Abstracts

The abstract, although it heads the article, is often written last, together with the title. This is partly because writers know what they have achieved, and partly because it is not easy to write an abstract. Abstracts have to summarise what has been done, sometimes in as few as 150 words.

It is easier to write an abstract if you remember that all abstracts have a basic structure. Indeed, the phrase 'structured abstracts' says it all. This kind of abstract, common in medical research journals and now appearing in many social science articles, can be adapted for most normal purposes.

STRUCTURED ABSTRACTS

Structured abstracts are typically written using five sub-headings – 'background', 'aim', 'method', 'results' and 'conclusions'. Sometimes the wording of these sub-headings varies a little – 'objectives' for 'aim', for example, but the meaning is much the same.

Structured abstracts were introduced into medical research journals in the 1980s. Since then they have been widely used in medicine and other areas of research (Nakayama *et al.*, 2005). In 2004, I published a narrative review of their effectiveness based upon thirty-one research papers available at that time (Hartley, 2004). I concluded that, compared with traditional abstracts, structured abstracts:

- contained more information
- were easier to read
- were easier to search
- facilitated peer review for conferences
- were generally welcomed by readers and by authors.

Figure 2.3.1a below shows a typical structured abstract. Figure 2.3.1b shows the same abstract written with the sub-headings removed. It can be seen that both abstracts are clear, and so it is useful to write an abstract in

Background. In 1997 four journals published by the British Psychological Society began publishing structured abstracts.

Aims. The aim of the studies reported here was to assess the effects of these structured abstracts by comparing them with original versions written in a traditional, unstructured format.

Method. The authors of the articles accepted for publication in the four journals were asked to supply copies of their traditional abstracts (written when the paper was submitted for publication) together with copies of their structured abstracts requested by the editor when their paper was accepted. Forty-eight such requests were made, and thirty pairs of abstracts were obtained. The abstracts were then compared on a number of measures.

Results. Analysis showed that the structured abstracts were significantly more readable, significantly longer and significantly more informative than the traditional ones. Judges assessed the contents of the structured abstracts more quickly and with significantly less difficulty than they did the traditional ones. Almost every respondent expressed positive attitudes to structured abstracts.

Conclusions. The structured abstracts fared significantly better than the traditional ones on every measure used in this enquiry. We recommend, therefore, that editors of other journals in the social sciences consider adopting structured abstracts.

Figure 2.3.1a An original abstract in structured form.

a structured form first, and then to adjust it for the journal you are writing for if this journal does not use them.

Figures 2.3.1a and b illustrate some of the virtues of structured abstracts. Using the sub-headings and the appropriately spaced typographical layout makes the content clearer (Hartley and Betts, 2007). Furthermore, structured abstracts are easier for readers to scan, as every abstract follows the same format. The sub-headings thus allow the readers to go to the same place each time in an abstract to find out what it says. Furthermore, as the information required has to be provided by the author under each sub-heading, nothing gets missed out. With traditional abstracts, it is all too common to find that some elements are missing – the background, the method or the results, for example. Often one is left saying, 'So, what happened?' or 'So what?'.

In 1997 four journals published by the British Psychological Society began publishing structured abstracts. The aim of the studies reported here was to assess the effects of these structured abstracts by comparing them with original versions written in a traditional, unstructured format. The authors of the articles accepted for publication in the four journals were asked to supply copies of their traditional abstracts (written when the paper was submitted for publication) together with copies of their structured abstracts requested by the editor when their paper was accepted. Forty-eight such requests were made and thirty pairs of abstracts were obtained. The abstracts were then compared on a number of measures. Analysis showed that the structured abstracts were significantly more readable, significantly longer and significantly more informative than the traditional ones. Judges assessed the contents of the structured abstracts more quickly and with significantly less difficulty than they did the traditional ones. Almost every respondent expressed positive attitudes to structured abstracts. In short, the structured abstracts fared significantly better than the traditional ones on every measure used in this enquiry. We recommend, therefore, that editors of other journals in the social sciences consider adopting structured abstracts.

Figure 2.3.1b The same abstract in unstructured form.

Many people think that structured abstracts are only suitable for empirical papers – those with 'methods' and 'results'. As one of my correspondents put it:

> It seems to me that the format you have chosen imposes a unitary conception of research, at a time when educational research in particular, and social science more widely, has at last broken away from narrow strictures of method and procedure.

However, I believe that the underlying characteristics of a structured abstract can apply to many other forms of enquiry. Figure 2.3.2a, for example, shows an original abstract written to accompany a review paper. Figure 2.3.2b shows a revision of it that, in my view, makes the background, aims and conclusions of the study more explicit.

Bayley and Eldredge (2003) provide references to a variety of papers in the health sciences that have structured abstracts. These include qualitative studies, narrative reviews, systematic reviews, meta-analyses and randomised controlled trials. Table 2.3.1 similarly lists some more recent papers in the

There is something of a controversy taking place over how best to theorise human learning. In this article we join the debate over the relationships between sociocultural and constructive perspectives on learning. These two perspectives differ in not just their conceptions of knowledge (epistemological assumptions) but also in their assumptions about the known world and the knowing human (ontological assumptions). We articulate in this article six themes of a nondualist ontology seen at work in the sociocultural perspective, and suggest a reconciliation of the two. We propose that learning involves becoming a member of a community, constructing knowledge of various levels of expertise as a participant, but also taking a stand on the culture of one's community in an effort to take up and overcome the estrangement and division that are consequences of participation. Learning entails transformation of both the person and the social world. We explore the implications of this view for thinking about schooling and for the conduct of educational research.

Figure 2.3.2a An original abstract for a review paper.

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health and social sciences that have used structured abstracts with a variety of research methods.

After the title, the abstract is the most frequently read part of any paper. Writing it in a structured format (with or without the headings) ensures that it is informative and complete.

Table 2.3.1 Examples of studies with structured abstracts published in the health and social sciences

Method	Example
Literature review	Mayhew and Simpson (2002)
Observational study	Lauth *et al.* (2006)
Survey	Wilding and Andrews (2006)
Longitudinal study	Flouri (2006)
Statistical paper	Prosser and Trigwell (2006)
Simulation	Wright (2006)
Experimental study	Clariana and Koul (2006)
Epidemiological study	Evans (2000)
Meta-analysis	Bunn *et al.* (2006)
Systematic review	Duperrex *et al.* (2006)
Qualitative study	Maliski *et al.* (2002)

Background. An interesting debate is currently taking place among proponents of different ways of thinking about human learning. In this article we focus on that portion of the debate that addresses sociological and constructive perspectives on learning. These two perspectives differ in not just their conceptions of knowledge (epistemological assumptions) but also in their assumptions about the known world and the knowing human (ontological assumptions).

Aims and approach. We wish to try and reconcile these two different approaches first by examining the ontological assumptions of them both. We then consider six key themes of a nondualist ontology seen at work in the sociocultural perspective. Finally we propose that the constructive perspective attends to epistemological structures and processes which the sociological perspective must place in a broader historical and cultural context.

Conclusions. We conclude that learning involves becoming a member of a community, constructing knowledge of various levels of expertise as a participant, and taking a stand on the culture of one's community in an effort to take up and overcome the estrangement and division that are consequences of participation. Learning entails transformation of both the personal and the social world. We explore the implications of this view for thinking about schooling and the conduct of educational research.

Figure 2.3.2b The same abstract in structured form.

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