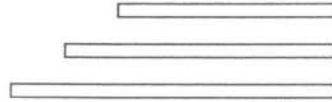# 9

ABSTRACT

OVERVIEW

The last major section of the experimental research report we look at is the **abstract**. As you know, the abstract is actually the *first* section of a report, coming after the title and before the introduction. The abstract provides the reader with a brief preview of your study based on information from the other sections of the report. We have reserved our examination of the abstract for the last chapter because it is often the last part of the report to be written.
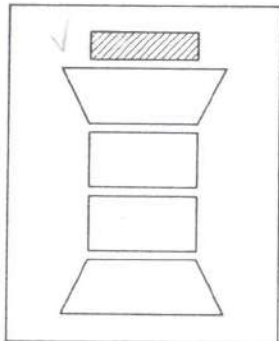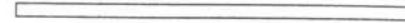

FIGURE 9.1 Abstract.

INFORMATION CONVENTIONS

Many readers depend on the abstract to give them enough information about the study to decide if they will read the entire report or not.

Read the following sample abstract from the field of computer science. It reports on a test of a voice recognition device designed to take dictation. Notice the kinds of information included and the order in which the information is presented.

COMPOSING LETTERS WITH A SIMULATED LISTENING TYPEWRITER

background

Abstract. [1]With a listening typewriter, what an author says would be automatically recognized and displayed in front of him or her. [2]However, speech recognition is not yet advanced enough to pro-

purpose

vide people with a reliable listening typewriter. [3]An aim of our experiments was to determine if an imperfect listening typewriter would be useful for composing letters. [4]Participants dictated letters,

method

either in isolated words or in consecutive word speech. [5]They did this with simulations of listening typewriters that recognized either a limited vocabulary or an unlimited vocabulary. [6]Results indicated

results

that some versions, even upon first using them, were at least as good as traditional methods of handwriting and dictating. [7]Iso-

conclusion

lated word speech with large vocabularies may provide the basis for a useful listening typewriter.

WHAT HAVE YOU OBSERVED?

1. What was the principal activity of this research project?
2. Why are the five information elements in the preceding abstract ordered in this particular way?
3. Which sentences could be eliminated from this abstract without losing critical information about the study?

Ordering Your Information

Abstracts from almost all fields of study are written in a very similar way. The types of information included and their order are very conventional. The box that follows shows the typical information format of an abstract.

ORDER OF TYPICAL ELEMENTS INCLUDED
IN AN ABSTRACT

B = some *background information*
P = the *principal activity* (or purpose) of the study and its scope
M = some information about the *methodology* used in the study
R = the most important *results* of the study
C = a statement of *conclusion* or *recommendation*

NOTE: In some publications this section is titled "summary." Check with your editor or professor to determine the appropriate title for you to use.

EXERCISE 9.1   Analysis

Read the following abstract carefully. It is taken from the child psychology study that we saw in Chapter 8. Identify the sentences in the abstract that correspond to the elements *B, P, M, R,* and *C* in the preceding box.

TYPE A BEHAVIORS BY CHILDREN, SOCIAL COMPARISON, AND STANDARDS FOR SELF-EVALUATION

Abstract. [1]Type A behavior, an established risk factor for coronary heart disease, is characterized by extremes of competitive achievement striving, impatience, hostility, and aggression. [2]As part of an effort to understand the origins of this behavior pattern, the present study assessed the impact of performance standards on the social behavior of Type A and Type B children. [3]Children performed a five-trial task. [4]Half were given an explicit standard with which to compare their own performance; half were given no standard. [5]After 5 trials, all subjects were informed that their total score represented the middle score of the whole group and were asked to select one score for further comparison. [6]Results showed no significant differences among groups on the frequency of comparison. [7]In contrast, the results did show that regardless of the presence or absence of an explicit standard, Type A children chose to evaluate their performance against the top score, whereas Type B children chose to do so only in the absence of an explicit standard. [8]The implications of these results for understanding the childhood antecedents of Type A behavior are discussed.

B = Sentence(s) _____

P = Sentence(s) _____

M = Sentence(s) _____

R = Sentence(s) _____

C = Sentence(s) _____

Reducing the Abstract

Abstracts are usually written to be as brief and concise as possible. For journal articles the editor often establishes a word limit for the abstract that authors cannot exceed. In order to shorten an abstract to satisfy such limitations, you can eliminate or combine much of the information shown in the previous box.

The reduced abstract typically focuses on only two or three elements, with the emphasis placed on the *results* of the study. Information concerning the purpose and method is presented first (background information is not included). Then the most important results are summarized. Finally, conclusions and recommendations may be included in one or two sentences.

