



BALSALL COMMON PRIMARY SCHOOL  
BALSALL STREET EAST  
BALSALL COMMON  
COVENTRY CV7 7FS

TELEPHONE: 01676 532254  
FAX: 01676 533314  
[www.balsallcommon.solihull.sch.uk](http://www.balsallcommon.solihull.sch.uk)

## ***Underachieving Children Main-streamed Within 2 Years***

***by Trevor Davies – Head, Balsall Common Primary School***

### **Introduction**

One of our pupils had made very remarkable progress in a short space of time after participation in an exercise-based programme undertaken as a pilot study in the school. We were encouraged therefore to embark upon a much broader research programme, in conjunction with the University of Exeter, looking at a larger group of underachieving pupils to see if similar results could be gained.

### **Identifying the Children that were ‘Underachieving’**

The screening process involved 400 pupils aged between 7 and 10 years within the school. We were looking for the various symptoms of learning difficulties in order to examine the effects of an exercise-based programme on the problems of under-achieving children, whether or not they had been previously diagnosed as displaying symptoms of attention deficit (ADD) and/or dyslexia. Tests used for this study included a widely-used dyslexia screening test (written by The University of Sheffield), DSM IV (attention deficit test), physiological tests (including dynamic posturography) and other neurological examinations carried out by a medical doctor. Approximately 10 per cent of children were identified as ‘possibly underachieving’ and therefore they were selected to see if they would benefit from the programme.

### **The Schools Normal Approach to Learning Difficulties**

Despite the school having had for many years a very pro-active and highly regarded approach to identifying and addressing such issues, many of these children selected were behind academically and falling further behind their peers each year. The school’s existing special needs programme included a high level of special needs support and the best available phonological intervention we could obtain provided by outside agencies. Despite this I was frustrated at the lack of progress being made by these children.

During this study there were no changes made to the teacher support given to the children – and until the changes that started to quickly manifest themselves ‘gave the game away’ their teachers were unaware which of the children were undertaking the trial.

### **The Programme**

The programme involved children being tested using physiological and neurological tests to identify areas of underdevelopment in the cerebellum. Individual exercises were then prescribed for each child that they were required to carry out at home twice a day. The typical exercise takes between 5 and 10 minutes per session. These exercises are specifically designed to remedy an individual’s deficiencies in cerebellar development and, broadly speaking, involve activities designed to stimulate a variety of co-ordination functions.

The typical total duration of the programme was twelve months and during that time every six- weeks the neurological and physiological tests were repeated and the individually prescribed exercises adjusted accordingly.

### **Results – After 6 months**

Six months into the programme, the results were remarkable - with all of the children making highly significant progress, not only in academic areas such as Literacy and Numeracy but also in self-esteem, concentration and sporting ability. In addition to the remarkable achievements and improvements in performance, we found quite astounding changes and improvements in the children’s confidence levels and self-esteem and their attitude to work, each other and to sport.

We were delighted with their improvement after six months but this was nothing compared to the improvements measured after one year!

### **Results – After 1 Year**

To summarise, in the first year:

- The children’s progress in reading was more than three times what it had been the previous year – as assessed by National Tests of Attainment.
- Progress in comprehension was almost five times what it had been in the previous year – as assessed by National Tests of Attainment
- Progress in writing and quality of writing was over ten times greater than the previous year – as assessed by National Tests of Attainment.
- Subjective measures taken including self-esteem and attitudes to work also illustrated remarkable changes in the pupils’ progress.

- What also surprised me was that after a year many children who had previously shown little interest or ability in sport became involved in school sports teams and showed distinct signs of improved motor skills and co-ordination.
- Teachers throughout the school commented that it had become apparent that many children previously suffering with attention difficulties had become more focused, making them easier to teach.

## **Results – After 2 Years**

Whilst we were delighted with the progress that the pupils taking part in the study made during the first year, we were amazed at the progress that they made during the second year of the programme i.e. the year following the completion of their exercise-based programme. It became evident that we had really made major changes to these pupils' lives. Not only were they, on average, working at a level appropriate to their age and at the same level as their peers, but some were even exceeding this. At the end of the second year, the average reading age of these children had become their actual age – they had been main-streamed – and it was demonstrating itself in many different ways.

Many children in this study by now have moved up to secondary school (at age 11) and have no further requirement for special needs support.

