMON ERROR: The phases of the Moon are caused by a shadow of the planets, the Sun, or the Earth falling on the Moon.
3	Student knows that: • the Earth orbits the Sun • the Moon orbits the Earth • the Earth rotates on its axis However, student has not put this knowledge together with an understanding of apparent motion to form explanations and may not recognize that the Earth is both rotating and orbiting simultaneously. COMMON ERROR: It gets dark at night because the Earth goes around the Sun once a day.
2	Student recognizes that: • the Sun appears to move across the sky every day • the observable shape of the Moon changes every 28 days Student may believe that the Sun moves around the Earth. COMMON ERROR: All motion in the sky is due to the Earth spinning on its axis. COMMON ERROR: The Sun travels around the Earth. COMMON ERROR: It gets dark at night because the Sun goes around the Earth once a day. COMMON ERROR: The Earth is the center of the universe.
1	Student does not recognize the systematic nature of the appearance of objects in the sky. Students may not recognize that the Earth is spherical. COMMON ERROR: It gets dark at night because something (e.g., clouds, the atmosphere, "darkness") covers the Sun. COMMON ERROR: The phases of the Moon are caused by clouds covering the Moon. COMMON ERROR: The Sun goes below the Earth at night.
0	No evidence or off-track