

Toe by Toe

Academic Research: Data



Toe by Toe

Toe by Toe was published in 1994 and - at a conservative estimate - has helped more than 500,000 struggling readers worldwide.

Following is data from some of the trials and studies on the effectiveness of the Toe by Toe approach over the decades. The studies are from Scotland, London, Ireland, Australia and New Zealand



Toe by Toe

From the *Centre for Policy Studies*' publication:

**'A World First for West Dunbartonshire.
THE ELIMINATION OF READING FAILURE'**

“The leading remedial reading programme in Britain is Toe-by-Toe, a simple and well-structured programme which almost any literate person can use to good effect to teach poor readers. It all but eliminates the need for specialist training. West Dunbartonshire schools have deployed Toe-by-Toe on a systematic basis, and it has been a great success”

“The **West Dunbartonshire Literacy Initiative** has cost the equivalent of about £13 per pupil per year - about 0.5% of the education department budget”

“Achieving similar results for every primary school pupil in England would cost under £54 million...”



Toe by Toe

The West Dunbartonshire Literacy Initiative

In 2007, in West Dunbartonshire, only 3 children left secondary school who were not functionally literate...

“Something quite remarkable... able to revolutionise an education system to the benefit of thousands of people”

Prime Minister Gordon Brown, 2007



Toe by Toe

The West Dunbartonshire Literacy Initiative

(by Professor Tommy MacKay - one of the UK's leading psychologists)

“Most ambitious literacy study in the world. Our aim is to eradicate illiteracy...”

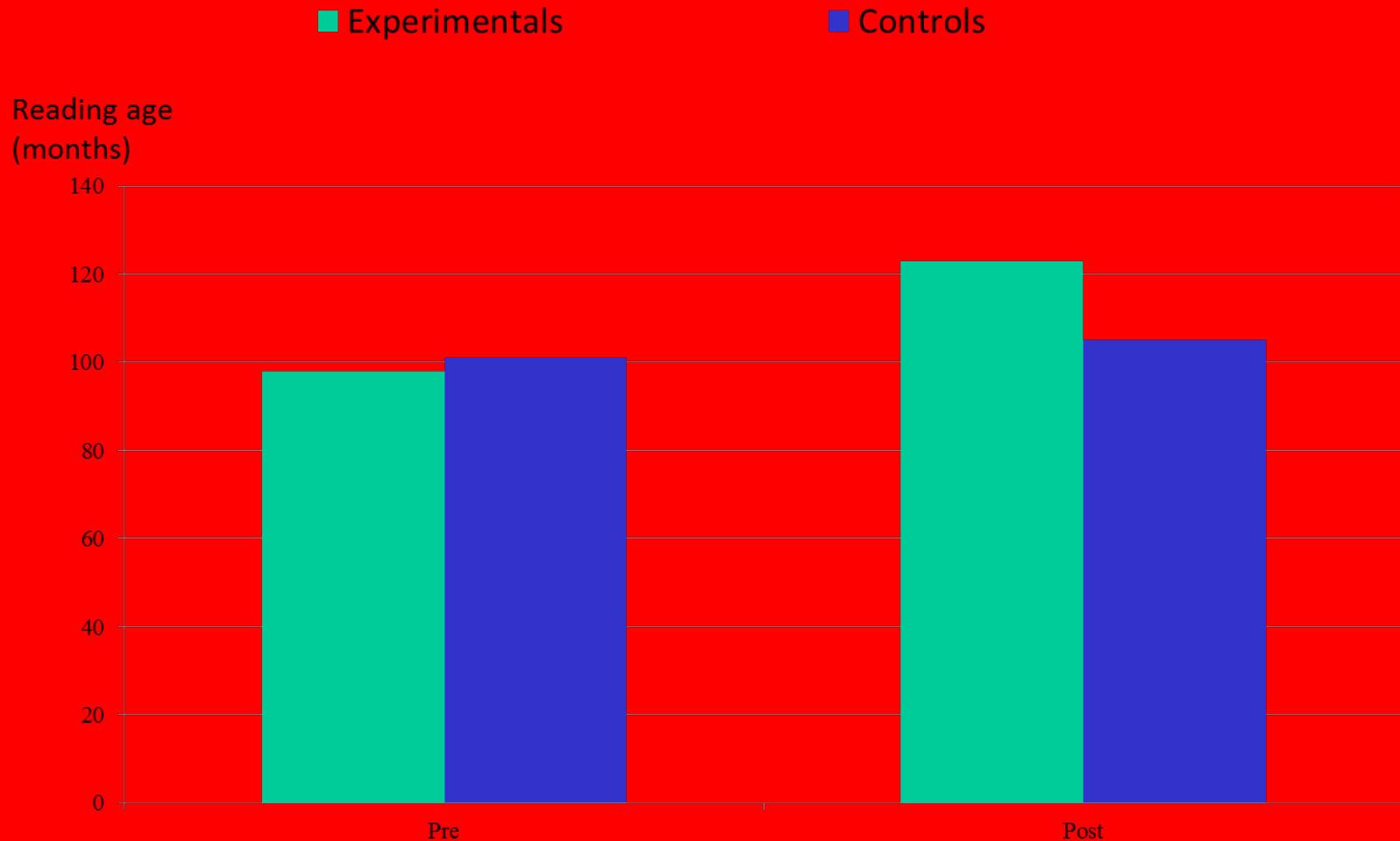
Dr Tommy MacKay 2006

- 104 children from 32 schools
- All had difficulties with their reading
- Almost all in Primary 7 (some in P6 and one in P5)
- Toe-by-Toe 20 minutes a day, 5 days a week
- 1st test: November/December 2002
- 2nd test: May 2003



Toe by Toe

Changes in reading ages: secondary school sample (N = 24)



Toe by Toe

Changes in reading ages: primary school sample

Gains in reading age	Number of pupils
0-5 months	19
6-11 months	25
12-17 months	30
18-23 months	11
Over 2 years	16
Over 3 years	3

Conclusions from Prof Tommy MacKay's study:

“The actual gains during the intervention represent a population shift of 1.75 standard deviations on the Neale Analysis of Reading Ability. In terms of the data above, the effect size of the intervention may be estimated at about 1.4. This suggests that the programme was extremely powerful over this short period in increasing levels of reading achievement”

‘Before this I used to believe that nothing could be done...now for the first time I see that these children can really change’ - (Shona Carmichael, Head Teacher)



Toe by Toe

TBT recommendation from Australia:

Dyslexia - SPELD Foundation: Examples of High Quality, Evidence-Based Phonics Programs (A ‘parent-friendly’ program’ that does not require specialist training):

Toe by Toe: A Highly Structured Multi-sensory Reading Manual for Teachers & Parents - a highly scripted, easy to follow program that combines a multisensory approach with a memory bonding technique.



