

Teaching and Researching Reading

William Grabe
and Fredricka L. Stoller

Second Edition

Applied Linguistics in Action Series

Edited by Christopher N. Candlin & David R. Hall



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Contents

<i>General editors' preface</i>	viii
<i>Publisher's acknowledgements</i>	x
<i>Authors' acknowledgements and dedication</i>	xi
<i>Introduction to the second edition</i>	xii

Section I: Understanding L2 reading	1
1 The nature of reading abilities	3
1.1 Purposes for reading	5
1.2 Defining fluent reading comprehension	11
1.3 Describing how reading works: Components of reading abilities	13
1.4 Synthesising research perspectives: Models of reading	24
1.5 Conclusion	31
2 Comparing L1 and L2 reading	34
2.1 Linguistic and processing differences between L1 and L2 readers	36
2.2 Individual and experiential differences between L1 and L2 readers	48
2.3 Socio-cultural and institutional differences influencing L1 and L2 reading development	52
2.4 Conclusion	55

Section II: Exploring research in reading	59
3 Key studies in L1 reading	61
3.1 Research studies as stories: An extended example	62
3.2 Ten more key research studies	68
3.3 Seeing the story structure of research studies	92
3.4 Conclusion	93
4 Key studies in L2 reading	95
4.1 Topics to explore in L2 reading research	96
4.2 Ten good stories from L2 reading research	99
4.3 Conclusion	124

Section III: Teaching reading using evidence-based practices	127
5 Teaching reading: Sound foundations and effective practices	129
5.1 Implications from reading research	130
5.2 Curricular principles for reading instruction	131
5.3 Moving from curricular principles to instructional applications	134
5.4 Conclusion	157

Section IV: Investigating reading through action research	161
6 The reading teacher as action researcher	163
6.1 Teachers investigating their own classrooms: 'How to' guidelines	166
6.2 Conclusion	192
7 Vocabulary, fluency and motivation: Action research projects	194
7.1 Vocabulary action research projects	196
7.2 Fluency action research projects	204
7.3 Motivation action research projects	211

7.4	Additional action research questions	216
7.5	Conclusion	218
8	Strategic reading, discourse organisation and main-idea comprehension: Action research projects	220
8.1	Strategic reading action research projects	221
8.2	Discourse organisation action research projects	229
8.3	Main-idea comprehension action research projects	237
8.4	Additional action research questions	243
8.5	Conclusion	245
9	Reading-lesson stages, reading materials and extensive reading: Action research projects	246
9.1	Reading-lesson stages action research projects	247
9.2	Reading materials action research projects	256
9.3	Extensive reading action research projects	265
9.4	Additional action research questions	269
9.5	Conclusion	271
Section V: Resources		273
10	Resources for exploring L2 reading	275
10.1	Journals dedicated to reading and related issues	275
10.2	Journals that report studies related to reading and reading-related topics	276
10.3	Journals that periodically have articles related to teaching (and researching) L2 reading	276
10.4	L2 teacher resource books on reading and related topics	277
10.5	L1 teacher resource books with good ideas for L2 reading teachers	279
10.6	Teacher resources on action research	280
10.7	Web sites on reading and vocabulary	281
10.8	Web sites on graphic organisers	282
10.9	Web sites on action research	282
10.10	Professional organisations of interest to reading teachers	283
	<i>Glossary</i>	284
	<i>References</i>	296
	<i>Subject index</i>	317
	<i>Author index</i>	320

General editors' preface

Applied Linguistics *in Action*, as its name suggests, is a series which focuses on the issues and challenges to teachers and researchers in a range of fields in Applied Linguistics and provides readers and users with the tools they need to carry out their own practice-related research.

The books in the series provide the reader with clear, up-to-date, accessible and authoritative accounts of their chosen field within Applied Linguistics. Starting from a map of the landscape of the field, each book provides information on its main ideas and concepts, competing issues and unsolved questions. From there, readers can explore a range of practical applications of research into those issues and questions, and then take up the challenge of undertaking their own research, guided by the detailed and explicit research guides provided. Finally, each book has a section which provides a rich array of resources, information sources and further reading, as well as a key to the principal concepts of the field.

