

An update on Sam and the progress he has made in numeracy using Numicon

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Wendy describes how she imaginatively overcame her son Sam's difficulties with the count word sequence using home-made materials.

In May 2003, I wrote an article^[1] about my son Sam, now aged 6, and how we were adapting and using the Numicon shapes to encourage him to learn the count sequence without having to sit and concentrate too much! We were working on the numbers one-to-five and I had made two books for him, one covering counting one-to-five and another six-to-ten.

However, we got stuck on 'four'. For months and months, all Sam would say was 'one, two, three, eight, nine, ten' whenever he was asked to count.

We decided to work on just 'one, two, three, four'. Saying 'four', counting 'one, two, three, four', having four kisses at bedtime etc. I set to and using *Publisher, Flash Pro 2*, a CD containing 10 000 images, (by ABA Materials, Australia) and Numicon shapes that I had scanned, I made a book for Sam focusing

purely on the number four. (You can also find plenty of free clip art on the Internet).

On the first page I inserted four footballs set out in the Numicon shape 'four', with the wording "how many balls?" and a lift the flap to uncover the shape. On the next page the same picture but with the numbers 1, 2, 3, 4 written on the balls in the order I wanted Sam to count. This took some deliberating, do we go across or down; I opted for across since this is the direction in which we read. I placed another 'lift the flap' to show the number 4 and the written word four. I inserted the written word later, once we had had practice counting. I used the font "SassoonCRInfant" which writes '4' rather than '4', see Figure 1.

On the next two pages, I inserted a hand with four fingers held up again following the same format, then a four-legged animal with the ques-

tion "how many legs?", then various other arrangements of four items. This gave Sam practice in saying one, two, three, four, counting one, two, three, four, recognizing the Numicon shape and the numeral 4 and saying "four". It also reinforced the cardinality of 4 objects. At school, he was still practising saying the number sequence 1 to 10 and I felt that once 'four' came, the missing 'five, six' and 'seven' would follow. And they did, in the form of "our", "ive", "ix" and "even" along with the gradual realisation (we are slow learners ourselves!) that Sam had struggled because these are the numbers that begin with the quiet "f" and "s" sounds.

We then moved onto five and I made another "how many" book, followed by six and recently seven. Sam is now consistently saying the number sequence one-to-ten correctly and we are now working on

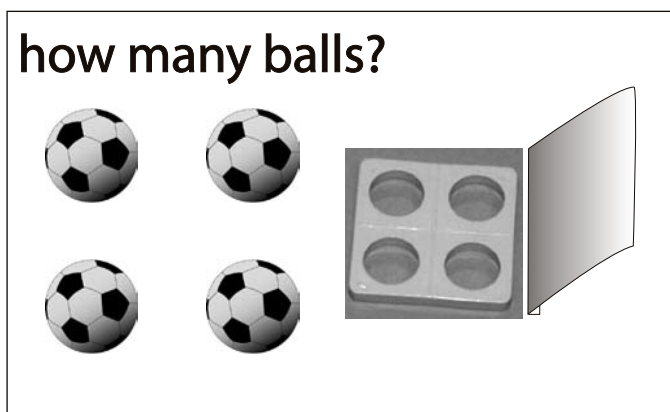


Figure 1

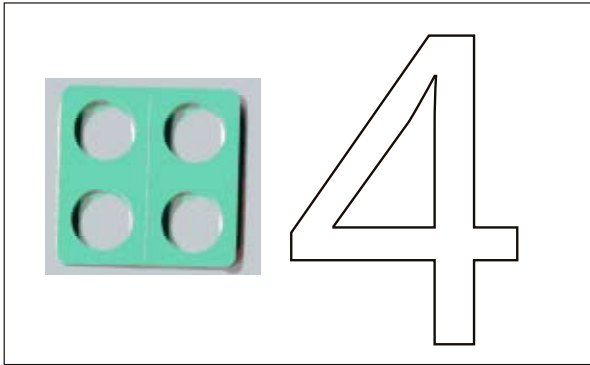


Figure 2

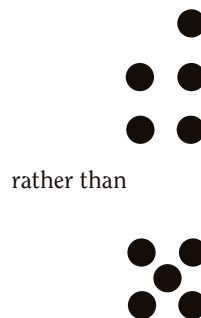
counting/saying up to twenty. We have attached the Numicon shapes and digits up the stairs and round the corner into his bedroom, finishing with twenty above his bed and we practise saying them at bedtime.

At school he is practising recognizing and ordering the numbers one-to-fifteen and working out "one more" and he is doing very well writing the numerals which I have laminated onto A4 sheets using a "hollow" (outline) font and the Numicon shape picture, see figure 2.

The one-to-one counting of a set of objects up to seven is 98% consistent, although practice, practice, practice continues to be necessary on one-to-six. We have recently gone through a phase of Sam insisting on saying one, two, three, four, five, seven (no six) as if we've done six, and now we're working with seven so this should come after five. I

have now made books focusing on the numbers one, two and three, as I did for four, five, six and seven. It is still good practice for Sam to read through these and I am in the process of trying them out on younger members of the Downs support group in Bradford.

We are also using a software package produced by Sherston called *123 CD*, which I discovered, to my delight, set out the objects to be counted in the "Numicon form" so for example 5 is set out as



As I continue to move through this slow process with Sam, I have come to understand just how important it is that parents, and teachers, understand how our children learn and the stages that typically developing children progress through, stages that I missed with Sam's typically developing older sister since they just happened. Because our children need to learn things so very thoroughly

with incredible amounts of repetition and practice, and because the stages of number development are spread (in my experience) over years rather than months, we have to be very careful to do it correctly and consistently. The learning we build for our children must be strong or it will become "undone" as soon as we try to move onto the next stage.

Recently school have been working on number bonds up to five with Sam using the Numicon shapes and pegs to build towers. Homework was sent home, large numbers set out for addition on a sheet of A4.

$$\begin{aligned} 1 + 1 &= ? \\ 1 + 2 &= ? \\ 2 + 2 &= ? \\ 2 + 3 &= ? \\ 4 + 1 &= ? \end{aligned}$$

We sat down with the sheet, a pen and the Numicon shapes. I selected two ones and a two shape ready to show Sam one and one are the same shape as two and to my amazement as soon as I pushed the two ones together he said "two". We continued with the sums on the sheet and he finished them all correctly with ease. The only input from me was to select the two shapes to be added and move them together. He saw the answer instantly, without needing to match it to the correct shape and wrote the correct number in the box. I sat and waited, almost not daring to breathe, while he finished. I was euphoric. It was the most wonderful moment. It makes me cry just writing about it. I felt like phoning everybody up with the news.

Since then we have had a similar sheet on "take-aways" up to five and he completed the homework flawlessly.

I feel that Sam now fully understands one-to-five, inside out and upside down. His learning is "strong", it is there for life.

Reference

1. Uttley, W. (2003). Introducing numbers and Numicon to young children who find it difficult to sit and concentrate. *Down Syndrome News and Update* 3(1), 18-19.

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