Toe by Toe

“The results were definitive. The experimental group made average gains of three and a half years. The control group made average gains of five months “

Professor Tommy MacKay writing in *Literacy Today*,
March (2004)



February 2018 Newsletter from Educational Psychology Service, Argyll & Bute Council

“**Toe by Toe** is a structured reading programme for those children who have difficulties in reading. For the last number of years, following the administration of the Suffolk Reading Test with all Primary 4 children and along with sound teacher judgement and other assessment information, schools identified those children who would benefit from working through this programme. This is a well-researched approach that has been found to have a significant impact on the reading skills of learners. During the EPS process of Validated Self Evaluation, the outcome of which was published in 2016, children themselves reported positively on their use of **Toe by Toe**. One child confirmed ‘it just helps me understand words better’. **Toe by Toe** materials continue to be made available to schools by the Education Service. In preparation for schools requesting **Toe by Toe** books at the end of this academic session, the Educational Psychology Service has developed a brief guide to administering **Toe by Toe** to ensure maximum impact for learners. This will be circulated to all primary schools at the start of next term. If any school feels they would benefit from further training around **Toe by Toe** please contact the service”



Awards Day at Drakies Primary School, Inverness, Scotland



Toe by Toe

Dr Ben Jeffes an educational psychologist based in the UK wrote his doctoral thesis on the use of TBT in schools in 2017....

“Raising the reading skills of secondary-age students with severe and persistent reading difficulties: Evaluation of the efficacy and implementation of Toe by Toe, a phonics-based intervention program”

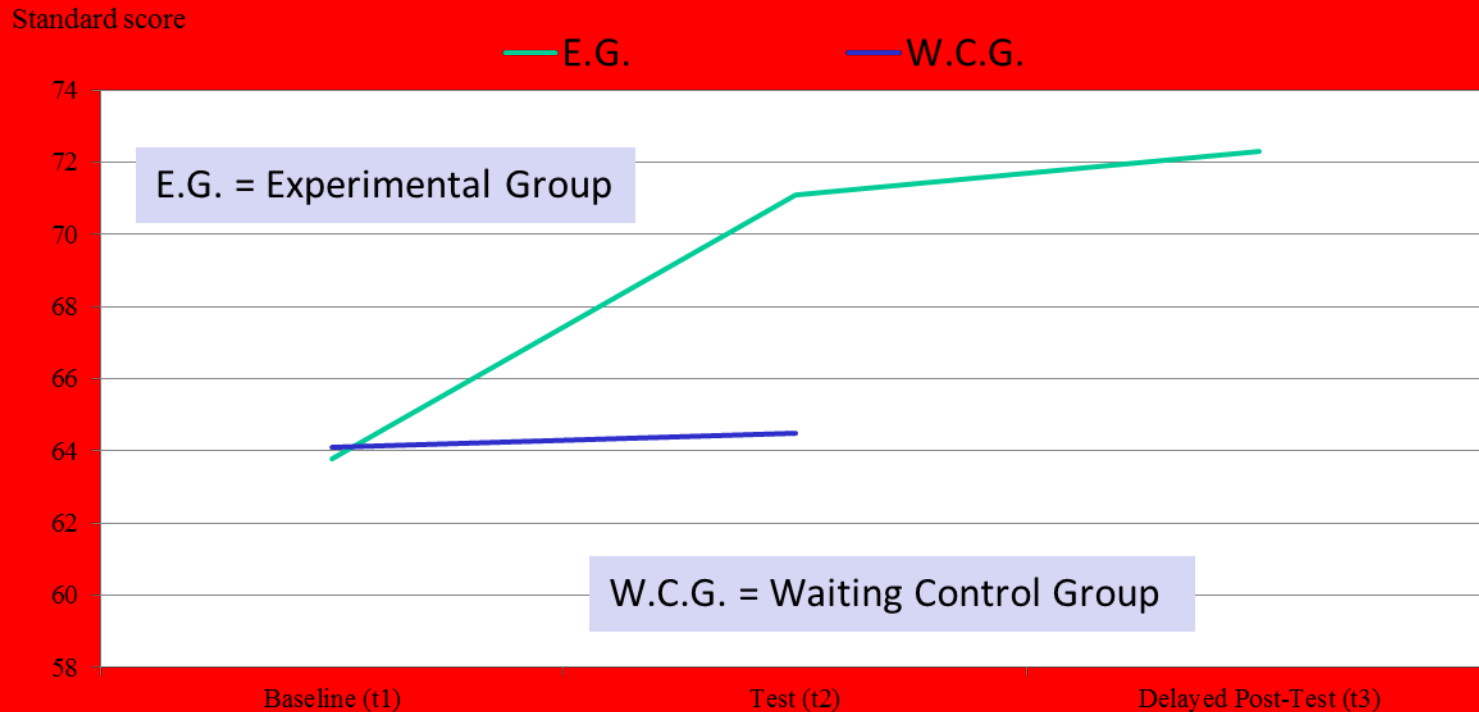
TBT was selected on the basis of its content, method, flexibility and cost-effectiveness. The method used is one-to-one, providing individual instruction to children tailored to their specific needs. An important consideration given that research has often indicated the advantages of individual over small group work for struggling readers.

The aims of the study were to explore the efficacy of Toe by Toe among a group of 30 secondary age students with severe reading difficulties in 2 large secondary schools in East London. 15 students were allocated to an ‘Experimental Group’ and 15 allocated to a ‘Waiting Control Group’.



Toe by Toe

Phonic Decoding Accuracy



Results showed the intervention brought about a statistically significant improvement in the students' phonic decoding accuracy, single word reading accuracy and phonic decoding skills.



Toe by Toe

Word Recognition Accuracy

Standard score



Results showed the intervention brought about a statistically significant improvement in the students' phonic decoding accuracy, single word reading accuracy and phonic decoding skills.



