

## Paper 3. Reading age and Move4words in the Year 5 classroom

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### Abstract:

Data from 19 Year 5 children aged from 9 ½ to 10 ½ years show that large, statistically significant improvements in reading age result from using the 12 week Move4words programme in the classroom. Children with reading age at or below their actual age improved their reading age by 10 months in a 3 month time period at 4 times the normal rate during the programme, while children with above average reading age improve twice as fast as normal.

### Results:

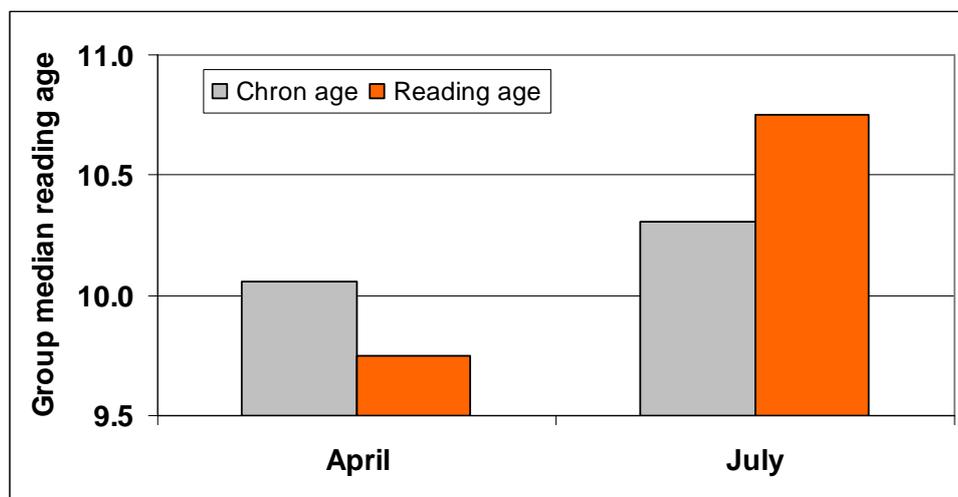
23 Year 5 children aged from 9 ½ to 10 ½ years participated in the new updated Move4words programme between April and July at a school in North-West England, in an area of considerable unemployment.

The teachers participating in this project attended a one-day training session given by Dr Elizabeth McClelland, and ran the Move4words sessions in class-time themselves. Dr McClelland visited the school once during the sessions to monitor delivery, to make sure that the correct procedures were being followed and to give advice if needed. This version of Move4words had videos recorded in a professional studio, using child actors from a stage school, videos were embedded into daily PDFs and the programme included a considerable element of auditory stimulation.

Because of child absence, only 19 children were present for both the Pre and Post reading age tests. The school only sent reading age data, not Standardised Average Scores.

The class had a large range of reading ages from less than 6 years to 12 years 3 months. As in the previous study, we use group median reading ages for our analyses rather than group averages, because of the non-linearity of change of reading age with chronological age.

Median reading age of the group was 3.7 months behind their actual age in April. After the 12 week programme, the median reading age of the group had moved ahead of their actual age, now being 5.3 months ahead. This is an increase in reading age of 9 months in three months elapsed time or 3 months per month (Fig 3.1).

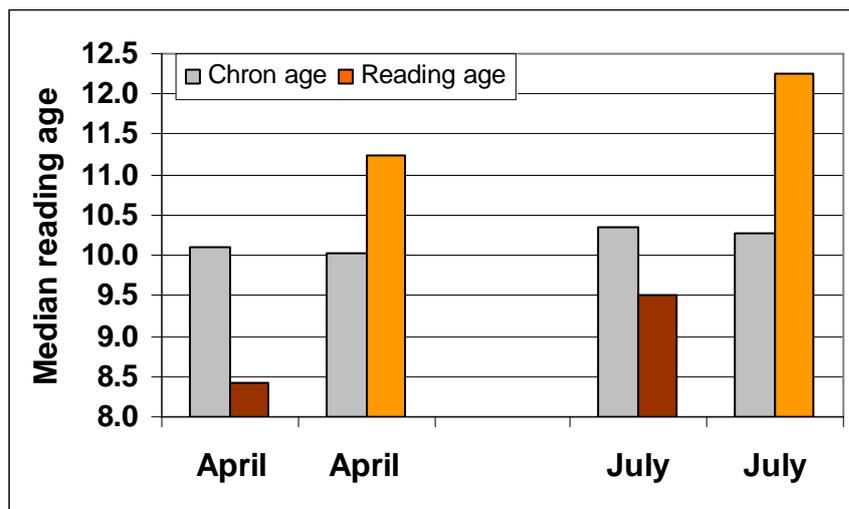


**Figure 3.1:** Year 5. Change in group median reading age after 12 week Move4words programme. Grey bars indicate chronological age, orange bars indicate group median reading age.

This improvement is statistically significant ( $Z = 3.22$ ,  $p = 0.001$ ,  $W = 114$ ), (see our paper on statistical testing for discussion of statistical tests used).

We also looked at the effects on good and below-average readers, splitting the data into two groups, one with reading age in April above their actual age ( $N = 9$ ), the other group with reading age at or below their actual age ( $N = 10$ ).

The numbers are too small and the reading age range is too large for valid statistical testing of these sub-groups. However, the data clearly indicate that both groups experienced large improvements in reading age during the period of the Move4word programme (fig 3.2).



**Figure 3.2:** Year 5. Change in group median reading age for below-average readers and good readers after 12 week Move4words programme. Grey bars indicate chronological age, coloured bars indicate group median reading age. Yellow bars indicate readers with initially above-average reading age, brown bars initially below-average readers.

The 10 below-average readers were 20 months behind in reading age in April, but only 10 months behind in July, indicating a 10 month improvement in reading age over the three month period (3.33 months/month). Looking at other standardised reading tests with SAS values, large group normalisation suggests that children with this ability level are expected to improve by about  $2\frac{1}{4}$  months in reading age over a three month period, so the lower ability students appear to improve four times as fast as normal on the Move4words programme.

The 9 good readers were 15 months ahead in April, then 24 months ahead in July, indicating a 9 month improvement (3 months/month). Again by comparison with other standardised reading tests with SAS values, large group normalisation suggests that children with this ability level are expected to improve by about  $4\frac{1}{2}$  months in reading age over a three month period, so the higher ability students appear to improve twice as fast as normal on the Move4words programme.

### Conclusions:

Move4words brings about large, statistically significant improvements in reading for all ability ranges.