



BACKGROUND TO SNSA

**University of Strathclyde, Glasgow
10 December 2018**

Helen Claydon, Senior Research Fellow

- “The fundamental purpose of assessment is to establish where learners are in their learning at the time of the assessment.”

Professor Geoff Masters, CEO, ACER

Reforming Educational Assessment, Australian Education Review no. 57



Guiding principles for SNSA



- SNSA will inform teachers' decisions on the achievement of a level – it is not the sole form of information
- SNSA will assess specific elements of CfE, rather than the whole curriculum

Initial brief for SNSA



- report progress in skills for reading, writing & numeracy
- assess pupils in primaries 1, 4, 7 & secondary 3
- provide individual, diagnostic reports on pupil progress which will supply information to identify strengths and individual learning needs
- be online
- be adaptive
- provide standardised scores
- be suitable for the Scottish school education system and aligned with Curriculum for Excellence
- be inclusive

Reading specification from the Statement of Requirements

- 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.
- etc



Writing specification from the Statement of Requirements

- The Assessment for writing skills **will** assess spelling at the appropriate Curriculum for Excellence level.
- Contextualised grammar and punctuation **should** be considered as part of the writing skills Assessment.



Numeracy specification from the Statement of Requirements

- mental agility
- estimating and rounding (N)
- addition and subtraction (N)
- multiplication and division (N)
- place value (N)
- negative numbers (N)
- fractions, decimal fractions and percentages (FDP)
- money (MTM)
- time (MTM)
- measurement (MTM)
- perimeter, area, volume (MTM)
- data and analysis (IH)
- chance and uncertainty (IH)
- ability to answer contextualised questions and word problems



Shaping the specifications into an assessment design and construct



- Discussion between Scottish Government, Education Scotland and ACER translated the initial brief and subject area specifications into an assessment design and a working model (assessment construct)