Toe by Toe

In his summary Dr Jeffes said:

“The results presented here indicate that with appropriate training and on-going support, teaching assistants (‘para-professionals’ in the USA) can deliver Toe by Toe effectively and bring about positive results in children experiencing severe reading difficulties”



Toe by Toe

NEPS - National Educational Psychology Service in Ireland

Dr Mary Nugent, NEPS, Waterford:

*'Effective Interventions for Children with Literacy Difficulties.
Findings from 4 years of action research in Waterford, Ireland'*



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Toe by Toe

NEPS - National Educational Psychology Service in Ireland

Key findings

- Ordinary teaching is not enough
- Not all interventions are equal
- Need for evidence-based interventions
- The best interventions can make a significant difference



Toe by Toe

NEPS - National Educational Psychology Service in Ireland

Toe by Toe

- Highly structured phonics programme
- Involves teaching skills to a level of fluency
- Use on non-words puts focus on underlying skills of decoding
- Considerable emphasis on recording progress



Toe by Toe

NEPS - National Educational Psychology Service in Ireland

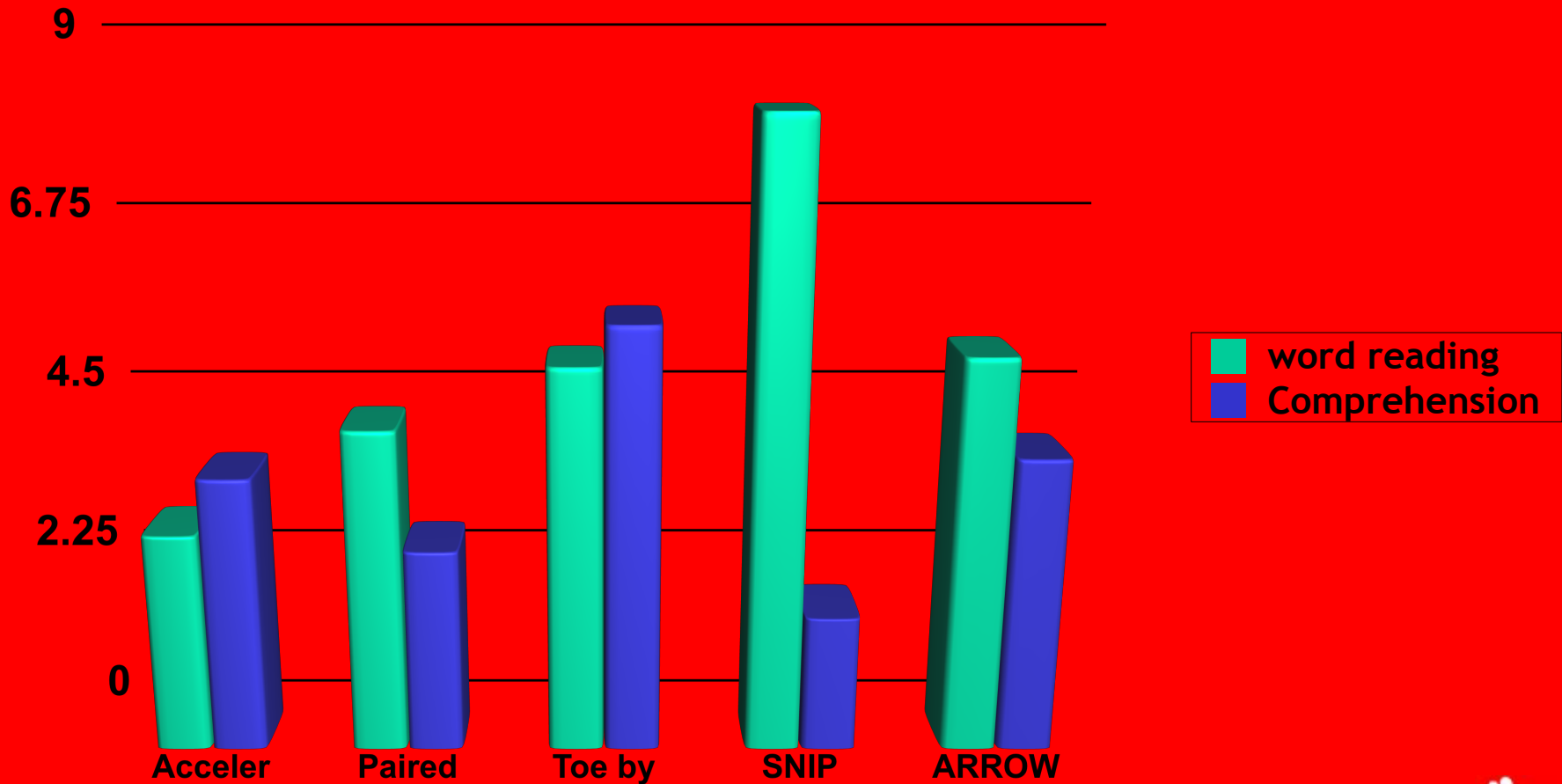
Toe by Toe - Research Evidence

- Pre- and post data over one year
- 24 secondary aged pupils
- Matched pairs
- Experimental group- Toe by Toe
- Control Group- 'normal learning support'
- Toe by Toe group were taught individually for 20 mins. per day, 5 days per week, for average of 3 months



Toe by Toe

NEPS - National Educational Psychology Service in Ireland



Ratio Gain

One effective way to establish if a reading or spelling intervention has been effective is to use ratio gains. Ratio Gain is the gain in reading age made by a group during a chronological time span, expressed as a ratio of that time span. A ratio gain of 1.0 means that the child's skills are developing at a normal pace, **but they will not be catching up with their peers.** Brooks (2007) suggests that:

Ratio gains of less than 1.4 are of 'doubtful educational significance',
Between 1.4 and 2.0 of 'modest impact',
Between 2.0 and 3.0 of 'useful impact',
Between 3.0 and 4.0 of 'substantial impact' and
Above 4.0 of 'remarkable impact' (Brooks. 2007, p. 289).