It seems clear that the exercise based programme helped correct the fundamental root problem with learning as it achieved what it did without any additional teaching mechanisms. This is evidenced in the response seen in the 9 tests performed of fluency in reading and writing, working memory ability, phonological ability, semantic skills and rapid naming ability as well as two tests of posture and fine motor skills (see graph 1).

These graphs show where the pupils were, within an indicated normal range (i.e. from the 25<sup>th</sup> centile to the 75<sup>th</sup> centile) before starting the programme and one year after completing the programme. The 50<sup>th</sup> centile is equivalent to an average score in the population of the same age. It can be seen quite clearly in this group of children (who were initially underachieving with an average reading age 12 months behind their chronological age) that most pupils improve to above average in most tests (which are adjusted for age expected changes).

Generally children stay at the same performance level in these tests year on year so - to see these children “changing gear” in terms of learning skill and ability is simply astounding. These fundamental improvements in underlying learning skills to within “normal expected levels” are the foundation stones to improved response to learning experiences - be they literacy, attentional, social or sporting.

They are now achieving their full potential and are now having the success they deserve.

It was obvious that we had had bright and intelligent children hindered by poor cerebellum function which, once improved, allowed them to access all the power of their thinking brains. This is reflected in the measured improvements in reading and attention levels of the reading impaired group.

To summarise

Children with various learning difficulties have effectively become mainstreamed in 2 years

All those who originally were tested positive for ADD using DSM IV tested negative when they had completed the programme.

There was no evidence of any child having any negative side-effect after the programme – in stark contrast to some of the problems experienced with drug based treatments.

The progress made seems to be retained based on the ongoing results after the exercise programme had been completed

The results of this programme changed not only their academic ability but self-esteem, attention, mood and ability at sports

No other phonological or other programme has ever in my experience had as much impact on the learning process of children

### **Update on the Initial “Pilot Pupil”**

Almost three years on, the child who was involved in the pilot study has now moved on to secondary education and is excelling at that level. Three years earlier he had been frustrated, failing and falling further and further behind his peers. Now he is excelling at his academic work, comfortable in his relationship with his peers and showing no signs of regression.

### **Conclusion**

These remarkable results are fact and reality. We are now intending to implement a similar programme across the school as a means of providing early identification and remediation for all such children.

In my 22-year career as a Headteacher I have never witnessed a programme which has had such a great impact on children’s learning. The results of this research clearly indicate the tremendous contribution that a co-ordinated and balanced activity-based programme can make to the progress of children with learning difficulties. Many traditional phonological approaches only help children to cope with their problems, whereas this programme provides solutions to those problems and moreover has a profound effect on their self-esteem, academic and sporting achievements.

It surprises me greatly that experts in the field of learning difficulties seem to pay little attention to this type of intervention and seem to dismiss it without studying the enormity of its effects. They only have to visit my school to

witness the profound changes that have occurred in these children to start to appreciate the urgency of this type of programme being made available to all children who have symptoms of learning difficulties.

Hopefully this study will help us understand that many of the serious problems we have as a result of poor literacy is usually not caused by poor teaching but by what now appears to be a correctable developmental problem. This will be of great comfort to those teachers who have to put in so much effort to try and help those with learning difficulties.

### **Credits**

Prof Rod Nicolson – University of Sheffield, England - Dyslexia Screening Tests and analysis of data, co-author of peer-reviewed study published in Dyslexia on 1<sup>st</sup> year of study

Prof David Reynolds – Exeter University, England – design of research study and co-author of peer-reviewed study published in Dyslexia on 1<sup>st</sup> year of study