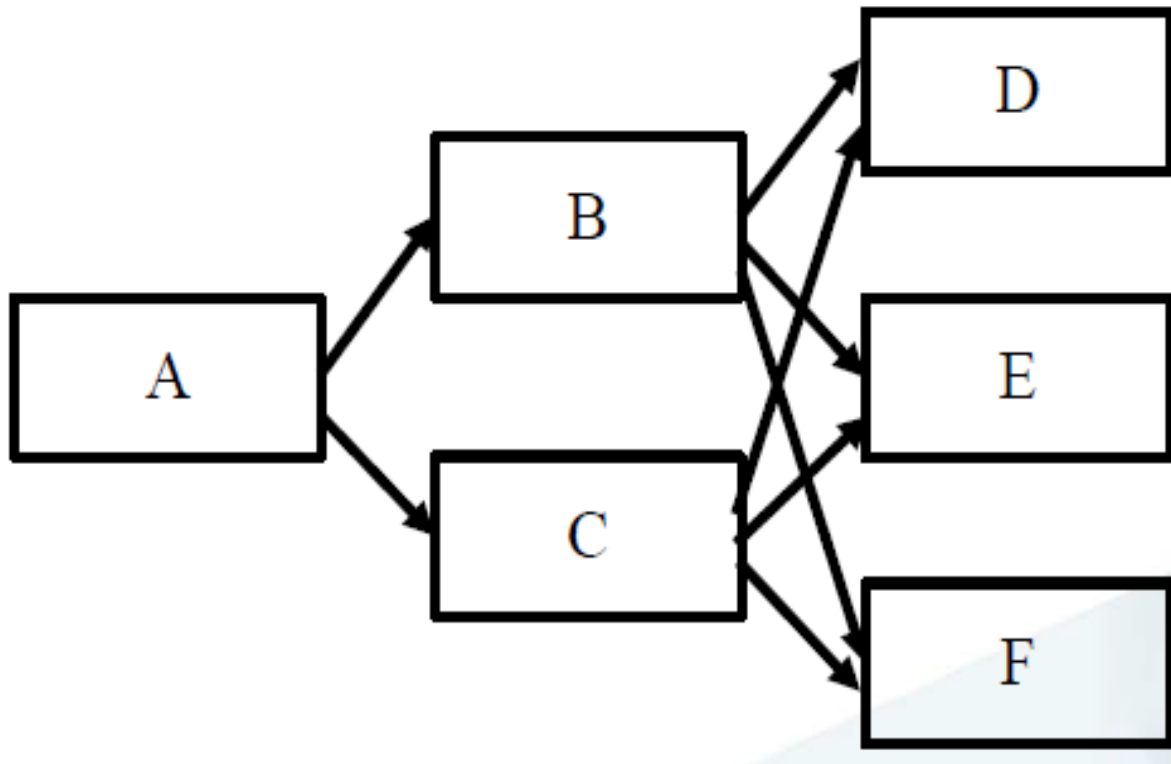
ADAPTIVE ASSESSMENT DESIGN

Initial brief for SNSA



- report progress in skills for reading, writing & numeracy
- assess pupils in primaries 1, 4, 7 & secondary 3
- provide individual, diagnostic reports on pupil progress which will supply information to identify strengths and individual learning needs
- be online
- be adaptive
- provide standardised scores
- be suitable for the Scottish school education system and aligned with Curriculum for Excellence
- be inclusive

Adaptive assessment design





ASSESSMENT CONSTRUCT

Literacy (reading) construct & weightings

Organiser	P1 (literacy)	P4	P7	S3
Tools for reading	30-40%	10-20%	10-20%	15-25%
Finding and using information	5-15%	25-35%	20-30%	20-30%
Understanding, analysing and evaluating	50-60%	50-60%	55-65%	60-70%



Writing skills construct & weightings

	P4	P7	S3
Spelling	33%	33%	33%
Grammar	33%	33%	33%
Punctuation	33%	33%	33%



Numeracy construct & weightings

	P1	P4	P7	S3
Number	35-45%	30-40%	30-40%	25-35%
Fractions, decimals and percentages	10-20%	10-20%	10-20%	15-25%
Money, time and measurement	25-35%	30-40%	30-40%	25-35%
Information handling	10-20%	10-20%	10-20%	15-25%



Initial brief for SNSA




- report progress in skills for reading, writing & numeracy
- assess pupils in primaries 1, 4, 7 & secondary 3
- provide individual, diagnostic reports on pupil progress which will supply information to identify strengths and individual learning needs
- be online
- be adaptive
- provide standardised scores
- be suitable for the Scottish school education system and aligned with Curriculum for Excellence
- be inclusive

Individual report (section 2)

Literacy
INDIVIDUAL REPORT

NAME Mathew Bridges
SCHOOL Canfield School



DATE 15/03/19
ASSESSMENT Primary 1 Literacy 2018-19

TOOLS FOR READING

Descriptor	Difficulty	Result
Identify a high frequency, single-letter word, in a sentence, with no audio support	Band 3	✘ Incorrect
Identify a synonym for a word in the context of a short narrative with audio support	Band 3	✔ Correct
Identify the text that shows the title on a book cover	Band 4	✘ Incorrect
Identify a common digraph at the end of a word	Band 3	✘ Incorrect
Identify the first sound in a word differentiating between similar sounding letters	Band 4	✔ Correct
Match a word to a picture when all the words start with /p/ without audio support	Band 2	Not Attempted
Match a picture to a word when all the images start with /h/ without audio support	Band 2	✔ Correct
Match a word to a picture when all the words start with /h/ without audio support	Band 1	✘ Incorrect
Identify the first letter of a short phonetically, regular word	Band 2	✔ Correct
Identify the first letter of a short phonetically, regular word	Band 4	✘ Incorrect
Match a letter to its sound	Band 2	✘ Incorrect
Match a picture to a word when images start with different sounds	Band 2	✘ Incorrect
Distinguish a letter from a picture, a symbol and a numeral	Band 1	✘ Incorrect
Predict a narrative's content from viewing a book cover	Band 1	✔ Correct
Identify the last letter of a 3-letter, phonetically regular word	Band 6 and above	Not Attempted
Identify the upper case version of a lower case letter	Band 2	Not Attempted
Replace the first letter of a 3-letter, phonetically regular word to change its meaning	Band 2	Not Attempted
Match a letter to its sound	Band 2	✘ Incorrect
Match a picture to a word when the images start with different letters	Band 2	✔ Correct
Distinguish a word from a symbol and an image	Band 2	✘ Incorrect
Match a letter to its sound	Band 6 and above	✘ Incorrect
Match a letter to its sound	Band 1	✔ Correct

UNDERSTANDING, ANALYSING AND EVALUATING

Descriptor	Difficulty	Result
Track a pronoun reference and interprets the meaning of "but", in a single sentence, without audio support	Band 5	✘ Incorrect
Retrieve information from a 3-sentence narrative without audio support	Band 1	Not Attempted