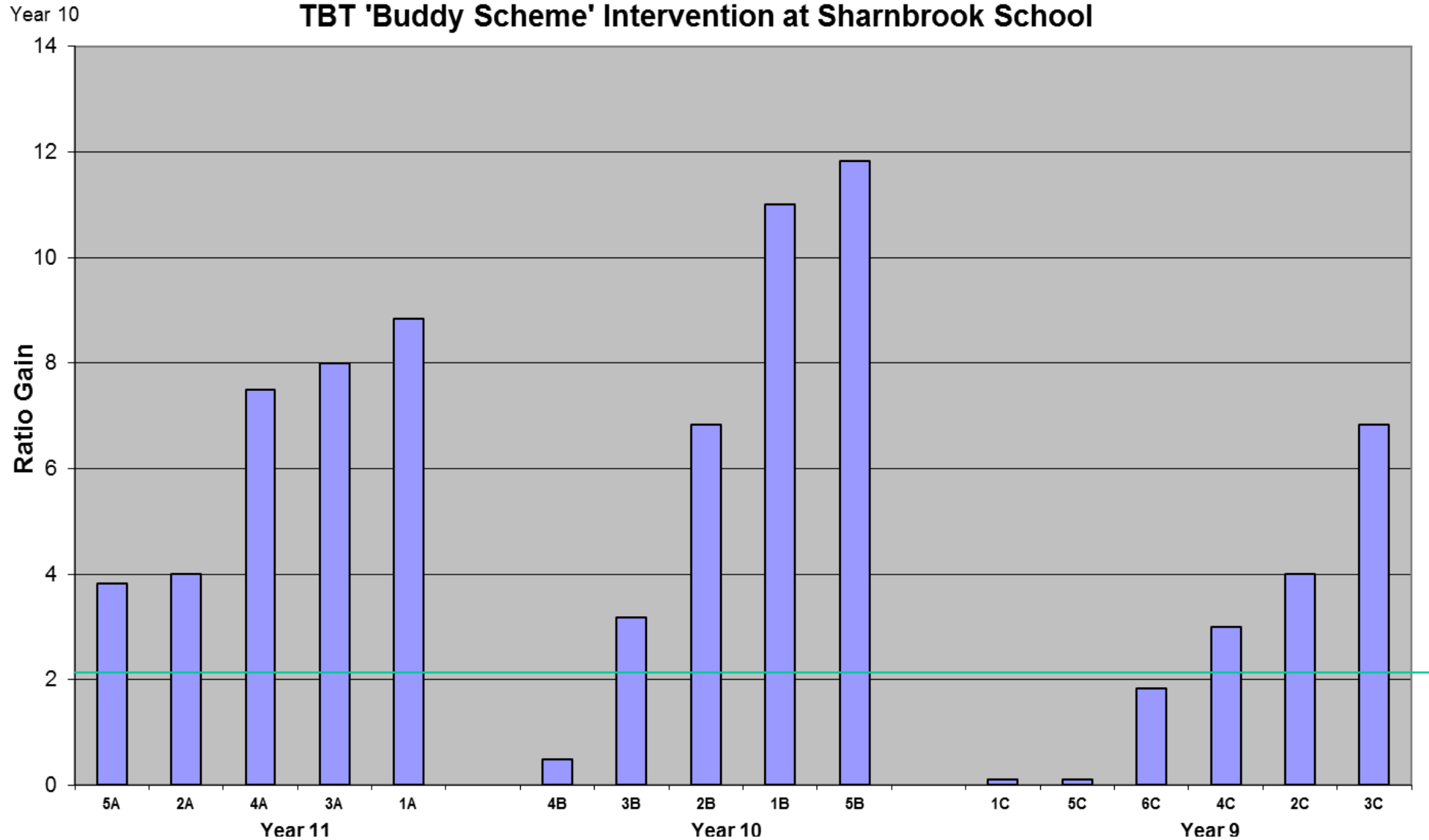
However, Brooks (2007) points out that ordinary teaching (i.e. no intervention) does not enable children with literacy difficulties to catch up, and hence it is fair to presume that, in the absence of control or comparison groups, and where effect sizes cannot be calculated, findings of **ratio gains in excess of 2.0 may be taken as good evidence in support of the method employed.**

Several studies have shown that, without help, **dyslexic pupils** progress at around only 5 months per calendar year in reading (ratio gain 0.42) and 3 months in spelling (ratio gain 0.25) (Thomson, 1990, 2001; see also Rack and Walker, 1994). Dr Singleton suggests **that in cases of dyslexia the achievement of ratio gains of 1.00 or greater represents substantial progress** for these individuals, even though they may still have literacy skills below levels required to access the curriculum effectively.



Sharnbrook Upper School TBT Buddy Mentoring Scheme Jan 2006 to Jun 2006

(R.A. stats independently assessed using WRAT 3 Achievement Tests by Marilou Spratt B.Ed. Hons. A.M.B.D.A.)



Toe by Toe

Toe by Toe in Melbourne, Australia:

From the school website:

"At Karoo Primary School , in Rowville, we run a very successful literacy intervention program for students in grades 3 - 6. The program is Toe By Toe and has been running successfully in schools all over the world for many years. Here at Karoo we commenced the program in 2013 and have been building on that success ever since. Students are seen on a one to one basis at least 3 times a week. Improvement in student engagement and ability is immeasurable. The program assists students with reading using phonics based learning in addition to spelling rules, sight words and syllable division. Students who work on the program build confidence and greatly improve their reading abilities"

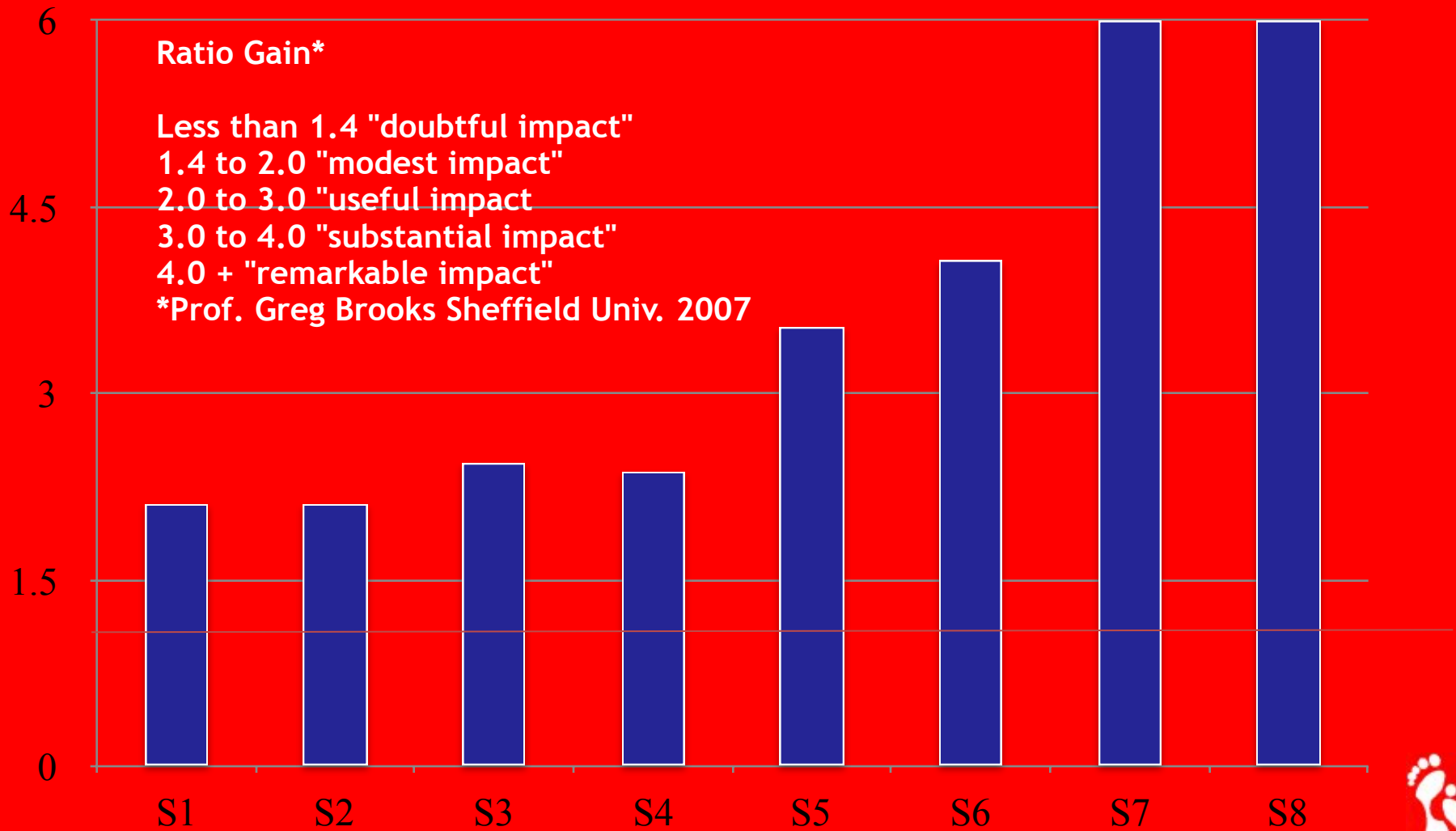
"Parental assistance: 'Toe by Toe Assisted Reading Program' - The Toe by Toe Program is a very simple yet successful system that develops skills and learning confidence in students. Volunteers work one-on-one with individual students on the program. Regular commitment is required. Please see Sue Austin (Toe By Toe Co-ordinator) if you wish to assist with this reading program"