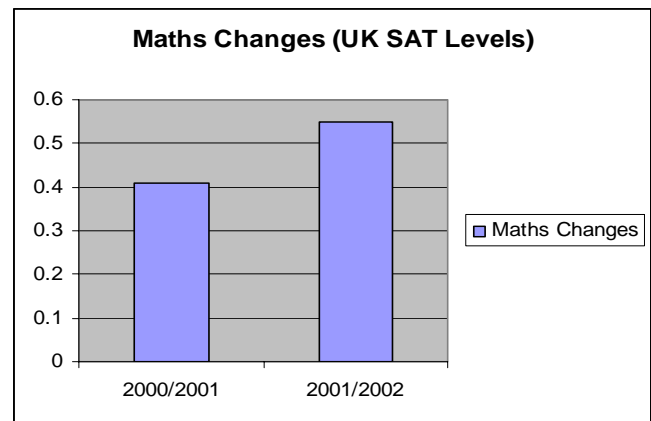
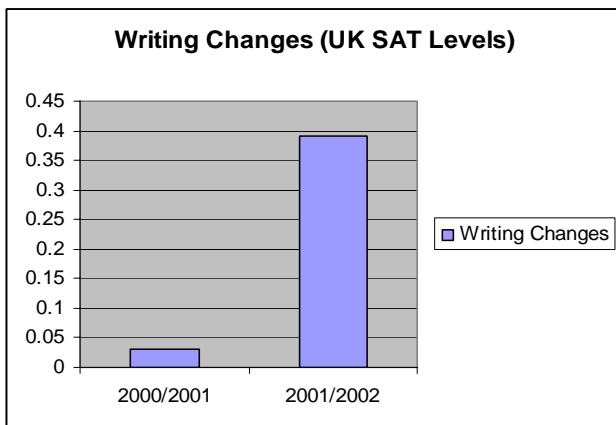
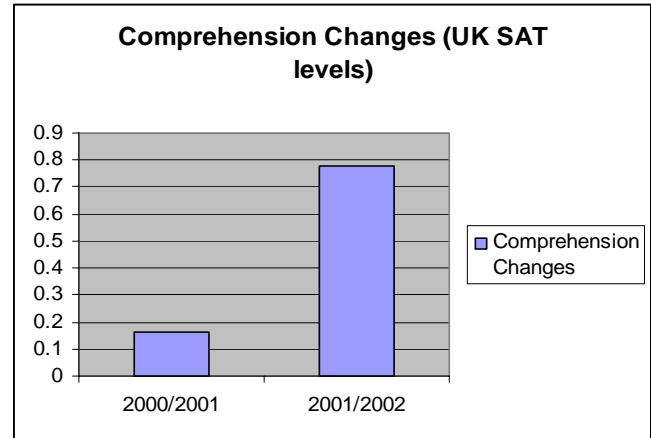
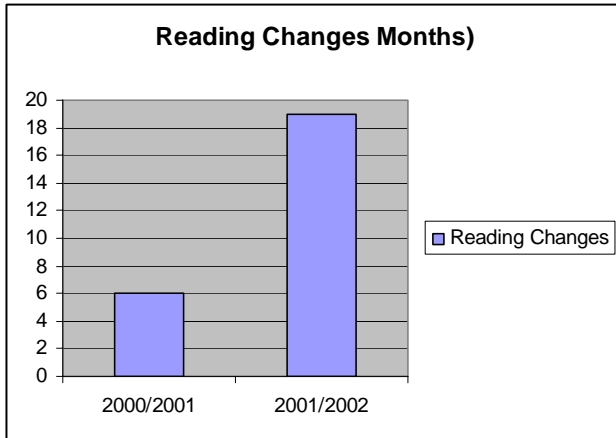
Dore Achievement Centre / DDAT, Kenilworth, England – physiological and neurological testing services and exercise programmes

Trevor Davies, Headmaster

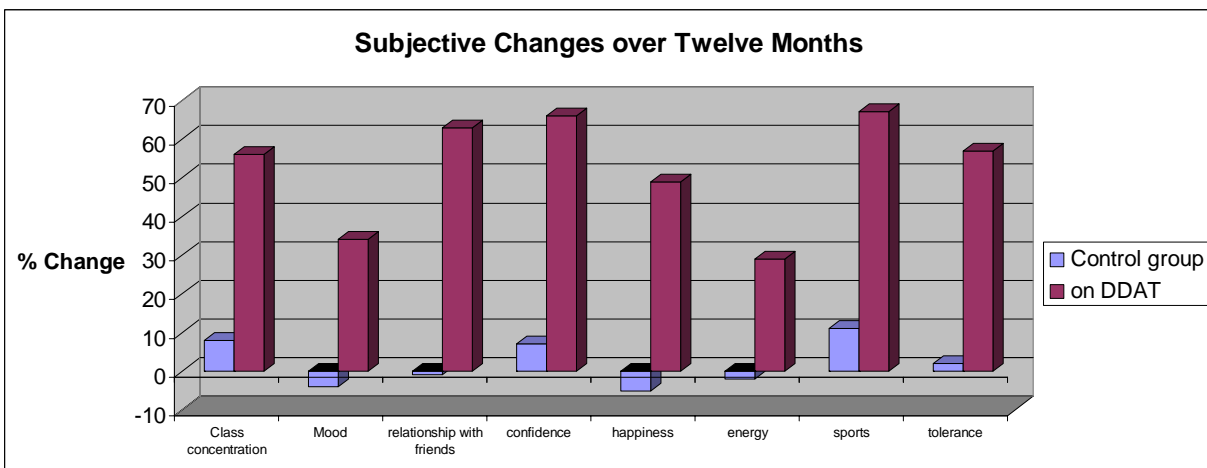
**Balsall Common Primary School**  
**October 1<sup>st</sup> 2003**