NUMBER

Descriptor	Difficulty	Result
Complete a number statement by identifying a missing number under 10	Band 5	— Not Attempted
Identify the missing number in a sequence counting in 2s	Band 5	✓ Correct
Order collections of up to 20 objects from largest to smallest	Band 5	— Not Attempted
Use place value to identify a quantity above 10	Band 4	✗ Incorrect
Identify two pictures that show the same number of objects in different arrays	Band 4	— Not Attempted
Identify zero in counting order	Band 4	✓ Correct
Match numerals to the number of objects presented in arrays	Band 4	✗ Incorrect
Connect a numeral to a quantity below 20	Band 3	✗ Incorrect
Use ordinal numbers in real-life contexts	Band 3	✓ Correct
Add two groups of objects to reach a single-digit total	Band 3	✗ Incorrect
Connect a numeral to a quantity below 10	Band 2	✓ Correct

FRACTIONS, DECIMAL FRACTIONS AND PERCENTAGES

Descriptor	Difficulty	Result
Use appropriate vocabulary to describe part of a whole	Band 6 and above	— Not Attempted
Identify half of a group of objects presented in an array	Band 5	✗ Incorrect
Identify an object cut in half	Band 5	✓ Correct
Identify equal parts as having the same number	Band 4	✓ Correct

Group diagnostic report (table mode)

Primary 1 Literacy 2018-19
between 04-07-2018 and 06-03-2019 for selected learners

Close report

Table mode Summary mode Download

Name	Result	Scale score	Tools for reading																				
			Identify the letter that mak...	Identify the word that mak...	Match a word to a picture ...	Identify the first and last let...	Distinguish a word from a s...	Identify the upper case ver...	Identify the last letter of a 3...	Match a picture to a word ...	Identify the first sound in a ...	Identify a synonym for a w...	Match a picture to a word that rhymes...	Match a picture to a word ...	Identify pictures that repres...	Identify a synonym for a w...	Replace the last letter of a w...	Identify the last letter of a ...	Identify the...				
Item band			1	2	3	3	5	2	3	6+	2	2	1	2	4	3	4	1	3	6+	5	2	
...	Band 1	55					✓	NA	NA	NA	NA	NA											NA
...	Band 2	224					NA	NA	NA	NA	NA	NA											NA
...	Band 6 and above	529	✗	✓	✓	✓							✓	✓	✓	✓							
Learner74, Test74	Band 2	279					NA	NA	NA	NA	NA	NA											NA
Learner45, Test45	Band 2	254					✓	NA	NA	NA	NA	NA											NA
Learner40, Test40	Band 2	219					✓	✓	✓	✓	✗	✓											✗
Learner38, Test38	Band 1	184					✓	NA	NA	NA	NA	NA											NA
Learner28, Test28	Band 1	76					NA	NA	NA	NA	NA	NA											NA
Learner24, Test24	Band 5	512	✓	✓	✓	✓							✓	✓	✓	✓							
Learner23, Test23	Band 2	237					NA	NA	NA	NA	NA	NA											NA
Learner23, Test23	Band 1	200					✗	✗	✗	✗	✗	✗											✗
Learner22, Test22	Band 4	401					✓	✓	✓	✓	✗	✓					✓	✓	✓	✓	✓		
Learner21, Test21	Band 5	499	✗	✓	✓	✗											✓	✓	✓	✓	✓		
Learner19, Test19	Band 2	264					NA	NA	NA	NA	NA	NA											NA
Learner12, Test12	Band 6 and above	537	✓	✓	✓	✓							✓	✓	✓	✓							



STANDARDISATION

Initial brief for SNSA



- report progress in skills for reading, writing & numeracy
- assess pupils in primaries 1, 4, 7 & secondary 3
- provide individual, diagnostic reports on pupil progress which will supply information to identify strengths and individual learning needs
- be online
- be adaptive
- provide standardised scores
- be suitable for the Scottish school education system and aligned with Curriculum for Excellence
- be inclusive

Creating the long scale



- Equating study (Feb 2018)
- Norming studies (Nov 2017 & Mar 2018)