Questions the books in this innovative series ask are those familiar to all teachers and researchers, whether very experienced, or new to the fields of Applied Linguistics.

- What does research tell us, what doesn't it tell us and what should it tell us about the field? How is the field mapped and landscaped? What is its geography?
- How has research been applied and what interesting research possibilities does practice raise? What are the issues we need to explore and explain?
- What are the key researchable topics that practitioners can undertake? How can the research be turned into practical action?
- Where are the important resources that teachers and researchers need? Who has the information? How can it be accessed?

Each book in the series has been carefully designed to be as accessible as possible, with built-in features to enable readers to find what they want quickly and to home in on the key issues and themes that concern them. The structure is to move from practice to theory and back to practice in a cycle of development of understanding of the field in question.

Each of the authors of books in the series is an acknowledged authority, able to bring broad knowledge and experience to engage teachers and researchers in following up their own ideas, working with them to build further on *their* own experience.

The first editions of books in this series have attracted widespread praise for their authorship, their design, and their content, and have been widely used to support practice and research. The success of the series, and the realisation that it needs to stay relevant in a world where new research is being conducted and published at a rapid rate, have prompted the commissioning of this second edition. This new edition has been thoroughly updated, with accounts of research that has appeared since the first edition and with the addition of other relevant additional material. We trust that students, teachers and researchers will continue to discover inspiration in these pages to underpin their own investigations.

Chris Candlin & David Hall
General Editors

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We'd like to dedicate this volume to our teacher, mentor,
and friend, who we miss so much: David E. Eskey.

Introduction to the second edition

In this introduction to the second edition of *Teaching and Researching Reading*, we begin by identifying the changes we made in this edition. We then situate the contents of the book with introductory comments about contexts of L2 reading, connections between reading research and reading instruction, and first- and second-language reading abilities. Finally, we provide an overview of the volume and its five major sections.

Writing a second edition

We are pleased to have been given the opportunity to write this second edition of *Teaching and Researching Reading*. In writing this new edition, we have thoroughly revised and updated the first edition. The first two chapters still provide the theoretical foundation for a description of reading abilities, but we have completely updated the research resources section and made some adjustments to our descriptions of reading. We are happy to say, however, that our explanation of reading theory provided in this second edition is essentially the same as that presented in the first edition. (It is good to know that our view of reading, articulated in our first edition ten years ago, continues to be firmly grounded in research in this second edition.) Our views on the relationship between first-language (L1) reading and second-language (L2) reading also remain essentially the same, although the notion that L2 reading involves a dual-language system has been sharpened. Chapters 3 and 4 are almost completely new: Chapter 3 comprises ten new exemplary L1 reading research studies; only the opening research ‘story’ remains from the first edition. Chapter 4 highlights exemplary L2 research studies and all ten studies are new to this second edition. It is worth noting that we still like the studies presented in the first edition

(and encourage readers to refer back to them), but the last decade has brought to light many new research studies that support our views on reading research and highlight important implications for instruction.

Chapter 5, a description of how to move from research implications to instructional applications, is totally new to this edition. The chapter outlines numerous teaching options that draw on evidence-based teaching practices; the teaching ideas and resources presented in the chapter can be adopted and adapted by teachers to enhance their reading instruction. We have felt, for some time now, that a chapter directly focusing on teaching applications was sorely missing from the first edition of the book, and Chapter 5 fills that gap in this edition.

Chapters 6–9 again introduce readers to action research and outline many reading-related action research projects that teachers can easily adapt for their own instructional contexts. We remain firmly committed to the idea that teachers benefit from examining their own teaching practices and their own students' learning in order to become more effective reading teachers. At the same time, these four chapters are all considerably revised. Most of the action research projects are brand new and those that have carried over from the first edition have been modified in substantive ways. And we have reorganised the presentation of the projects by grouping them into more meaningful clusters. The resources provided throughout (in the form of charts, tables, sample materials, checklists and so forth) are either new to the volume or they have been updated and greatly expanded. These resources can be used as guides for action research and, importantly, as additional teaching ideas that can be adapted by teachers for immediate use in their classrooms, whether they are engaging in action research or not. We feel that our revisions have greatly strengthened these chapters and we believe that teachers will profit from them in many ways. Finally, Chapter 10 provides fully updated resources, including many books, journal listings and Web sites that are new to this second edition.

