### **Appendix A: The Learning Framework for Number**

The Learning Framework for Number is based on the Count Me In Too professional development package (1999), the New South Wales Department of Education and Training.

(SEAL)	
	Stage & Behavioural Indicator
0	Emergent Counting
	Cannot count visible items. The child either does not know the number words or cannot
	co-ordinate number words with items.
1	Perceptual Counting
	Can count perceived items but not those in concealed collections. This may involve
	seeing, hearing or feeling items.
2	Figurative Counting
	Can count concealed items but counting typically includes what adults might regard as
	redundant activity. For example, child "counts all" rather than "counts on".
3	Counting-on (Advanced Count-by-one Strategies)
	Child counts-on rather than counts from 1 to solve addition or missing addend tasks.
	The child may use a count-down-from strategy to solve removed items tasks (e.g., 17 -
	3 as 16, 15, 14 - answer is 14) or count-down-to strategies to solve missing number
	tasks (e.g., 17 – 14 as 16 put up one finger, 15 put up another finger, 14 put up another
	finger – three fingers showing means $17 - 14 = 3$ ).
4	Facile number sequence (Use of Part/Whole thinking)
	The child uses a range of strategies not involving count-by-one. For example: a
	compensation using a known result, adding to ten, commutativity, subtraction as the
	inverse of addition, awareness of the meaning of "ten" in a teen number.

#### 1 4 141 Sta

#### Forward Number Word Sequence (FNWS)

#### **Stage & Behavioural Indicator**

0 Emergent FNWS

The student cannot produce the FNWS from 1 to 10.

1 Initial FNWS up to 10

The student can produce the FNWS from 1 to 10. The student cannot produce the number just after a given number in the range 1 to 10. Dropping back to 1 does not appear at this level.

### 2 Intermediate FNWS up to 10

The student can produce the number word just after a given number word but drops back to 1 when doing so.

#### 3 Facile with FNWS up to 10

The student can produce the number just after a given number in the range 1 to 10 without dropping back. The student has difficulty producing the number just after a given number for numbers beyond 10.

#### 4 Facile with FNWS up to 30

The student can produce the FNWS from 1 to 30. The student can produce the number just after a given number in the range 1 to 30 without dropping back.

### 5 Facile with FNWS up to 100

The student can produce the number just after a given number in the range 1 to 100 without dropping back.

Backward Number Word Sequence (BNWS)

#### Stage & Behavioural Indicator

0 Emergent BNWS

The student cannot produce the BNWS from 1 to 10.

#### 1 Initial BNWS up to 10

The student can produce the BNWS from 1 to 10. The student cannot produce the number just before a given number in the range 1 to 10. Dropping back to 1 does not appear at this level.

#### 2 Intermediate BNWS up to 10

The student can produce the number just before a given number but drops back to 1 when doing so.

#### 3 Facile with BNWS up to 10

The student can produce the number just before a given number in the range 1 to 10 without dropping back. The student has difficulty producing the number just before a given number for numbers beyond 10.

## 4 Facile with BNWS up to 30 The student can produce the BNWS from 1 to 30. The student can produce the number just before a given number in the range 1 to 30 without dropping back.

### **5** Facile with BNWS up to 100 The student can produce the number word just before a given number in the range 1 to 100 without dropping back.

#### Numeral Identification (NID)

# Stage & Behavioural Indicator 0 Emergent Numeral Identification Cannot identify most of the numerals in the range 1–10. 1 Numerals to 10 Can identify all the numerals in the range 1–10 only. 2 Numerals to 20 Can identify all the numerals in the range 1–20 only. 3 Numerals to 100 Can identify one and two digit numbers.

- 4 Numerals to 1000
  - Can identify two and three digit numbers.

#### **Base Ten Strategies (Base 10 or BTS)**

#### Stage & Behavioural Indicator

#### 1 Initial Concept of Ten

The child does not see ten as a unit of any kind. The child's focus is on the individual items that make up ten. A necessary condition for attaining level 1 is attainment of at least stage 3 in the Stages of early Arithmetical Learning.

#### 2 Intermediate Concept of Ten

Ten is seen as a unit composed of ten ones. The child is dependent on representations of units of ten such as hidden tens strips or open hands of ten fingers. The child can perform addition and subtraction tasks involving tens where these are presented using materials such as covered units of tens and ones. The child **cannot** solve addition and subtraction tasks involving tens when these are presented as written number sentences.

#### **3** Facile Concept of Ten

The child can solve addition and subtraction tasks involving tens and ones without using materials. The child can solve addition and subtraction tasks involving tens and ones when these are presented as written number sentences.