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# Helen Stringer

In this month's instalment **Helen Stringer** looks at critically appraising what we read

## Evaluating the written evidence

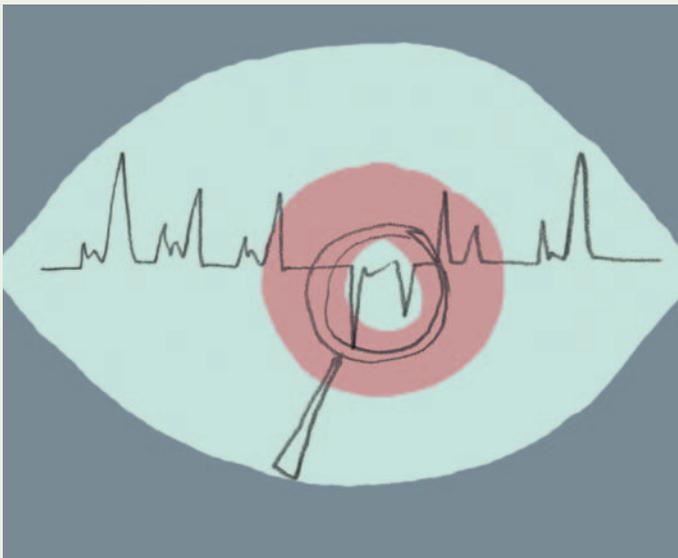


ILLUSTRATION Celia Clarke

Once you have found the literature that may provide an answer to your evidence-based practice question, the next step is to read it. It is tempting to read a paper quickly to get a flavour of it and pick out the main messages from the abstract and the discussion. However, this can lead to the authors' conclusions misleading you about the effectiveness of an intervention because it is not fully supported by the data.

Findings may be overstated in the discussion and the abstract may contain an account of what the researchers wanted to find, not what they actually

*“It is important to read literature through scientific eyes: be systematic, be objective and be critical”*

did find. Up to 68% of abstracts in major medical journals contain information that is not verifiable in the main body of the paper (Pitkin et al, 1999).

We have no evidence to suggest that abstracts in speech and language therapy journals are any more accurate. It is important, therefore, to read literature through scientific eyes: be systematic, be objective and be critical.

### Critical appraisal

Critical appraisal is a systematic way of considering the truthfulness of a piece of research, the results and how relevant and applicable they are (Bury and Mead, 1998). Reading a paper critically helps to ensure a thorough assessment of all aspects of the research; encourage the implementation of effective interventions in practice; stimulate a greater appreciation of the contribution of research to the generation of knowledge; and improve our understanding of research methodology.

Depending upon how confident you are in your knowledge of research methodology and statistics you may need to visit the library for reference books at this point. When assessing a piece of research we need to consider quality of each of the following components: the question, design, sample, measures, data collection, data analysis, discussion and the people who planned and carried out the research. Greenhalgh, in 'How to read a paper' (2010), suggests three basic questions to help orientate you to the research:

- What was the research question and why was the study needed?
- What was the research design?
- Was the research design appropriate to the question?

These are good questions to have in the forefront of your mind when reading any research; all of them should be answered by the time you have read the introduction and

method. Checklists aid the critical appraisal of literature are a useful tool. Some are fairly general, eg Bury and Mead 1998; some are specific to a research method, eg CASP; while others are specifically aimed at the speech and language therapy literature, eg Dollaghan (2008) and Reid (2010).

Using a checklist will help you to be objective and systematic and ensure each paper is appraised fairly without bias. It also helps you keep a record of your findings so you can summarise them into the answer to your original question. Some of the checklists recommend you do not read beyond the methodology if you consider it to be flawed. Indeed, poor methodology may render all of the stated findings so unreliable as to be useless. It is interesting to reflect on the number of papers that deserve not to be read past the introduction and methodology.

### CPD activity

For each of the papers you found in your literature search: find out which methodology (research design) they have used; find a critical appraisal checklist to match it from the websites and books in this month's online resources and answer the questions. **Test your knowledge:** Why is judging the methodology possibly the most crucial part of critical appraisal? **Reflection:** After you have finished critically appraising a paper, would you write the same abstract as the author did? ■

☉ For web links, references and more information about this month's topic visit: [www.rcslt.org/members/research/intro](http://www.rcslt.org/members/research/intro)

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