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LEARNING PROGRESSIONS AND ONLINE FORMATIVE ASSESSMENT  
NATIONAL INITIATIVE

FINAL REPORT – ATTACHMENT 5

A FRAMEWORK FOR NATIONAL LEARNING PROGRESSIONS  
AND ALIGNED ASSESSMENTS

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# 1 Introduction

This framework sets the standard that should be applied to defining or developing national learning progressions linked to the Australian Curriculum, and the criteria by which assessments should be selected and aligned to those progressions for the purpose of inclusion in the national online formative assessment system.

The vision of the expert reference panel report was that “more effective classroom teaching and assessment practices will be made possible by the provision of on-demand, quality resources and aligned professional learning”. To achieve this vision will require, among other things:

- empirically validated learning progressions in chosen curriculum areas, mapping typical learning development
- empirically validated diagnostic assessments linked to learning progressions in the chosen curriculum areas
- quality assurance of selected assessments according to agreed criteria.

Definitions of learning progressions vary, as do the purposes for which they are used and the ways they can be developed and structured. This paper outlines the defining features and intended uses served by national learning progressions that are aligned to the Australian Curriculum.

The paper also describes criteria for the evaluation and selection of quality assessments and the technical considerations required to align assessments to those progressions.

The paper is based on the findings from ACARA’s work during the discovery phase for the Learning Progressions and Online Formative Assessment National Initiative. This work included:

- an international scan and national stocktake of existing progressions and assessments in use in Australian schools
- comparative mapping of existing learning progressions and assessment evidence between the Australian Curriculum, Assessment and Reporting Authority (ACARA) and the Australian Council for Educational Research (ACER) for literacy (reading) and numeracy (mathematics) and ACARA and Brightpath for literacy (writing)
- insights from the NSW implementation of ACARA’s National Literacy and Numeracy Learning Progressions
- expert advice prepared by ACER as to the evaluation framework for selecting assessment resources
- consultation with experts and jurisdictional advisory groups.

## 2 National Learning Progressions

### 2.1 Definition of a national learning progression

National learning progressions describe the skills, understandings and capabilities that students typically acquire as their proficiency increases in a particular aspect of the curriculum over time. They describe the learning pathway(s) along which students typically progress in particular aspects of the curriculum regardless of age or year level, and are designed to help teachers ascertain the stage of learning reached, identify any gaps in skills and knowledge, and plan for the next step to progress learning.

While not all learning develops in a predictable, linear way and students can be at very different stages in their learning and progressing at different rates, national learning progressions will describe the common development pathway along which students typically progress in their learning, regardless of age or year level.

## 2.2 The purpose and uses of national learning progressions

The primary purpose of national learning progressions is to support improvements in student learning of an aspect of the Australian Curriculum by enabling teachers to more accurately locate a student's current achievement level and identify the learning that should follow. They are for day-to-day classroom use by teachers to inform and support their professional judgements about student attainment and growth.

National learning progressions help teachers in their classrooms plan instruction, interpret evidence and make informed judgements about how students are progressing. They support teachers in the process of assessing a student's current level of learning and inform scaffolding of next learning steps.

National learning progressions are also an important resource for teacher learning. They help deepen teacher understanding of student learning in a particular aspect of the Australian Curriculum by providing a shared common language aligned to an empirical scale that supports consistency of teacher judgement. They can also help teachers improve their skills in setting learning goals, interpreting student responses and responding with specific interventions that serve to move learning forward.

## 2.3 Relationship to the Australian Curriculum

National learning progressions sit within the broader framework of the Australian Curriculum.

The Australian Curriculum sets out a 'learning entitlement' for each Australian student by defining common high standards of achievement across the country, and by providing a shared understanding of what young people should be taught and the quality of learning expected of them, regardless of their circumstance, the school they attend or where they live.

The Australian Curriculum sets expectations through its content descriptions and achievement standards. Content descriptions specify the knowledge, understandings and skills that young people are expected to learn and teachers are expected to teach across the years of schooling. Achievement standards describe what students are typically able to know, understand and do as they progress through those years of schooling.

National learning progressions supplement and underpin the Australian Curriculum. They do not replace the Australian Curriculum. The Australian Curriculum identifies what students need to learn; national learning progressions describe the learning pathway(s) along which students typically progress in particular aspects of the curriculum regardless of age or year level. Where learning progressions exist, they can help inform the refinement of the Australian Curriculum.