## Summary of Results

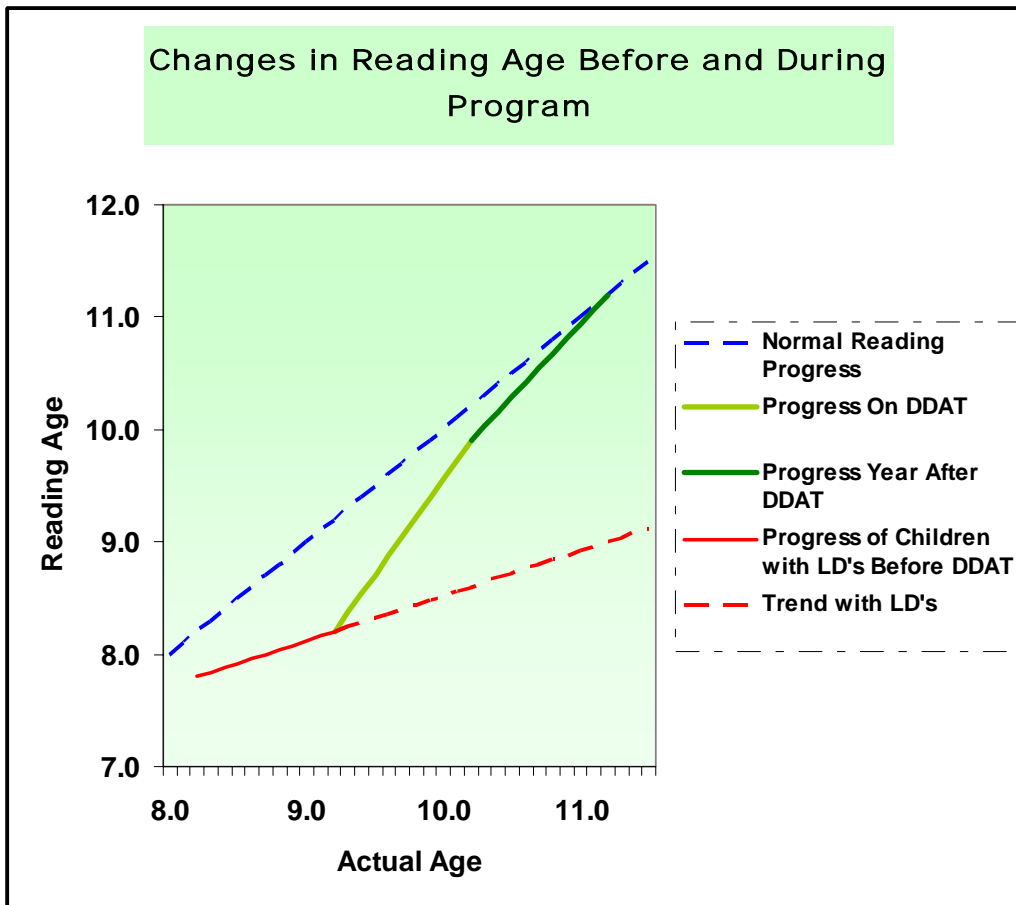
### After 1<sup>st</sup> year – Academic changes as measured by SAT scores



### After 1<sup>st</sup> year - Report of Subjective Changes



## Results of Reading Progress – After 2<sup>nd</sup> Year



## Results of DSM IV Test – After 2<sup>nd</sup> Year (All children who have completed programme now show no signs of ADD on DSM IV)