ORDER OF INFORMATION ELEMENTS
IN REDUCED ABSTRACTS

P + M = purpose and method of the study
R = results
C = conclusions and recommendations*

*optional

Verb Tenses in the Abstract

The verb tenses used in writing sentences in the abstract are directly related to those you used in the corresponding sections earlier in your report. For example, background (*B*) sentences in the abstract are similar to background sentences in Stage I of the Introduction: They both are written in the *present tense*.

ABSTRACT: Verb Tenses

B   Background information (present tense)

EXAMPLE: One of the basic principles of communication *is* that the message should be understood by the intended audience.

P   Principal activity (past tense/present perfect tense)

EXAMPLE: In this study the readability of tax booklets from nine states *was evaluated*.

EXAMPLE: Net energy analyses *have been carried out* for eight trajectories which convert energy source into heated domestic water.

M   Methodology (past tense)

EXAMPLE: Children *performed* a 5-trial task.

R   Results (past tense)

EXAMPLE: Older workers *surpassed* younger ones in both speed and skill jobs.

C   Conclusions (present tense/tentative verbs/modal auxiliaries)

EXAMPLE: The results *suggest* that the presence of unique sets of industry factors *can be used* to explain variation in economic growth.

EXERCISE 9.6   Identification

Read the following abstract from a civil engineering study about a test of an experimental type of pavement construction. Underline each present tense verb once, each past tense verb twice, and draw a circle around any modal auxiliaries you find.

MODEL STUDY OF ANCHORED PAVEMENT

Abstract. [1]Roadways constructed of conventional pavement are subject to deformations after prolonged use. [2]A laboratory model study of an anchored pavement was carried out. [3]The objective of the study was to investigate construction problems and to develop specifications for a full-scale test. [4]The study compared 1/20-scale anchored pavement and conventional slabs of similar dimensions. [5]The model test results were compared with results from finite-element analysis. [6]The deformations were lower for the anchored pavement compared with those for the conventional slab, and stresses in the soil were reduced and distributed more widely by rigid anchors. [7]These findings indicate that an anchored slab offers distinct advantages over a conventional slab. [8]The ANSYS computer program could be used to analyze such a soil-structure system, incorporating the environmental and mechanical effects.

EXERCISE 9.7   Fill-in

The same abstract from the civil engineering report about pavement is given again here. This time, fill in each blank space with an appropriate verb or auxiliary. Do not look back at the original selection until you have finished.

MODEL STUDY OF ANCHORED PAVEMENT

[1]Roadways constructed of conventional pavement _____ subject to deformations after prolonged use. [2]A

Task 1. Read the following abstracts. Identify their format and analyze language conventions. Are these abstracts concise enough? Do all of them show typical information format? Are verb tenses used appropriately?

A. This paper aims to illustrate what discourse analysis is and how it can contribute to our understanding of family practice. Firstly, we describe what 'discourse analysis' is, mapping the discourse analysis terrain by discussing four studies relevant to primary care to illustrate different methodological approaches and key concepts. We then address the practicalities of how to actually do discourse analysis, providing readers with a worked example using one particular approach. Thirdly, we touch on some common debates about discursive research. We conclude by advocating that researchers and practitioners take up the challenge of understanding, utilizing and extending the field of discourse studies within family practice.

Keywords: Discourse analysis, family practice, methodology, primary health care, qualitative research

B. This study intends to determine the invariant/core meanings of verbs and particles in isolation and see how these meanings motivate the distribution of messages in English phrasal verbs. It also aims to see if the exposure to the core meanings of the individual items that make up a phrasal verb (i.e. verb and particle) helps Malaysian learners to use phrasal verbs appropriately in English writings. The linguistic data were extracted from the BNC corpus. Tobin (1990)'s concept of invariant meaning and Lakoff & Johnson (1980)'s notion of Conceptual Metaphor were used to determine the core meanings of the verbs and particles. The analyses showed that the identification of single invariant meaning of the verbs and particles is important as they contribute to the realisation of different senses of phrasal verbs. These invariant meanings were then applied as treatment with fifteen students in the experimental group whereas another group of fifteen students which was assigned as the control group was engaged into traditional instruction by providing the meanings of the phrasal verbs extracted from the Oxford Phrasal Verbs Dictionary. The inferential analyses through paired samples t-test and independent samples t-test for the taught items indicate that although both groups performed significantly better in post-tests compared to pre-tests, the experimental group which received the semantic-based explicit (verbs and particles in phrasal verbs) instruction outperformed (significantly) the control group which received traditional instruction.

Keywords: Phrasal Verbs, Invariant Meaning, Conceptual Metaphor, Semantic-Based Instruction, Linguistic Sign, Cognitive Semantics.