

## **Tips about making good use of everyday resources for teaching about counting.**

In life we count many things and we all know teaching through real life experience is powerful. So many everyday objects and circumstances are good resources and opportunities for teaching – though if we are skilful teachers we will be seeking ways to maximise the effect of the experience.

We must be well aware that there are many factors that affect how well children absorb and remember experiences. All of us will be aware that how interested they are and how well they are attending to the actual task is crucial -- here are a few tips about encouraging and managing children's attention when using everyday resources particularly with primary or special pupils learning to count .

Sometimes we should recognise that we –ourselves- are important elements of what makes a resource good. The Early Years Foundation Stage Practice guidance emphasises the importance of 'modelling' and it's not just young children who pick up on your own examples and enthusiasms so as far as a good resource is concerned sometimes it can be a case of – its not just what you do –but the way that you do it!

### **Creating intensity of attention**

Use your own eye gaze and body language and gestures to model on the processes of looking pointing and itemising don't be afraid to exaggerate -- any one who has seen Richard Dunne will have seen a master class in this

Vary the intensity of volume and vocal tones to draw attention to itemising each and particularly emphasise the last word in a number sequence. .

Or if you are using modelling technique and guiding a child's finger pointing to counting objects increase the emphasis of motion rhythm or pressure when reaching the last object. Together these techniques will provide non verbal signals giving incidental support to the importance of the last item or number and help children develop understanding of the cardinal principle. ( see chapter 11 ) Use interesting pointers like wands or Sometimes use a small torch to point to objects in turn.

### **Novelty**

Don't restrict yourself to "counting apparatus" use novel items that attract children's attention. – Its true that you need to recognise when you need to stick with the same things for constancy but also true that a change can re ignite waning interest.

Everyday items, toys, and stimulating events, like the ball in the biscuit tin, add novelty to focus attention. Nasty plastic fingers are available in the shops around Halloween; even a pink washing up glove, or novelty gloves from places like Claires accessories can add some freshness to finger counting occasionally. Older children might like to count football cards, lipsticks, or if you are really brave eggs. – risk adds a special frisson to learning. A variety of real objects also puts across the idea that anything can be counted as well as helping to break away from the kind of ritual that children sometimes develop -- Mandy displayed in chapter 6

## **Distribution of stimuli**

Young children developing their knowledge of the sequence of count words use the rhythm and intonation in rhymes to maintain attention and provide memory prompts. When children have learning difficulties and associated coordination problems the process of pointing and coordinated production of count words can become slow and lose the kind of attention spark and memory power that the rhymes give. Even though with older children it is not appropriate to use childish rhymes, we can make sure that the sequence of count words do not sink into a forgettable dirge, by linking intonation and rhythm.

Where children have particular difficulties pointing or tracking we need to be aware if the physical or sensory distribution of objects being counted is making it more difficult – too close together, or too far apart, in a line or random, too fast sounds etc. We may need to arrange them to alleviate the physical or perceptual hitches and so enable a more stimulating vocal sequence. Or sometimes we have to recognise that children may need us to model activities. gestures or sounds or even physically support them.

## **Physical support or prompts.**

If the child has profound difficulties and you are still at the level of giving physical support to their movement you need to be very sensitive to their response to your touch if its painful or they don't like it all of their attention will be related to negative emotional response.

You also need to be aware of enabling the child to start to take the lead. If you are interested in this read Barbara Miles – Talking the language of the hands to the hands <http://nationaldb.org/NCDBProducts.php?prodID=47>

## **Colour and contrast**

Perception of contrasts is one of the fundamental skills we use immediately after birth to seek information. So be aware of contrast and colour.

Use objects that contrast well with backgrounds, and attract. Where appropriate use different colours to emphasise different group, but also remember that sometimes children may not understand why you are asking them to count, bear in mind that they may be attending to sorting by colour not thinking of quantity.

## **High and low sounds**

Vary the intonation you use when modelling counting use rising intonation to attract attention to important numbers e.g. the last number in the group this emphasises that the last one is important - it is the cardinal number and so represents the quantity in the group. - Also repeat softly the cardinal of the first group just before counting on to a second group.

Deep emphatic sounds are good for restating and reminding -- *they are also good for discipline*

## **Conditioning**

Sometimes use familiar objects or pictures to raise interest in counting.

Items like individual pictures of their family members, real items of food, desired models of footballers etc can always raise the level of attention that children are willing to pay.

### **Cues**

Children have to coordinate noticing each item in turn with assigning it a number name. They use their own physical cues in the form of pointing, but there is wide potential for mistakes and teachers or other pupils providing physical and verbal cues can play a very large part in maintaining pace and providing detail for the learner to absorb within the counting process.

- Coordinated verbal and pointing can help synchronise the start of a child's counting sequence.
  - Whilst the motion of pointing cues can carry a child's attention along the array of objects and emphatic motions can help with the establishment of sequential sound making. Cues like this don't have to be with fingers – various things can be used to add interest and promote attention to pointing -puppets, torches etc.
- Sound cues can prompt movement along the array; they can be made vocally or with rhythmic taps.
- Vocal cues may prompt the timing and sound of the next count word from the child.

Complete verbal prompting of the count words is of course a common strategy encouraging counting together which is undoubtedly powerful but be wary, children may lean on such support without relating the sounds to the process. The process can also trip up when for example a miscued number word has to be repeated, then the sequence goes astray the correct answer is disrupted and the vital connection between, counting, quantity and number word is lost )

### **Touch and pressure**

By contrast to vision and hearing the power of Touch is much underestimated in learning. People have very rapid emotional responses to touching and being touched. It is a sense that has powerful affect on attention connections. Which you need to be very aware of in motivating and maintain attention to learning

But Touch also has direct connection to our cognitive learning, Finger touching sends potent tactile messages about sequence and quantity direct to the part of the brain that images quantity. Neuroscientists have shown that a part of the brain – the parietal lobe - is both the place where we begin to organise our spatial perceptions of small quantities and start to connect them to number names and ideas. It is also the part of the brain which controls and receives information about body movement and position and where we control and receive information from our hands. – So there are strong connections between movements and handling objects and establishing concrete connections to sequence and quantity. Incorporating hand movements and gestures and finger pointing and touching are essential elements in learning to count. These things are all at the root of many infant activities, but their importance to us never wanes. Even as adults when we count we often almost involuntarily use rhythm gesture and touch but it is so natural to us we almost disregard the important role it has played for us in helping us develop reliable counting skill and in establishing our understanding of the pattern of numbers.

Any references to chapters in this article refer to  
Staves L (2001) Mathematics for children with severe or profound learning difficulties .  
David Fulton London

Information in this article is also expanded upon in section 4 chapters 1 to 6 of  
Staves (2009) The EQUALS guide to mathematics – supporting access for pupils working towards  
the national curriculum. –EQUALS Tyne and wear UK [www.equals.co.uk](http://www.equals.co.uk)