Assessment Construct and its Implementation Learning Area for Scottish National Standardised Assessments (SNSA) Literacy and Numeracy 2018-19

DOCUMENT CONTROL

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OFFICIAL-SENSITIVE

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Contents

Introduction

This document presents some key features of the development and implementation of the assessment instruments and scoring rules for the Scottish National Standardised Assessments for 2018-2019.

5   The document includes the following sections:

Section 1.   A description of the process for developing the construct for the assessment.

Section 2.   The agreed construct for 2018-2019, along with the final agreed target weightings of curriculum areas (Organisers), and actual achieved weightings

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1 Process for developing the construct for the assessment

15 The starting point for developing the construct for the SNSA was Appendix 1 to the Statement of Requirements, which contained a list of the content specifications drawn from the provisional *Benchmarks for Literacy and English*, and *Benchmarks for Numeracy and Mathematics* (Drafts August 2016 – See Appendix I).

An SNSA Assessment Content Design workshop was held in Glasgow on 13 December 2016. Following this discussing, a revised table of weightings comprising organisers and subcategories 20 drawn from the provisional benchmarks for Literacy and English, and for Numeracy and Mathematics, was forwarded to ACER by Education Scotland (ES) on 16 December 2016. During the course of reviewing items with ES literacy and numeracy nominees, and other SG-sponsored discussions with Scottish literacy and numeracy experts, several suggestions about adjustments to the construct received on 16 December emerged, and adjustments to the construct were 25 progressively agreed. A history of the discussion and modification is documented in AC01-04-Proposed Adjustments to Literacy and Numeracy Constructs_v1.0.

An agreed set of organisers, with target ranges for each, was developed, and agreed by SROs, in the week beginning 3 April 2017.

N.B. It was confirmed in the Batch 4 question review meeting in September 2017 that the 30 ***weightings for all of the writing assessments should be the same, i.e. spelling = 40%, grammar = 30% and Punctuation = 30%. There have been no other revisions to the agreed weightings in the past year.***

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This section presents the agreed target weighting ranges for organisers within each subject area and 35 stage and the actual weightings, expressed as numbers of items and percentages.

When comparing the target weighting ranges with the actual weightings, it should be borne in mind that, the first round of replenishment item development was conducted before item performance statistics were available from the initial year of testing. As such there was no empirical data from the Scottish population of learners available to inform target difficulties of new items. Following the 40 rejection of some of the more difficult items in the question review meetings, for organisers in some assessments there has been limited flexibility when considering both curriculum coverage and overall assessment difficulty. ACER will continue to follow the requirement of the contract to successively introduce replenishment items each year, replacing approximately one-third of the SNSA instrument, annually, so that the item set will progressively attain to the target construct. 45 For subsequent rounds of item development the availability of item statistics will be beneficial for both test developers and attendees at question review meetings in informing decisions about appropriate difficulty levels for questions in each assessment.

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2 The distribution of items per organiser and subcategory for each assessment

The Scottish Government and Education Scotland expert panels for Numeracy and for Reading (Literacy) identified a set of key subcategories within each organiser for Numeracy and Reading
55 (Literacy), derived from the benchmark indicators in *Benchmarks: Numeracy and Mathematics* and *Benchmarks: Literacy and English*, (August 2016 drafts). The numeracy and reading (literacy) panellists matched each item selected for the assessments to one of the subcategories. The Writing Skills items were categorised by organiser, but not by subcategories.

The tables in this section show the subcategories identified for each organiser.

60 **N.B. with the exception of the agreement to change the name of the writing assessment from 'Writing skills' to 'Writing' there have been no changes to organisers or subcategories within the past year.**

2.1 Numeracy: organisers and subcategories per year group

Year group	organiser	subcategory
P1	Number	Estimating and rounding
P1	Number	Number and number processes
P1	Number	Addition and subtraction
P1	Number	Multiplication and division
P1	Number	Place value
P1	Fractions, decimal fractions and percentages	Fractions, decimal fractions and percentages
P1	Measurement, time and money	Money
P1	Measurement, time and money	Time
P1	Measurement, time and money	Measurement
P1	Information handling	Data and analysis
P4	Number	Estimating and rounding
P4	Number	Number and number processes
P4	Number	Addition and subtraction
P4	Number	Multiplication and division
P4	Number	Place value
P4	Fractions, decimal fractions and percentages	Fractions, decimal fractions and percentages
P4	Measurement, time and money	Money
P4	Measurement, time and money	Time
P4	Measurement, time and money	Measurement (including area)
P4	Information handling	Data and analysis
P4	Information handling	Chance and uncertainty
P7	Number	Estimating and rounding
P7	Number	Number and number processes
P7	Number	Addition and subtraction
P7	Number	Multiplication and division
P7	Number	Place value

