

Paper 4. Controlled trial of Move4words in the Year 6 classroom

by Dr Elizabeth McClelland of Move4words Community Interest Company

Abstract:

Data from 27 Year 6 children show that large, statistically significant improvements in reading age result from using the 12 week Move4words programme in the classroom. In this controlled trial, the children acted as their own controls. Their reading development followed the expected path at 1 month per month for the time period between the start of Year 6 in September until the start of the Move4words programme. However, during the Move4words programme, the reading ability of the whole class improved considerably more rapidly than expected at a rate of 2.75 months per month. Lower ability children benefited most with median reading age improvement of 10 months in only two months, a rate of 5 months per month, narrowing the gap.

Results:

29 Year 6 children aged from 10 $\frac{3}{4}$ to 11 $\frac{1}{2}$ years participated in the new updated Move4words programme between the end of April and July. The school is in North-West England, in an area of considerable unemployment, and is not the same school as in the Year 5 study above. This version of Move4words had videos recorded in a professional studio, using child actors from a stage school, and included a considerable element of auditory stimulation.

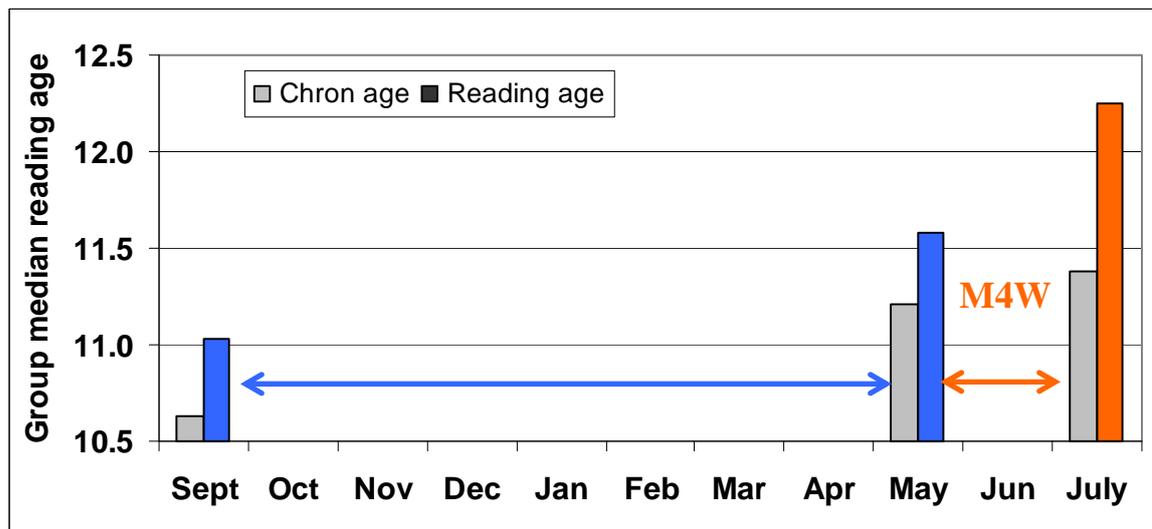


Figure 4.1: Year 6. Change in group median reading age during one academic year. During the first period of 8 months, the class had normal literacy support. During the 8 week period between test 2 and 3, the class participated in the Move4words programme and normal literacy support continued. Grey bars indicate chronological age, coloured bars indicate group median reading age. Only 8 weeks of Move4words were done between the tests.

The school provided us with reading age data and Standardised Average Scores which they had assessed at the start of the school year in September, then in May and again in July. Because the school took Move4words on at short notice (for which we are very grateful!), the May tests were done after the Move4words programme had started. Only 8 weeks of the Move4words programme were done between Pre and Post tests. One child was absent for the pre test and one for the post test, so these children are excluded from the analysis. The test used to collect the data in May and July was more detailed than the test used in September of Year 6, although both came from the same provider.

At the start of the school year in September, the median reading age of the group was almost 5 months ahead of their actual age. The class had a large range of reading ages from 9 years to 16

years. At the test in May, the median reading age was 4.5 months ahead of their actual age, indicating normal progress in literacy for the class at 1 month per month. After 8 weeks of the Move4words programme, the median reading age of the group had moved further ahead of their actual age, now being 10 months ahead. This is an increase in reading age of 5.5 months in two months elapsed time or 2.75 months per month (Fig 3.1).