The contexts of L2 reading

Ten years after the first edition, we can still report that approximately 80 per cent of the world's population are thought to be able to read. While numbers on such a large scale can be misleading, it is safe to say that the majority of humans are able to read in their first language at some basic level. An unknown percentage of these readers are also able to read, at varying ability levels, in one or more additional languages. The extent of basic literacy around the world should not be surprising because literacy (reading and writing, but here the focus is on reading) is seen as necessary

(but not sufficient) for improving earning potential and quality of life. At the same time, a bit of reflection reveals that reading, and literacy more generally, provides no special entry to a better standard of living. All we know is that without it, opportunities for improving one's life are limited. As we begin a new decade in the 21st century, productive and educated citizens will require even stronger literacy abilities (including both reading and writing) in an increasingly broad range of societal settings. Likewise, the age of technology growth is likely to make greater, rather than lesser, demands on people's reading abilities.

The role of reading in society is quite complex, so a few comments are needed to situate the role of reading and student learning. A major goal for many educational institutions around the world is to promote literacy abilities, and we often hear of efforts to eliminate illiteracy altogether. Many of us take this perspective for granted and seldom consider critically the role of literacy in societies around the world. In fact, the universal-eradication view is somewhat simplistic. Much as we would like to believe that all societies value the same educational goals, some people do not need literacy to function well in their societal contexts. Others achieve societal success with relatively minimal levels of literacy. Finally, literacy itself is not a singular notion that operates uniformly in all societies. There are many types of literacy abilities (e.g. reading, writing, reading and writing together, interpreting documents, integrating visual representations with prose text, working with multiple texts), much as there are many types of reading abilities and ways of reading. However, having made these comments, it is nevertheless true that the large majority of individuals need literacy to further their goals and better their lives.

Within this larger context, reading in L2 settings continues to take on increasing importance. The overwhelming majority of societies and countries around the world are multilingual, and citizens are expected to function well in more than one language. L2 reading ability, particularly with English as the L2, is already in great demand as English continues to spread, not only as a global language but also as the language of science, technology and advanced research. Many people in multilingual settings need to read in an L2 (and not only English as the L2) at reasonably high levels of proficiency to achieve personal, occupational and professional goals. But reading proficiency in an L2 does not develop as completely or as 'easily' as it apparently does in one's L1. Actually, the development of L1 reading also takes a considerable amount of time, and it is one of the primary goals of K–6 (Kindergarten through grade 6) education. As adults, we often overlook the intense time and resource commitments made by educational systems to teach L1 reading. Seldom are L2 students given as much time to develop strong reading abilities, despite similarly demanding expectations for success.

In fact, we actually know relatively little about how people become good L2 readers, but we do know that there are significant differences between

learning to read in L1 and L2 settings. It is also true that connections between research and reading instruction in L2 contexts are not as well supported for a variety of reasons. In some cases, there are too many diverse types of L2 learners to generalise from the limited number of existing studies that have been done well; in other cases, differing student L1s may limit general assertions from research; and, in yet other cases, great differences in L2 proficiency levels among student groups limit the generalisability of claims. Several of these issues in connecting research and teaching practice are explored throughout this volume.

Because there is not a single consensus view from L2 reading research, a major goal of this volume is to persuade teachers to carry out small-scale research projects on different aspects of reading that can strengthen the connection between research assertions and effective teaching practices. This building of linkages between research and teaching practices involves **action research**,¹ a form of teacher-initiated enquiry in which teachers look systematically and critically at their own classrooms to get an insider's view of the teaching and learning process. By means of action research, we can learn about our own teaching practices and improve student learning. The outcomes of action research can also influence more formal research, making the information flow a two-way enterprise.