Sue Austin has very kindly sent us some data from her TBT literacy work at Karoo P.S. The data is shown in bar charts over the next 3 slides...



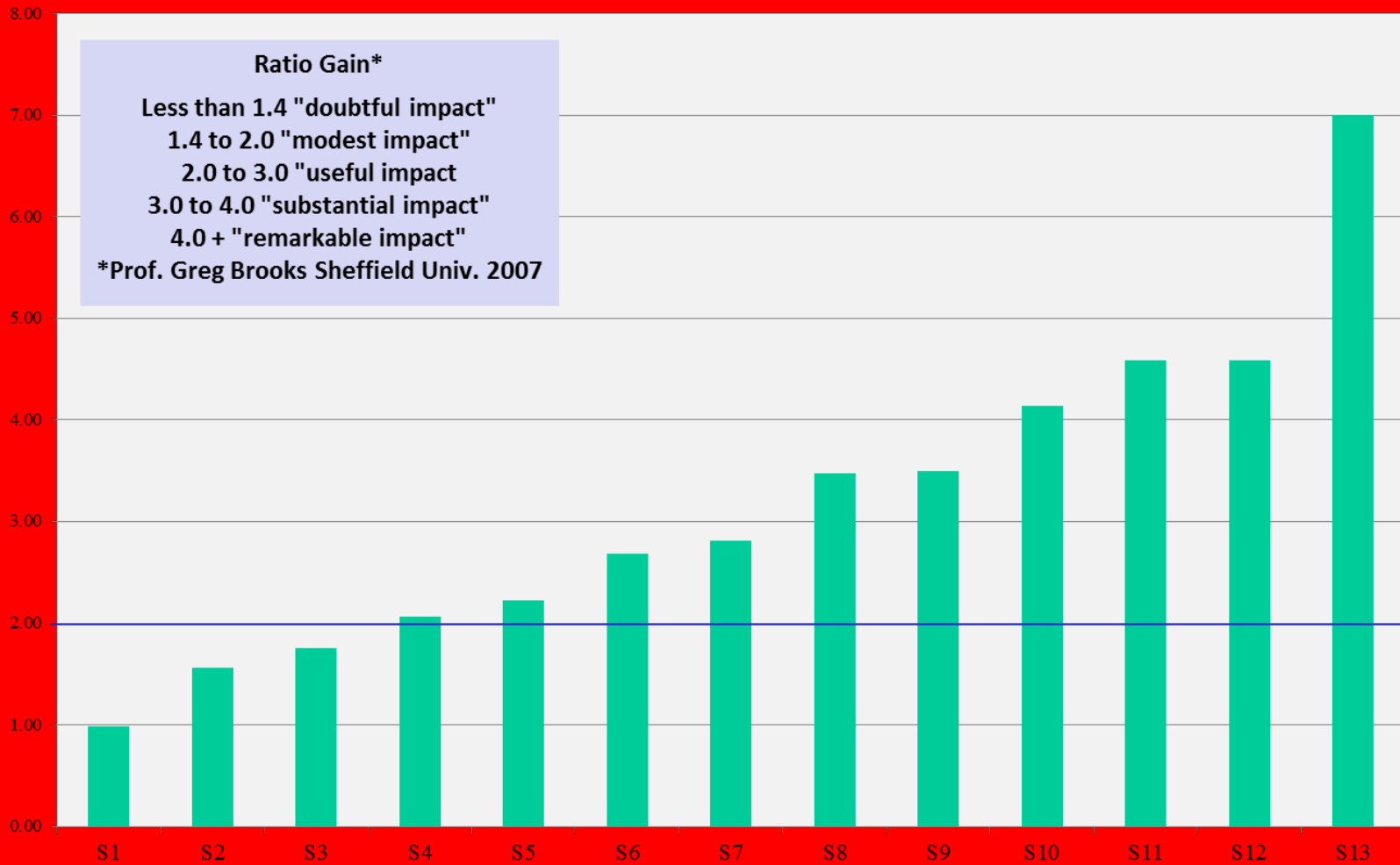
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Karoo Primary School, Melbourne - Toe by Toe Grade 4 Students' Progress