We used the Standardised Average Scores for statistical analysis. The change in SAS score for the whole group between September and May is not significant (paired T-tests, $T = 0.60$, $p = 0.554$, $df = 26$). The improvement between May and July for the whole group is statistically significant, however and the SAS score increased by more than 3 points (paired T-test results comparing SAS in May and July: $T = 2.02$, $p = 0.050$, $df = 26$).

The comparison between progress from September to May, and from May to July with Move4words, demonstrates that the children's progress was in line with the predicted changes during the 7.5 months when the school only used their normal literacy support. However, two months of Move4words in addition to normal literacy support significantly improved the reading ability of the class.

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 ($N = 14$), the other group with reading age at or below their actual age ($N = 13$).

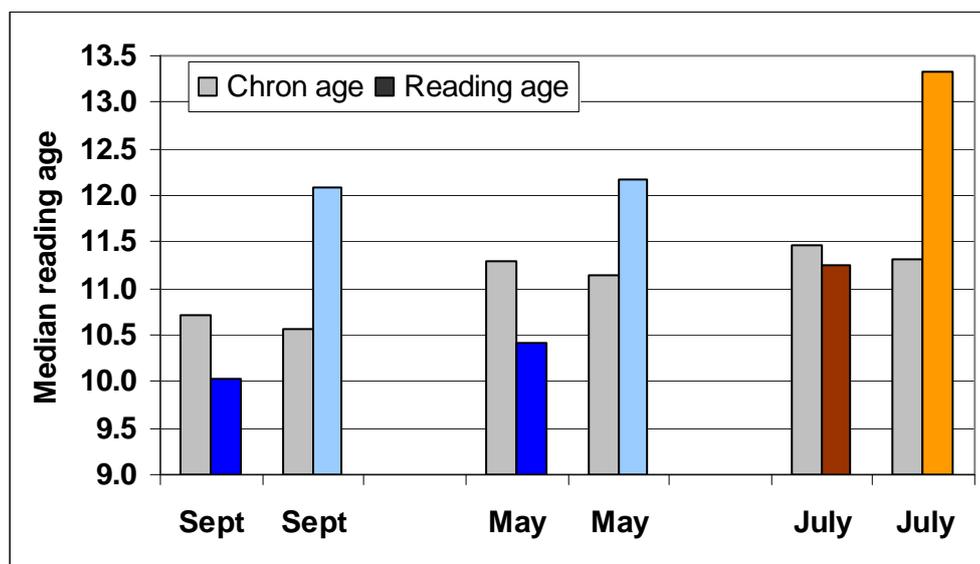


Figure 4.2: Year 6. Change in group median reading age during one academic year for poor and good readers. Grey bars indicate chronological age, coloured bars indicate group median reading age, blues bars indicate before M4W, orange/brown after M4W, paler colours for initially above-average readers.

Again we carried out paired T-tests on the standardised average scores. The group who were initially reading below average improved significantly during the 8 weeks between May and July, while doing the Move4words programme, with an increase of SAS score of more than 6 points ($T = 2.16$, $p = 0.05$, $df = 26$), while the change for the above average group was not significant ($T = 0.46$, $p = 0.653$, $df = 26$).

As mentioned in Paper 2 of this series (Year 4 data), the Government Department of Education considers 1-2 points improvement in SAS over one year to be "satisfactory", 2-3 points to be "good" and 4 or more to be "outstanding". The increase of more than 6 points achieved by below average readers due to the 12 week Move4words programme is therefore really remarkable!

The below-average readers improved by 10 months in the two month period between the tests in May and July, which is an improvement of 5 months per month. The normalisation of the reading test indicates that the normal expectation for reading age improvements for children of this reading ability would be 0.8 months per month, so the reading age improvement brought about by Move4words is more than 6 times the normal rate!

Because the September test was less detailed, variation in the values was too large to make detailed comparison between all stages of assessment for both groups.

Conclusions:

In this controlled trial, the children acted as their own controls. Their reading development followed the expected path for the time period between the start of Year 6 in September until the start of the Move4words programme. However, during the Move4words programme, the reading ability of the whole class improved considerably more rapidly than expected. Lower ability children benefited most, narrowing the gap.