Four Counting Principles: One-to-One Correspondence, Stable Order, Cardinality and Order Irrelevance

The ability to count reliably involves the following four counting principles:

One-to-One Correspondence

What is it about?

Knowing that each object is matched to one and only one number name in the set to be counted

How does it look like?

A child is able to recite the number names in order, touching the object and counting aloud at the same time, and keep track of which objects have and have not been counted.

Stable Order

What is it about?

Knowing that number names will always be said in a fixed order and that the order of the numbers will not change

How does it look like?

A child is able to reproduce the number order as given in the number line and to count up or down from a given number.

A child who counts "one, two, three" for a collection of three objects and "two, one, three" for another collection of three objects does not have an understanding of the stable order principle, although the child would appear to have an understanding of one-to-one correspondence.

Cardinality

What is it about?

Knowing that the final number in the count represents the total number of objects in the set

The understanding of cardinality in counting is dependent upon the understanding of the one-to-one correspondence and stable order principles.

How does it look like?

A child is able to count the objects one by one and use the last number counted to determine the quantity in a set.

To develop children's cardinality in counting, it would be easier for them to first count with tangible objects before they proceed to non-physical things such as sounds, and even counting letters in a word or words in a sentence.

Order Irrelevance

What is it about?

Knowing that objects can be counted in any order or in other words, the total number of objects will remain the same regardless of the order in which the objects are counted or which number name is assigned to each object

How does it look like?

A child is able to determine the same quantity in a set by counting the objects from left to right, from right to left or from any other point.

This resource is adapted from pages 22 to 23 of NEL Educators' Guide for Numeracy 2022.