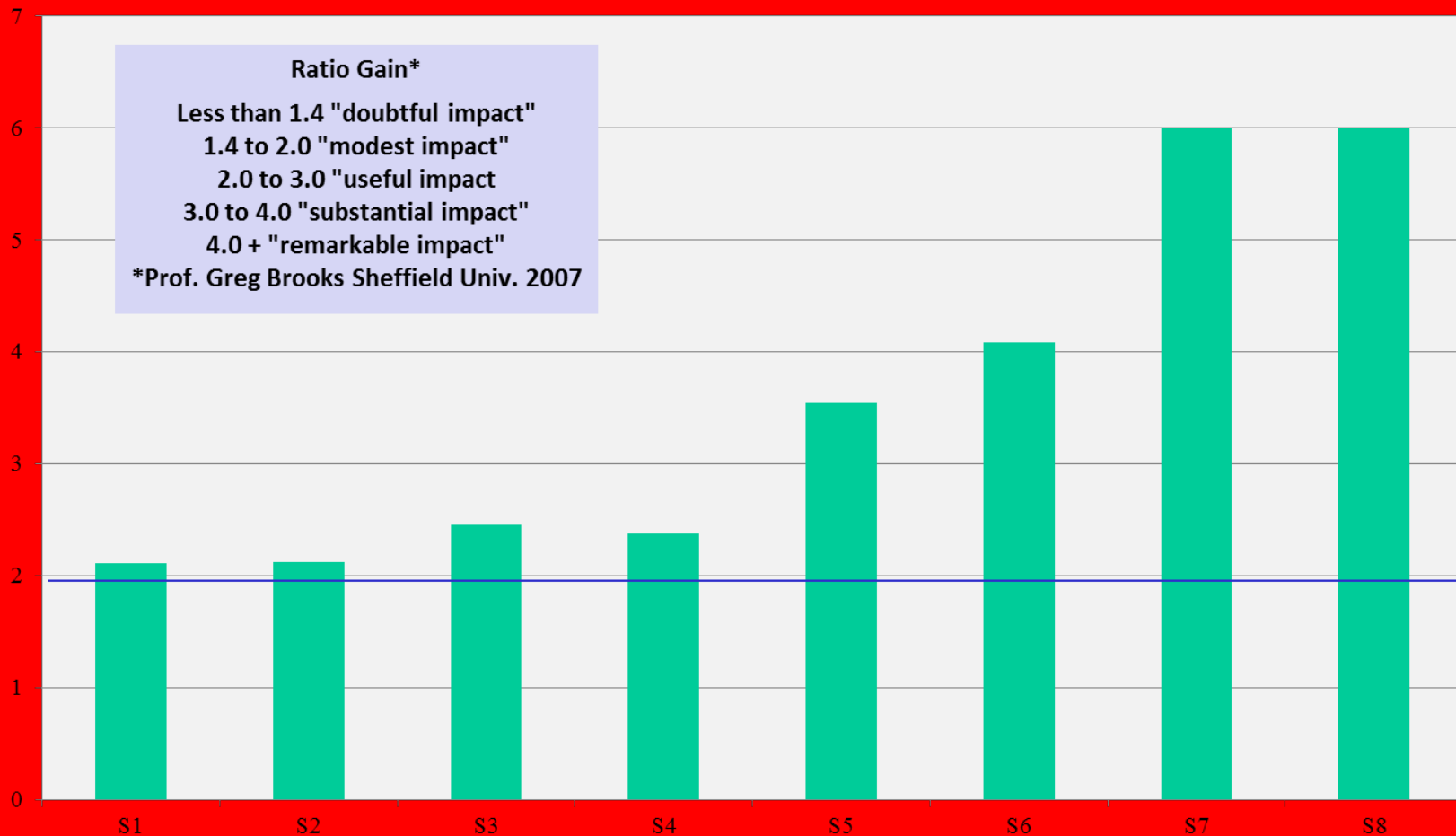
Toe by Toe

Karoo Primary School, Melbourne - Toe by Toe Grade 5 Students' Progress



Toe by Toe

Karoo Primary School, Melbourne - Toe by Toe Grade 6 Students' Progress







Toe by Toe

‘Tackling reading underachievement through peer-tutoring of the Toe-by-Toe phonic scheme: A case study’

Lynda M. Clark - School of Education, University of Canterbury, U.K. 2014

“A research project aimed to investigate the value of using peer-tutoring of a phonics scheme; *Toe-by-Toe*, to tackle the reading underachievement of pupils”

Key to shaded boxes for the following two slides...

	Reading-age below nine years old (threshold to be considered functionally literate)
	Reading-age just above nine years old (from nine years to nine years five months inclusive)
	Reading-age at least nine years six months but below child's chronological-age
	Reading-age at least nine years six months and equal to / greater than child's chronological-age



Intervention B - Year 5 - Results

Pupil	Pre-intervention			Post-intervention			Progress		
	Actual Age	Raw Score	Reading Age	Actual Age	Raw Score	Reading Age	Reading Age Difference (Months)	Time taken (Months)	Ratio gain
A	10yr 1m	42	7yr 7m	10yr 9m	99	13yr 1m	+66	8	8.3
B	9yr 3m	45	7yr 10m	9yr 10m	96	12yr 10m	+60	7	8.6
C	9yr 5m	42	7yr 7m	10yr 2m	72	10yr 4m*	+33	9+*	3.6
D	9yr 5m	31	6yr 9m	10yr 2m	61	9yr 3m*	+30	9+*	3.3
E	9yr 2m	48	8yr 1m	9yr 11m	82	11yr 5m	+40	9	4.4
F	9yr 8m	48	8yr 1m	10yr 5m	82	11yr 5m	+40	9	4.4
G	9yr 1m	34	7yr	9yr 10m	58	9yr*	+24	9+*	2.6
H	9yr 2m	28	6yr 8m	9yr 11m	58	9yr*	+28	9+*	3.1
I	9yr 5m	59	9yr 1m	9yr 11m	95	12yr 9m	+44	6	7.3
Median	9yr 5m	42	7yr 7m	9yr 11m	82	11yr 5m	+40m	9	4.4

* Pupils were involved in the scheme until the end of the school year, however they had not completed it by this point. Their data has been included in calculations of the median but, as they all had approximately one quarter of the scheme left to complete, the figures currently presented for their post-intervention reading-age and the length of time they had spent working on the scheme might be expected to change in future. Data is rounded to the nearest month / one decimal place where appropriate.



Toe by Toe

Intervention A - Year 6 – Results									
Pupil	Pre-intervention			Post-intervention			Progress		
	Actual Age	Raw Score	Reading Age	Actual Age	Raw Score	Reading Age	Reading Age Difference (Months)	Time taken (Months)	Ratio gain
A	(10yr 6m)	(26)	(6yr 6m)	-	-	-	-	(4)	-
B	10yr 4m	50	8yr 3m	11yr 1m	70	10yr 2m	+23	9	2.5
C	10yr 3m	57	8yr 10m	10yr 9m	69	10yr 1m	+ 15	6	2.5
D	10yr 5m	60	9yr 2m	10yr 11m	72	10yr 4m	+ 14	6	2.3
E	10yr 3m	61	9yr 3m	10yr 11m	78	11yr	+ 21	8	2.6
F	11yr 1m	88	12yr	11yr 6m	97	12yr 11m	+ 11	5	2.2
G	11yr 0m	71	10yr 3m	11yr 7m	88	12yr	+ 21	7	3.0
H	10yr 3m	62	9yr 4m	10yr 11m	82	11yr 5m	+ 25	8	3.1
I	(10yr 5m)	(54)	(8yr 7m)	(10yr 8m)	(62)	(9yr 4m)	(+ 9m)	(3)	(3.0)
J	10yr 10m	69	10yr 1m	11yr 5m	87	11yr 11m	+ 22m	7	3.1
Median	10yr 5m	62	9yr 4m	11yr	80	11yr 3m	+21m	7	2.6