Year group	organiser	subcategory
P7	Number	Negative numbers
P7	Fractions, decimal fractions and percentages	Fractions, decimal fractions and percentages
P7	Measurement, time and money	Money
P7	Measurement, time and money	Time
P7	Measurement, time and money	Measurement (including perimeter, area and volume)
P7	Information handling	Data and analysis
P7	Information handling	Chance and uncertainty
S3	Number	Estimating and rounding
S3	Number	Number and number processes
S3	Number	Addition and subtraction
S3	Number	Multiplication and division
S3	Number	Place value
S3	Number	Negative numbers
S3	Fractions, decimal fractions and percentages	Fractions, decimal fractions and percentages
S3	Measurement, time and money	Money
S3	Measurement, time and money	Time
S3	Measurement, time and money	Measurement (including perimeter, area and volume)
S3	Information handling	Data and analysis
S3	Information handling	Chance and uncertainty

2.1 Reading and literacy: organisers and subcategories per year group

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Year group	Organiser	Subcategory
P1	Tools for reading	Phonological awareness
P1	Tools for reading	Concepts about print
P1	Tools for reading	Word recognition and decoding
P1	Finding and using information	Word recognition and decoding
P1	Understanding, analysing and evaluating	Reading comprehension at word and sentence level
P4	Tools for reading	Word recognition – use strategies to gain meaning of words
P4	Finding and using information	Find information within a text (in fiction and non-fiction)
P4	Understanding, analysing and evaluating	Answer questions about the main purpose of the text
P4	Understanding, analysing and evaluating	Answer questions about the main ideas in the text
P7	Tools for reading	Word recognition – use strategies to gain meaning of words
P7	Finding and using information	Sort information into relevant categories

Year group	Organiser	Subcategory
P7	Finding and using information	Select relevant information from a text (in fiction and non-fiction)
P7	Understanding, analysing and evaluating	Distinguish between fact and opinion
P7	Understanding, analysing and evaluating	Answer a range of literal, inferential and evaluative questions
P7	Understanding, analysing and evaluating	Recognise persuasive language
S3	Tools for reading	Word recognition – use strategies to gain meaning of words
S3	Finding and using information	Sort information and make connections
S3	Finding and using information	Select key information from one or more source (in fiction and non-fiction)
S3	Understanding, analysing and evaluating	Evaluate the reliability and credibility of texts
S3	Understanding, analysing and evaluating	Use evidence from the text to support answers
S3	Understanding, analysing and evaluating	Comment on the language used in texts (e.g. style, impact of word choice, structure)
S3	Understanding, analysing and evaluating	Answer a range of literal, inferential and evaluative questions
S3	Understanding, analysing and evaluating	Recognise persuasive techniques (e.g. word choice, emotive language, repetition, rhetorical questions, use of statistics)

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4 Appendix l:

Statement of Requirements Appendix 1.1 Assessment Content Ref 1.1 to 1.29

Ref.	1. Assessment Content
1.1	The Assessments **will** assess skills in numeracy, reading and writing.
1.2	The Assessments **will** be available for use by all pupils in P1, P4, P7 and S3 in Scotland from August 2017 onwards.
1.3	The content of the Assessments **will** reflect the knowledge, skills understanding, and standards embedded within the Curriculum for Excellence experiences and outcomes for reading, writing and numeracy across the CfE Levels.
1.4	The Assessments **will** be available to be used once a year at any point by all pupils in P1, P4 and P7 and S3.
1.5	The language and context used in questions and answers **will** be appropriate for the audience for the Assessments.
1.6	The Assessments **will** be adaptive starting in a middle range question for stage and adapting according to the answer given.
1.7	The Assessments **will** be inclusive and equitable and allow all pupils to be fairly assessed no matter their background, experience or level of ability.
1.8	The length and time taken for the Assessments **will** be age and stage appropriate.
1.9	The Assessments **will** present the pupil with sufficient questions to enable standardised scores and age-equivalent scores to be produced.
1.10	The Assessments **will** contain sufficient questions to accommodate the adaptive nature of the assessment.
1.11	The Assessments **will** deploy sufficient questions to prevent familiarisation of the content amongst pupils.
1.12	The Assessments **should** deploy sufficient questions to avoid teachers becoming familiar with the content of the Assessments (and so teaching to the test).
1.13	The subject questions **should** be randomised to avoid blocks of questions on the same topic.
1.14	The time taken by a pupil to take an Assessment in either literacy or numeracy **will** be minimised and no more than 50 minutes (a typical Assessment will not be expected to last this long but there may be circumstances where, for whatever reason, children might require extra time to complete their assessment). Arrangements must be made and agreed with Education Scotland as to the appropriate timing out mechanism.
1.15	The Assessment **should** have an unseen timing element that the teacher can refer to as part of the results but this will not appear on the pupil's screen. This will also indicate whether the Assessment has been paused for any reason.

1.16	All content used in the Assessments **will** be quality assured to the highest standard of technical accuracy including spelling and grammar. The content of the texts and questions should be clear and unambiguous. They should also offer real and relevant contexts for the assessments.

1.17	The Assessments **will** assess the following reading skills at the appropriate Curriculum for Excellence level:
	
	P1
	• phonological awareness
	• word recognition – common words
	• word decoding.
	
	P4
	• word recognition
	• word decoding
	• reading comprehension
	  - answer questions about the main ideas in the text
	  - answer questions about the main purpose of the text
	  - find information within a text.
	
	P7
	• word recognition
	• word decoding
	• reading comprehension
	  - answer a range of literal, inferential and evaluative questions
	  - recognise persuasive language
	  - find more complex information within a text
	  - distinguish between fact and opinion.
	
	S3
	• reading comprehension
	  - answer a range of literal, inferential and evaluative questions
	  - use evidence from the text to support answers
	  - comment on the language used in texts
	  - recognise persuasive techniques
	  - evaluate the reliability and credibility of texts.

1.18	The Assessment for reading skills **will** be able to produce an age-equivalent or reading-age score for all pupils who take the assessment.
1.19	The Assessment for writing skills **will** assess spelling at the appropriate Curriculum for Excellence level.
1.20	Contextualised grammar and punctuation **should** be considered as part of the writing skills Assessment.
1.21	The Assessment for writing skills **should** be able to produce an age-equivalent score for all pupils who take the assessment.
1.22	The Assessment for numeracy skills **will** assess the following (at the appropriate Curriculum for Excellence level):

	• mental agility • estimating and rounding • addition and subtraction • multiplication and division • place value • negative numbers • fractions, decimal fractions and percentages • money • time • measurement • perimeter, area, volume • data and analysis • chance and uncertainty • ability to answer contextualised questions and word problems
1.23	The Assessments **should** ensure that every pupil has the opportunity to respond to questions within each of the elements outlined above as specified by the experiences and outcomes within Curriculum for Excellence.
1.24	The Assessment **should** present mental agility questions and context/word problem questions to every pupil.
1.25	The Assessment for numeracy skills **will** be able to produce an age-equivalent score for all pupils who take the assessment.
1.26	The Assessment for numeracy **should** allow all pupils to be assessed on the skill at the same level in a number of ways to ensure the pupil has had the opportunity to demonstrate full understanding of the element being assessed. For example a pupil may show their ability to answer a question as an algorithm relating number bonds and as a word problem.
1.27	As part of review processes led by Education Scotland and the Scottish Government it **will** be possible for the supplier to remove individual questions or groups of questions (e.g. in response tofeedback) without the overall design of the Assessment being affected.
1.28	The Assessments **will** be reviewed on an annual basis, in conjunction with Education Scotland and the Scottish Government. The Service Provider **will** obtain regular feedback from system users and make adjustments to support package and materials in response to that feedback.
1.29	The Service Provider **will** be responsible for the storage and maintenance of all Assessment content, including, master, backup and archived versions of all Assessment content.

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