

Ratio Gain (RG)

The most effective way to establish if a reading or spelling intervention has been effective is to use ratio gains.

Many UK studies report results not in standard scores but in reading and spelling ages, from which ratio gains can be calculated in order to evaluate the effectiveness of the intervention.

Ratio gain is the gain in reading (or spelling) age made by a group during a chronological time span, expressed as a ratio of that time span (Topping & Lindsay, 1992).

For example:

If a child has a reading age of 7:04 years at the start of an intervention and after 10 weeks (that is 2 ½ months) he ends with a reading age of 8:00 years he has made progress of 8 months in this 2 ½ month period. On the face of this it looks very good, but how good is it? We can calculate this by finding out the ratio gain.

RG = months gain divided by time in months.

In this case it would be:

$$\frac{8 \text{ months}}{2 \frac{1}{2} \text{ months}} = \text{RG of } 3.2$$

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).

In the case above the child's progress has been of '**substantial impact**'

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**.

NB

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.

Based on Dr Singleton's *Interventions for Dyslexia* report, pages 29 – 30 taken from the Rose review P.178