Development & construction of long scales for 2018-19

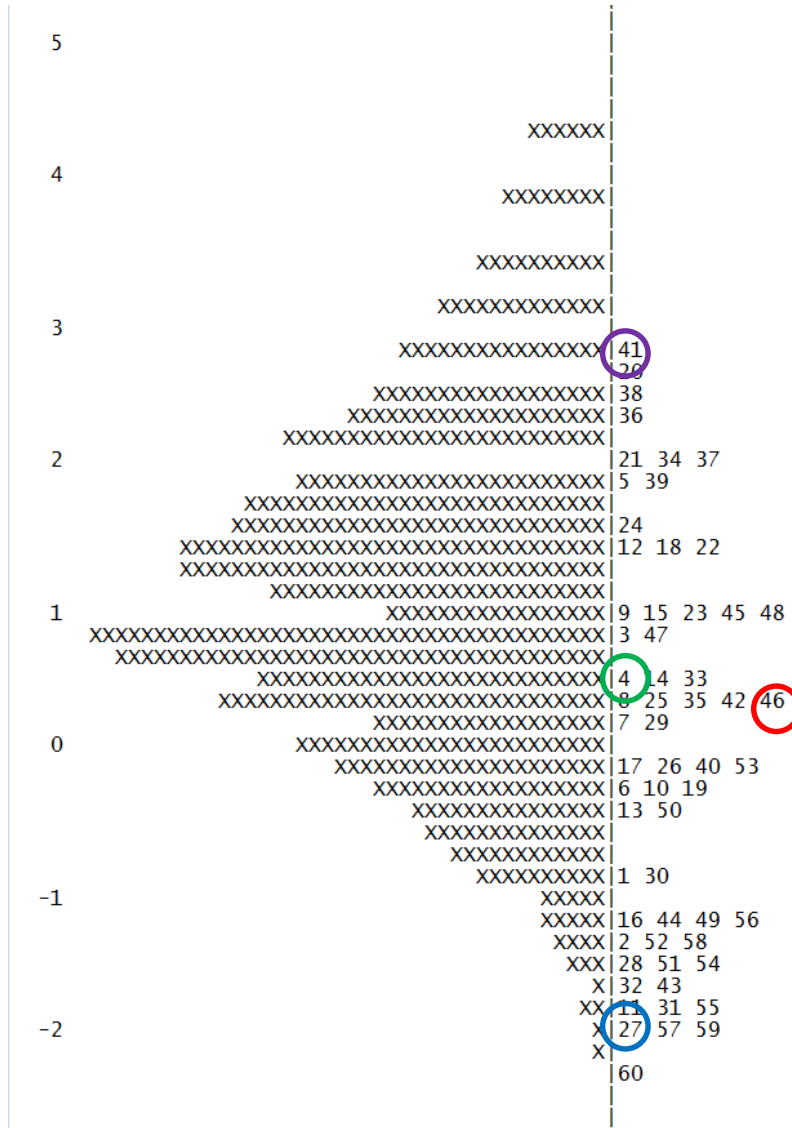


- Construction of the long scales
- Quality of items within each assessment
- Linking between assessments
- Distribution of Scottish learner capacities across the calibrated long scales
- Metric for the long scales
- Described bands of capacity

Reporting bands for each year group, for all subject areas

BAND	Numeracy				Reading (literacy)				Writing		
	P1	P4	P7	S3	P1	P4	P7	S3	P4	P7	S3
12				Yellow				Green			Red
11			Yellow	Yellow			Green	Green		Red	Red
10			Yellow	Yellow			Green	Green		Red	Red
9		Yellow	Yellow	Yellow		Green	Green	Green	Red	Red	Red
8		Yellow	Yellow	Yellow		Green	Green	Green	Red	Red	Red
7		Yellow	Yellow	Yellow		Green	Green	Green	Red	Red	Red
6	Yellow	Yellow	Yellow		Green	Green	Green		Red	Red	
5	Yellow	Yellow			Green	Green			Red		
4	Yellow	Yellow			Green	Green			Red		
3	Yellow				Green						
2	Yellow				Green						
1	Yellow				Green						

P1 numeracy item map





DIFFERENCES BETWEEN SNSA AND LOCALLY CREATED ASSESSMENTS

Differences between SNSA & locally created assessments



- Measures progression over time
- Items designed to ensure they measure what is intended – psychometrics, expert & cultural reviews (ES)
- Provides performance data at individual, class & school level
- Performance data in context of LA & nationally
- Accurate interpretation of CfE content (ES input)