Quote 1

A cornerstone of teacher research is that it is *pragmatic* and *action oriented*; that is, it involves reflecting on one's teaching and practice, inquiring about it, exploring it, and then taking action to improve or alter it. . . . We know from our own teacher research that engaging in classroom inquiry can transform an educator's views on teaching and learning.

Baumann and Duffy-Hester (2000, pp. 78, 80)

Reading research and reading instruction

The ability to benefit from formal research studies, and to inform research in turn (via action research), requires that we have a grasp of the

¹ Words or phrases that are printed in bold throughout the volume are defined in the glossary at the end of the book. In a number of cases, the terms in bold are not meant to be the key terms for the subsection, but only a cue to look at the glossary if more explanation is needed.

fundamental issues that motivate research into reading and its development. When we develop our concepts of what is important in reading research, we tend to create mental images of the overall reading process (something like a conceptual map of the ‘terrain’ of reading) into which we can incorporate new findings and assess the value of new claims. This sort of map is essential to understanding the competing assertions that are often made about reading and their implications for teaching. And it is such a map that we benefit from as we critically assess how students are learning and how students can learn more effectively through instructional innovations. The knowledge associated with these mental maps of the reading instruction territory offers us ways to evaluate the assertions made by others who may be engaged in curriculum planning, course design, materials development or adaptation projects. Thus, a second major goal of this volume is to help build a conceptual map of the reading research landscape and use this information for our own purposes.

The difficulty with building an effective concept map is that the field of reading has evolved remarkably in the past 25 years. The ways that reading is now examined in L1 settings are quite different from the standard assumptions of 25 years ago and, for some practitioners, different even from their beliefs 5–10 years ago. So we see this volume as filling a need to highlight the major issues and research findings of the past decade, mapping out the ‘territory’ of reading as it is currently understood by reading researchers. To do so, we describe reading and reading instruction in ways that may not be entirely familiar to some applied linguists and L2 teachers, but there are strong arguments for these views of reading and reading instruction. These perspectives, we believe, will help develop more informed instruction, greater teacher awareness, more meaningful teacher enquiry and more effective learning for L2 students.

A preliminary notion of reading abilities

Reading can be thought of as a way to draw information from a text and to form an interpretation of that information. However, this ‘definition’ does not really tell us much about what happens when we read and how we comprehend a text. Actually, as the first chapter of this book shows, reading comprehension is remarkably complex, involving many processing skills that are coordinated in very efficient combinations. Because we also read for different purposes, there are many ways to read a text, further complicating any definition. Seen in this light, the ability to read is a remarkable type of expertise that most humans develop; it is not generally well understood, nor is its development widely recognised for the significant cognitive achievement that it is. We hope that readers of this

volume will develop a greater respect for the expertise required with any sustained effort at reading comprehension. We also hope to share our fascination with research efforts, and associated instructional practices, that help clarify the abilities involved in reading comprehension and their development over time.

One of the logical places to begin a discussion of reading is to define this ability as it is used by the fluent L1 reader (as we do in Chapter 1). One needs to understand *skilled* reading in order to explore how it is learned and what can be done to teach such abilities to learners. The same logic applies equally well whether the goal is to understand how a person learns to read in his or her L1, or L2 or, for that matter, L3. And while the path of development and the rate of progress may vary for different L2 readers, the end goal of highly skilled fluent reading looks quite similar for both L1 and L2 learners when advanced expertise emerges. At the same time, many research studies, as well as teaching and teacher-training resources, highlight the difficulties involved in describing the nature of reading abilities and how they are learned. These difficulties reveal the need for all of us to develop our own investigative practices in our classrooms. A principled set of ways to observe and analyse student learning will help us understand competing research claims and draw conclusions that will make us all more effective teachers.