## 2.4 Defining features of national learning progressions

National learning progressions have the following defining features:

- They are primarily developed from empirical evidence about how learning progress is typically demonstrated by students; this evidence is also supported by theoretical understandings of the nature of progress and informed by the practices of teachers.
- They describe observable student behaviours at increasing levels of sophistication or proficiency; and they include as many progression indicators at each level as can be supported by the empirical evidence.
- They have a qualitative aspect (i.e. the description of observable student behaviours) and a quantitative aspect (i.e. the numerical scale that empirically positions assessments and student responses to them).

- They have a horizontal structure that identifies the different elements, threads or strands of learning, and a vertical structure that divides learning into the levels of increasing proficiency.
- They are independent of a student's year or age, but should show alignment of expected typical progress against the Australian Curriculum.

## 2.5 Developing national learning progressions

By definition national learning progressions are developed from empirical evidence about how learning typically develops in practice.

While national learning progressions may begin as a conceptual hypothesis of developmental pathways, they should be empirically validated by analysing student responses to a range of assessments drawn from multiple sources and calibrating those assessments on a numerical scale.

National learning progressions require iterative cycles of empirical testing and development to validate their content and ensure coherence between curriculum, assessment and instruction.

The National Literacy and Numeracy Learning Progressions were developed and published by ACARA in 2018 based on available empirical evidence and theoretical understandings of literacy and numeracy development. As a result of comparing the National Literacy and Numeracy Learning Progressions to other progressions and the analysis of further empirical evidence during discovery, ACARA has identified opportunities to improve and refine the content of them.

While this will improve the qualitative aspects of the current National Literacy and Numeracy Learning Progressions (i.e. the description of observable student behaviours), the progressions currently lack the quantitative aspect (i.e. the numerical scale that empirically positions assessments and student responses to them). Having updated the National Literacy and Numeracy Learning Progressions (version 3) at the end of discovery will allow ACARA to proceed to develop measurement scale/s for the progressions as part of the next phase of development.

While much empirical evidence exists as to how students develop literacy and numeracy skills, there is not as much empirical evidence related to learning progressions in other aspects of the Australian Curriculum.

At the end of discovery, work on critical and creative thinking will have advanced, but more research will be needed to inform the development of a learning progression and aligned assessments for this general capability.

The question of whether national learning progressions are developed for other aspects of the Australian Curriculum beyond literacy and numeracy is dependent on empirical evidence and policy intent. The national online formative assessment system will be designed in ways which will make it possible to incorporate other national learning progressions and aligned assessments if it is subsequently decided that this is both a policy goal and is empirically able to be done.

## 3 Aligned and quality assessment resources

### 3.1 Definition of assessment resources

Formative assessment involves the gathering of evidence about what individual students know, understand and can do and the use of that evidence as the basis for drawing conclusions about the stages students have reached in their learning and the progress they have made. Assessment evidence is obtained via day-to-day observations of participation and learning behaviour in class, student work, performances on teacher-made assignments, projects, class presentations, tests and examinations.

An assessment resource is any method or tool through which observations that serve as the raw data for inferences about student learning are collected, evaluated and coded in a standardised and reproducible fashion. An assessment resource will comprise the prompt that elicits from students the product or behaviour that forms the observation, as well as the rubric that supports the standardised coding of the specific features and characteristics of the observation. Any instructional activity in which students are actively engaged in generating something can be an assessment resource, providing there is an established protocol for coding what they generate in a standardised and reproducible fashion.

### 3.2 Alignment of assessment resources with learning progressions

There are two steps in aligning assessment resources with national learning progressions.

The first step in alignment is qualitative and involves comparing the level descriptions in the learning progression with the construct that the assessment resource purports to measure and the content of the assessment resource. In this step the aim is to first establish that the assessment resource probes the skills, understandings and capabilities that are described in the learning progression. Once this has been established, the aim is then to identify and articulate i) which level of the learning progression the assessment resource targets, and ii) which specific skills, understandings and capabilities within that level are targeted (i.e. the breadth of content).

