

Good Writing Practice

Inter-sentence discontinuity 1

Omission



Introduction

Conceptual component omission is a distraction to a content expert who expects specific argumentative conceptual components in the various sections of a journal article. As evidence, some of the components have become standardised in structured abstracts of many journals. In a structured abstract, the conceptual components are listed as subheadings, ensuring that the components are addressed. In a section of a journal article (e.g., Introduction) omission of an anticipated conceptual component (e.g., research problem) is more distracting than its misplacement into another section. However, both convey a nonprofessional tone.

In this first of two articles on inter-sentence discontinuity, we look at two examples of omitted conceptual components: Part 1, Research

Problem; Part 2, Hypothesis Justification, both of which are anticipated in an Introduction section.

Part 1 – Research Problem Omission

Example: Introduction section

Weight-bearing is one neuro-developmental treatment (NDT) principle usually applied by therapists before or in preparation for a functional activity. This treatment principle has been based on the assumption that weight-bearing facilitates development of muscle tone. Consequently, the purpose of this current study was to determine the effect of weight-bearing on hand-opening in children with cerebral palsy.

In this example, the first sentence describes the pertinent research problem background; the

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second, the research problem; and the third, the research objective. However, the research problem is not stated.

Revision

*Weight-bearing is one neuro-developmental treatment (NDT) principle usually applied by therapists before or in preparation for a functional activity. This treatment has been based on the assumption that weight-bearing facilitates development of muscle tone. **However, no systematic study justifying this assumption has been reported.** Consequently, the purpose of this current study was to determine the effect of weight bearing on hand-opening in children with cerebral palsy.*

Notes

In an Introduction section, what conceptual component(s) occur after the Research Problem pertinent background? In the Example, the Research Problem (i.e., the reason for undertaking the research) is omitted. Such omission is not uncommon for this important component. Authors often do so thinking that the background is sufficient, probably adding the conceptual component in their own minds but not in their writing. Also absent is the Hypothesis Justification and the Hypothesis.

Part 2 – Hypothesis justification omission

Example: Introduction section

The anterior pituitary gland consists of six cell types, each producing a unique hormone. However, the mechanism of cellular differentiation for anterior gland cells remains unclear. Consequently, it was hypothesised that transcription factors affect the fate of a cell. To test this

hypothesis, the function of each of these factors was determined by adding and removing transcription factors in separate trials.

In this example, the research problem pertinent background, research problem, hypothesis, objective, and experimental approach are stated, but the hypothesis justification is omitted.

Revision

The anterior pituitary gland consists of six cell types, each producing a unique hormone. However, the mechanism of cellular differentiation for anterior gland cells remains unclear. The recent indirectly supported involvement of transcription factors indicates their function in differentiation (reference). Consequently, it was hypothesised that transcription factors affect the fate of a cell. To test this hypothesis, the function of each of these factors was determined by adding and removing transcription factors in separate trials.

Notes

In the Revision, the addition of the hypothesis justification conveys systematic thinking by the author, fulfilling a reader's expectations. The anticipated conceptual components in each of the standard sections of the journal article are summarised in Table 1.

A third example (not shown) lacks all of the argumentative components (i.e., research problem, hypothesis justification, hypothesis). Such an argument-free Introduction is probably a consequence of extensive background information (not a focused Research Problem Pertinent Background), whereby the author mistakenly feels justified to transition from such background to the Research Objective. However, on close examination, such a background often lacks the argumentative components that justified undertaking the research.

Summary

Of all the conceptual components in a journal article, those in the Introduction section are more

likely to be omitted because an extensive background obscures the omission. The conceptual components particularly susceptible are those constituting the argument underlying the impetus for the research: Research problem pertinent background, research problem, hypothesis justification, hypothesis. In contrast, the objective and experimental approach are rarely absent.

Taking a systematic approach to writing the Introduction section of a journal article is a useful way to avoid omitting conceptual information, which is probably obvious to the author but not the reader.

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Table 1. Sections of a journal article: Anticipated conceptual components

Introduction	Materials and Methods	Results	Discussion
Research problem pertinent background ¹	Method 1 (embedded materials)	Data Set 1 Results orientation (accomplished as a subheading)	Hypothesis support (experimental results + literature)
Research problem ²	Method 2 (embedded materials)	Data verbalisation ⁵	Limitation + counterargument + recommendation for resolving the limitations
Hypothesis justification ³		Data reliability	Conclusion ⁸ + consequence
Hypothesis ⁴		Data interrelation ⁶ (observation, trend, comparison)	
Objective		Data preliminary interpretation ⁷	
Experimental approach		Data Set 2 (same as above)	

1. Research problem pertinent background – Information for understanding the problem. What is known as a prologue to what is not known; what is known could be preceded by the subordinating conjunction *although*.
2. Research problem – Nature of the problem: Gap in knowledge. Insufficient clarity of existing knowledge.
3. Hypothesis justification – Why the hypothesis was plausible. The most argumentative component of the Introduction. A before-the-fact perspective that justifies the hypothesis, consisting of published results, theoretical argument, and possibly a preliminary experiment.
4. Hypothesis – The cause of, or an approach for, resolving the research problem. The salient component of the scientific method. A hypothesis is general compared to an objective (e.g., the *objective of this study was to test the effect of specific hormones on inhibition of orthodontically induced tooth movement, thereby, testing the hypothesis that hormone inhibition is involved in the orthodontic process.*)
5. Data Verbalisation – A transliteration of the data (e.g., values) into a different structural form, that is, foreign language into English text (the verbalisation).
6. Data Interrelation – An observation, trend, comparison based on the data, representing the results.
7. Data preliminary interpretation – A level beyond data interrelation but short of an inference.
8. Conclusion – Pertinent to the hypothesis, not an equivalent of *in summary*.