Overview of the volume

This volume, composed of five major sections, is intended to build connections between research and instruction as well as help teachers formulate important questions about student learning and teaching practices, and to do so with appropriate methods for classroom enquiry. The book is divided into these sections:

Section I: Understanding L2 reading

Section II: Exploring research in reading

Section III: Teaching reading using evidence-based practices

Section IV: Investigating reading through action research

Section V: Resources

The first section, and its two chapters, presents an overview of reading theory as a guiding summary of the main ideas and issues that cover both L1 and L2 concerns. The purpose of Chapter 1 is not to provide a comprehensive treatment of the details, but rather to sketch an exploratory map of the reading domain and to indicate connections to promising instructional practices. This overview is followed, in Chapter 2, by a

discussion of the differences between L1 and L2 reading. These differences need to be considered carefully when we work toward meeting our students' needs and incorporating innovative teaching ideas into our instruction and related materials.

The second section, comprising two chapters, outlines key issues for reading research. Drawing on the survey of research in Section I, Chapter 3 highlights a number of key questions that have been explored effectively in L1 settings. The studies presented in the chapter provide support for the view of reading abilities outlined in Chapter 1. Chapter 4 showcases a set of exemplary L2 reading research studies that also support our explanation of reading abilities and illustrate a range of methods for conducting research.

The third section, focused on evidence-based teaching practices, links implications from research with instructional applications. We draw on the theoretical explanations and supporting research studies outlined in the first four chapters to provide the foundation for the teaching activities introduced in Chapter 5. For this reason, the instructional ideas are considered 'evidence-based' teaching practices.

The fourth section, made up of four chapters, outlines a range of manageable action research projects based on specific reading-related questions raised by research in the field and from concerns arising in real classroom settings. Chapter 6 provides guidelines for (a) conducting meaningful action research and posing good questions appropriate to the classroom, (b) collecting and analysing data, and (c) arriving at fair and reasonable answers to the questions posed. The remaining chapters (Chapters 7–9) present a total of 27 detailed action research projects that focus on different reading-related topics and that model a variety of procedures for carrying out classroom-based research.

Embedded within Chapters 6–9 are many teaching ideas and resources, making these chapters, at one level, extensions of Chapter 5, the chapter with an explicit emphasis on instruction. The practical teaching suggestions and useful resources presented throughout Chapters 6–9 can be used by reading teachers as the focal points of their action research and/or as ideas that can be integrated into their teaching repertoire.

The final section of the book (Chapter 10) offers an array of resources for the teacher. These resources are intended to guide teacher enquiry so that classroom research can be located more easily within the larger world of reading research. Moreover, these resources should give teachers ideas for additional research questions that they themselves can ask about their own students and their own teaching.

One of the primary goals of this book is to help teachers add basic research enquiry to their expertise as reading teachers. Good reading teachers are well informed and able to assess critically the claims made by others in journals, teacher-reference materials and conference presentations.

In particular, teachers can ‘test’ these claims through systematic observation, data collection, data analysis and critical reflection, using their own classrooms and students to understand learning processes and teaching practices better. Guided enquiry of this type may not lead to major research breakthroughs, but it will certainly lead to a heightened awareness of teaching and learning practices in L2 reading classrooms. Moreover, in the light of both a strong research foundation and personal experiences with classroom enquiry, teachers will be better equipped to evaluate and critique materials, curricular innovations and new teaching practices. Another goal of the volume is to introduce teachers to evidence-based teaching practices. Teachers can easily adapt and integrate these practices into their reading lessons, the materials that they develop for their classes, and the reading-related tasks that they devise for their overall reading curricula. The final outcome, we hope, will be more confident teachers, better informed instruction and more skilled student readers.