If an assessment resource passes the first step, the next step is empirical and relies on the learning progression having a measurement scale. If an assessment resource is aligned empirically with a learning progression, it means that the coding of observations collected by the assessment resource and the locations on the numerical scale of a learning progression have been established and validated.

It is in this step that analysis reveals the relationship between the quantifications that are obtained from the coding of observations collected by the assessment resource, and the locations on the numerical scale of the learning progression. Approaches used in this step include formal benchmarking and standard-setting exercises, statistical linking and psychometric equating. The nature of the assessment resource and degree of accuracy required may influence which approach is taken.

### 3.3 Evaluating assessment resources aligned with national learning progressions

A set of criteria is required to support evaluation, quality assurance and endorsement of assessment resources for classroom use.

The process of evaluation should be transparent and involve independent expertise reviewing the assessment resource and any supplementary material associated with its use, in conjunction with any evidence and information provided by its developers.

The criteria or process of evaluation should not unreasonably limit the set of endorsed assessment resources. It may be that each criterion can be satisfied to several different standards (e.g. gold, silver, bronze). Teachers could then be free to choose the assessment resources that best address their immediate instructional objectives in full awareness of the features and relative quality of the assessment resources they are considering.

The assignment of a particular standard of quality to an assessment resource should also be open to review after some time. This is not only fair, but necessary, because, when they are endorsed and made available to teachers, many of the assessment resources will have access to much larger pools of respondents than they have ever had before, which will result in a great deal of new data that can be used to strengthen claims about quality.

### 3.4 Quality assurance criteria

The following criteria will be used to evaluate, select and endorse assessment resources for inclusion in the national online formative assessment system.

#### 1. The alignment of the assessment resource with the national learning progression

The developer of an assessment resource will need to show that the resource is aligned with the national learning progression, in both a qualitative and empirical sense, as described earlier.

Different assessment resources may follow different processes to be empirically aligned to a learning progression, and this means that one-size-fits-all criteria in this aspect may not be appropriate.

#### 2. The development process of an assessment resource

The developer of an assessment resource will need to demonstrate that the resource was developed in line with good practice, by, for example, including processes of reviewing, panelling and trialling.

There are well-established and widely recognised existing standards, such as those in the *Standards for Educational and Psychological Testing* prepared by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education that can be used for this purpose.

#### 3. The content of an assessment resource

The developer of an assessment resource will need to demonstrate that:

- the task/s or item/s in the resource are inclusive (i.e. accessible and culturally appropriate)
- the instructions to guide teachers support consistent and standardised use of the resource
- the coding rubric supports consistent and standardised applications of codes to observations (this will only be relevant for assessment resources for which observations are not auto-coded).

This aspect may also involve considering the overall quality and usability of the resource (e.g. its clarity and quality of presentation).

#### 4. The diagnostic power of an assessment resource

The developer of an assessment resource will need to demonstrate that, when the observations collected through the use of the resource are coded, and the resultant quantifications are analysed, the information obtained is adequately fine-grained to inform a teacher's decisions about the next instructional steps for their students.

There is a connection between this criterion and the first criterion about evaluating alignment. This is because if the developer of an assessment resource claims that the resource targets and has been aligned with a particular level of the national learning progression, yet the information obtained from the use of the resource is not fine-grained enough to make apparent the differences in the profiles of the students whose measures of attainment lie within that level of the learning progression, then the resource will be unlikely to have adequate diagnostic power to satisfy this criterion.

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## 5. The guidance for next steps in instruction that are associated with the assessment resource

Any guidance for instructional next steps that are associated with the assessment resource will need to be evaluated for:

- the quality of any guidance for teachers on providing feedback to students about their performance on the task(s) of the assessment resource
- the quality of any guidance for teachers on how to plan for next instructional steps, and what those next instructional steps should be, given what was revealed through the use of the assessment resource about the unique features of individual students' attainment.

## 6. The practical information about use of the assessment resource

The developer of an assessment resource will need to provide a summary of practical information such as:

- the approximate time period required for students to complete the assessment
- the materials, tools or devices that are required
- the time period required to code the observations collected (if the observations are not auto-coded)
- the time period required to enter the raw observational data or codes online
- the time period required to interpret the diagnostic information the resource yields.

The independent evaluation should consider the completeness of this kind of information and make some judgements about the accuracy of that information.