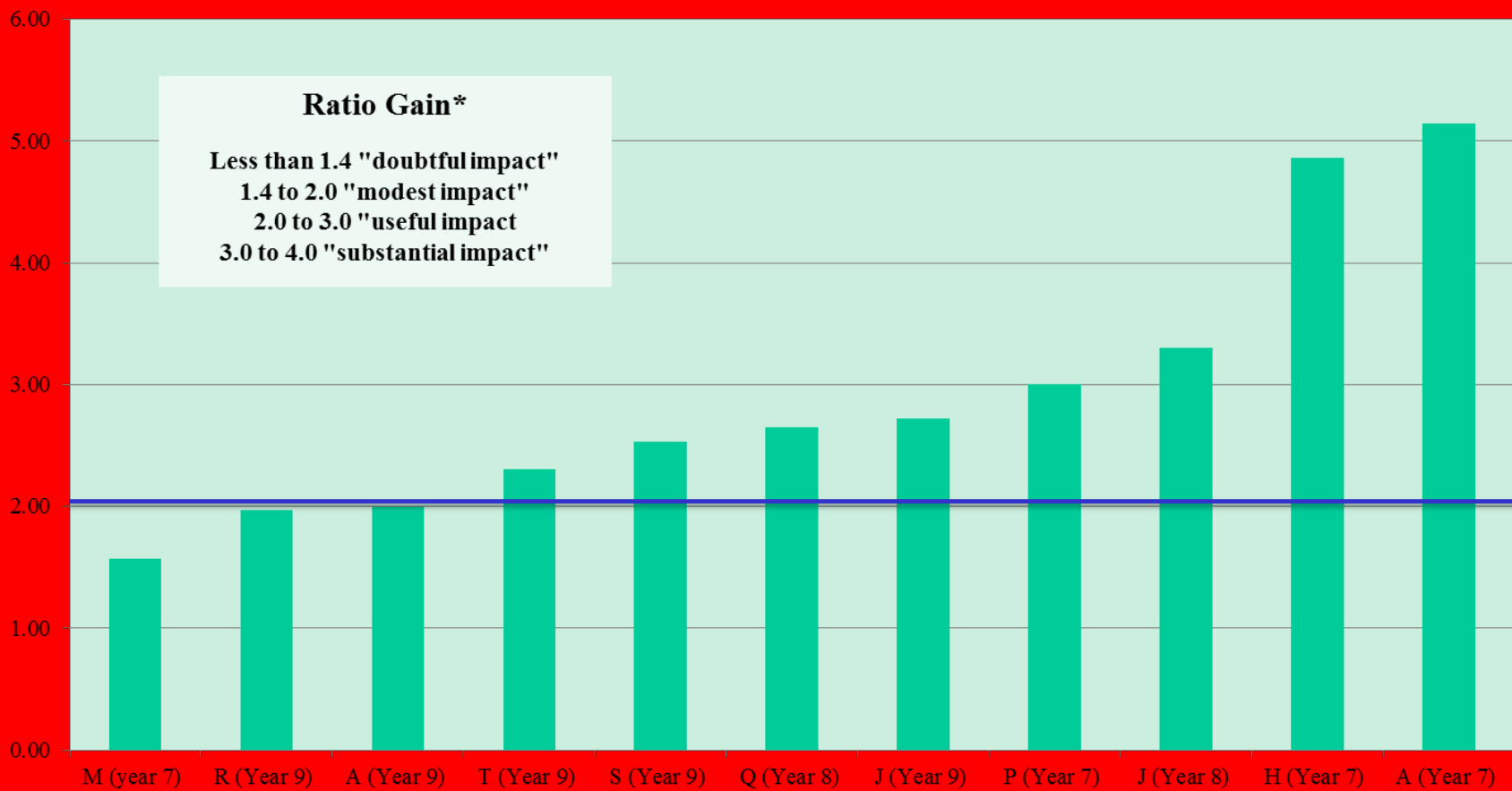
Data in brackets and italics (Pupils A and H) indicates that pupils left partway through the school year and before they had completed the scheme. The data that was available for these pupils has been reported in the table for the sake of transparency. It has not been included in calculations of the median in order to preserve the validity of findings. Data is rounded to the nearest month / one decimal place where appropriate.



Toe by Toe

Improvement in reading ages in terms of Ratio Gain* with the *Toe by Toe* 'buddy scheme' intervention at Hollyfield School in S.W. London

■ Ratio Gain



Toe by Toe

From the LANE report 2006:

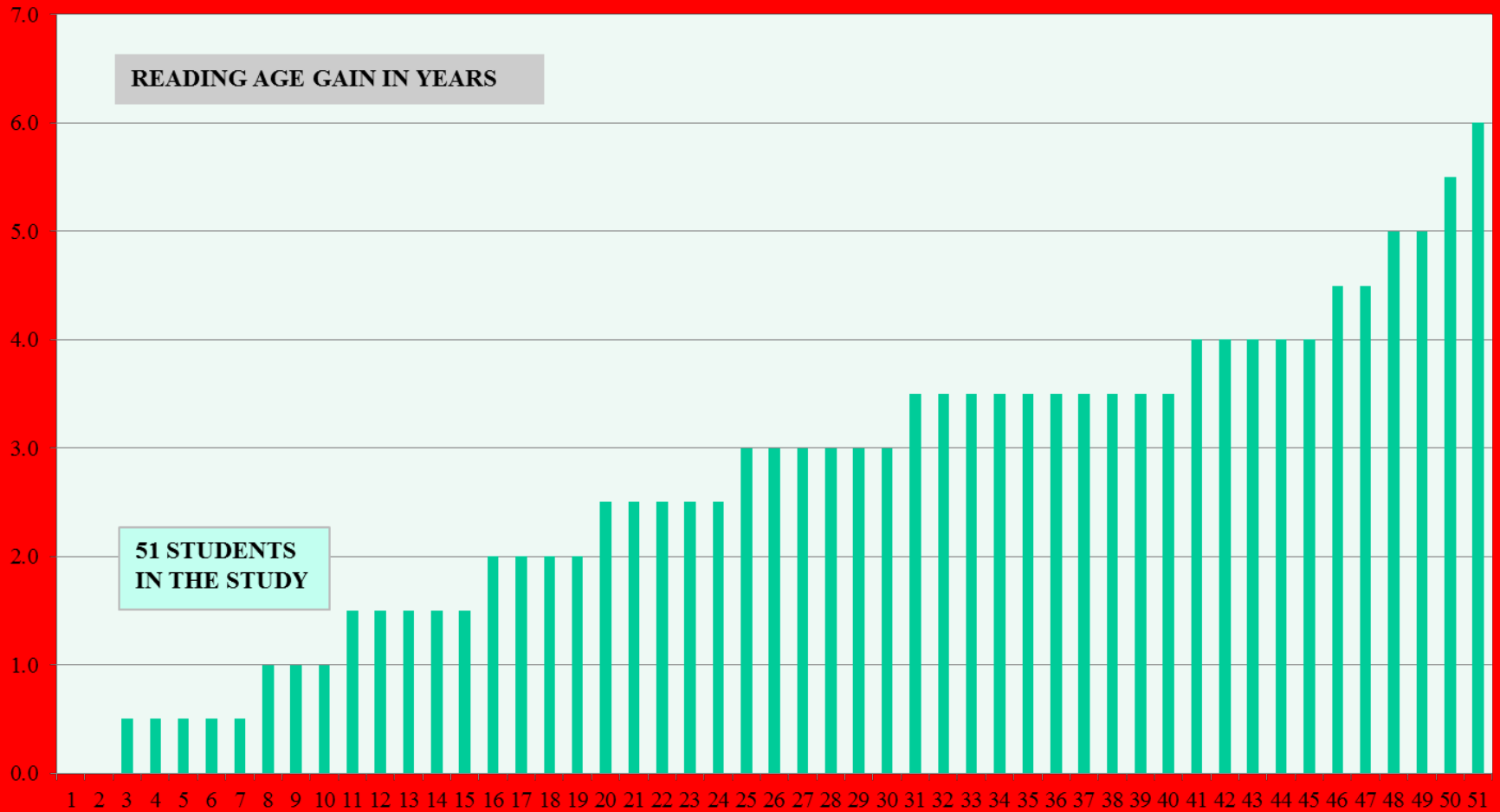
“In 2003, the Linwood College Resource Teacher of Learning and Behaviour (RTLB) returned from a conference with a little red book. She thought it might help a student who had been referred to her for difficult behaviour. He complained of reading difficulties and his tests showed he was almost able to comprehend at his age level but it took a painfully long time as he struggled to work out the words using the context. Not surprisingly, he hated reading and avoided it. He worked over the next 5 months with a tutor on the book, Toe by Toe, and his mother reported a changed boy; so did his teachers. He was engaged and no longer disruptive; he wanted to stay at school. He cheerfully extolled the virtues of Toe by Toe and was happy to recommend the programme to any possible candidates especially if they were dubious or unwilling”

Judy Hutchinson, RTLB teacher at Linwood College, Christchurch, New Zealand



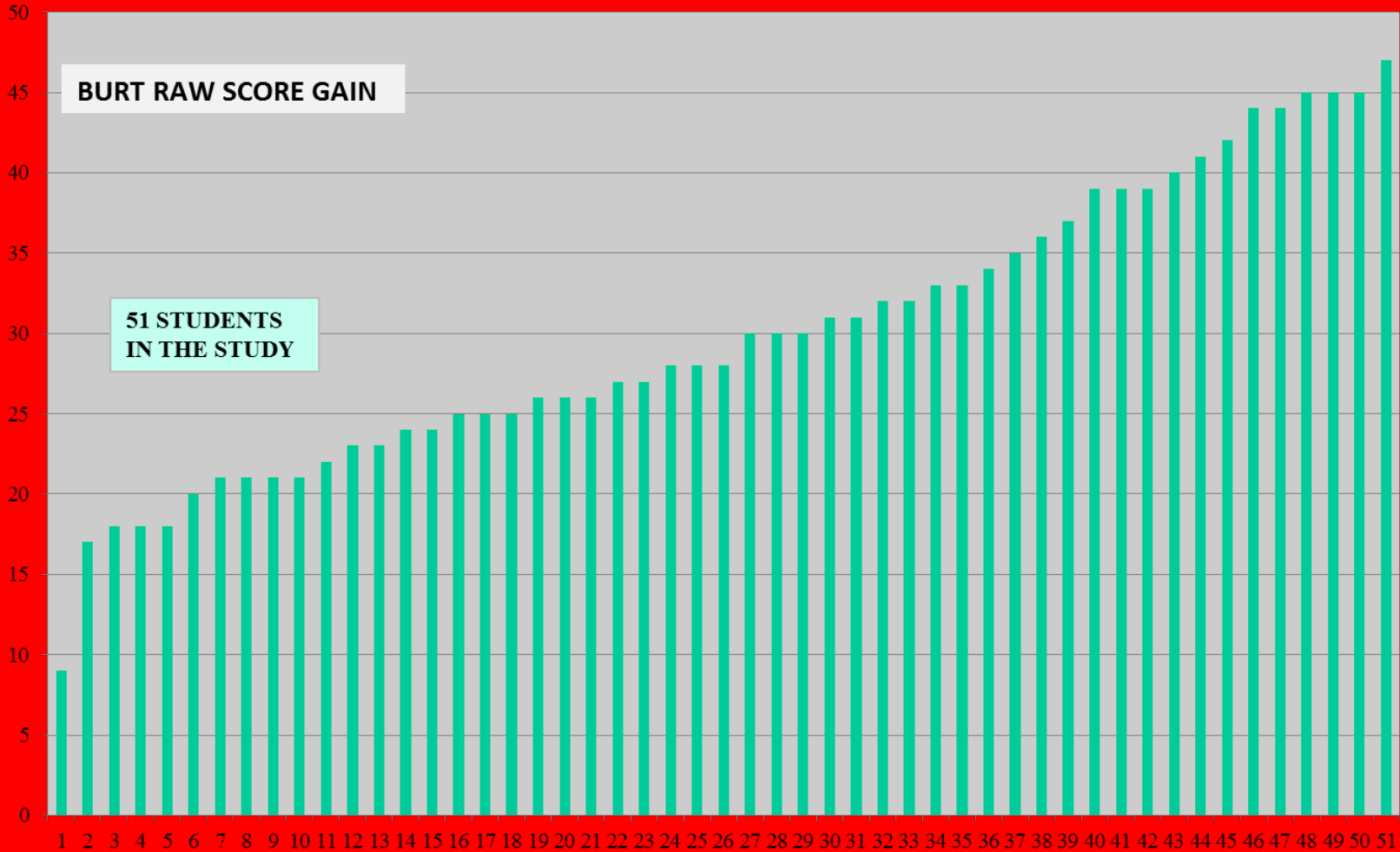
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PROBE READING COMPREHENSION ASSESSMENT RESULTS AT LINWOOD COLLEGE,



Toe by Toe

BURT RAW SCORE GAIN FOR 51 STUDENTS AT LINWOOD COLLEGE IN 2006



TBT Study in Ireland (Co Limerick) 2014 to 2015 (Word Attack) - Ed Psychologist
Diarmuid O'Rourke using Woodcock - Johnson III Tests of Achievement