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Section

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Understanding L2 reading

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The nature of reading abilities

This chapter sketches out an exploratory map of reading by providing the following:

- an initial definition of reading
- a discussion of purposes for reading
- a definition of fluent reading comprehension
- an explanation of how reading works
- an introduction to frequently cited models of reading

A common way to begin a discussion of reading is to provide a definition of the concept. However, this strategy, while important for clarifying later discussions, is not so easy. We noted in the introduction that it is possible to present a single-sentence definition of reading such as the following: ‘Reading is the ability to draw meaning from the printed page and interpret this information appropriately.’ However, without quibbling over the exact wording of such a definition, it is, nonetheless, insufficient as a way to understand the true nature of reading abilities. There are five important reasons why this simple definition is inadequate:

- First, it does not convey the idea that there are a number of ways to engage in reading. A reader has several possible purposes for reading, and each purpose emphasises a somewhat different combination of skills and strategies.
- Second, it does not emphasise the many criteria that define the nature of fluent reading abilities; it does not reveal the many skills, processes and knowledge bases that act in combination, and often in parallel, to create the overall reading comprehension abilities that we commonly think of as reading.

- Third, it does not explain how reading is carried out as a cognitive process that operates under intense time constraints; yet, these very rapid time-processing constraints are essential to understanding how reading comprehension works for the fluent reader.
- Fourth, it does not highlight how the ability to draw and then interpret meaning from a text varies with the second language (L2) proficiency of the reader.
- Fifth, it does not address the social context in which reading takes place nor the reasons why texts will be interpreted and used in differing ways.

These five issues are addressed in this chapter as a way to describe the nature of fluent reading abilities. The chapter closes with brief comments on various models of reading – models that synthesise what we know about reading and account for reading performance and reading development.

We would like to point out, at this time, that this chapter focuses primarily on the fluent first-language (L1) reading process. One might ask why a book on L2 reading begins with a discussion of the fluent L1 reading process; there are a number of good reasons for adopting this strategy. First, far more research has been carried out on reading in L1 contexts (especially in English as an L1) than in L2 contexts. Second, students learning to become readers in L1 contexts usually achieve a reasonable level of fluency in reading comprehension abilities, but the same claim cannot be made for students learning to read in L2 contexts. Third, the ability to draw implications for instruction from research – including training studies that demonstrate the effectiveness of numerous instructional techniques and practices – is much more developed in L1 contexts than it is in L2 contexts. Fourth, reading instruction in L1 contexts has been a source of many instructional innovations that have not yet been explored extensively in L2 contexts, either at the level of research or at the level of practical implementation. These factors suggest that we can describe the reading abilities of students learning to read in their L1s quite well. Even if many L2 students will never become fluent L2 readers, they can be taught in ways that lead them in the right direction and help them make as much progress as possible. This direction toward a successful end-point is what L1 reading research can offer us.

Our position on the value of L1 reading research is not meant to suggest that we ignore the significant differences between L1 and L2 reading contexts; in fact, these differences are addressed in Chapter 2. However, at very advanced levels, L1 and L2 reading abilities tend to merge and appear to be quite similar. So, to understand the end-point of reading abilities, that of the fluent, critical reader, research on L1 reading development offers us a much more complete understanding.

1.1 Purposes for reading

When we begin to read, we actually have a number of initial decisions to make, and we usually make these decisions very quickly, almost unconsciously in most cases. For example, when we pick up a newspaper, we usually read the front page with some combination of search processing, general reading comprehension and skimming. We read partly for information, but we also read with a goal to finish the newspaper fairly rapidly, because few people try to read every line of a newspaper. We may initially search the front page for a particular story that we expect to be there. If the headlines cue us in the right way, we may check quickly for the length of the article, and we may then read through a number of paragraphs for comprehension (appropriately influenced by the newspaper-story genre, a reporting of what, who, when, where, why and how). At some point, we will decide that we have enough information and will either stop reading the article or skim the remainder to be sure that we do not miss some surprisingly informative part.

In other settings, typically academic or professional ones, we sometimes synthesise information from multiple reading sources, from different parts of a long and complex text, or from a prose text and accompanying diagram or chart. Such reading is quite different from searching, skimming, or reading for general comprehension (see Grabe, 2009). In

Quote 1.1

There are purportedly five basic processes involved in reading text, or passages. ... [W]hen someone is reading paragraphs in a book, for example, one of five basically different processes is likely to be involved. These processes, or reading gears, are called scanning (Gear 5), skimming (Gear 4), **rauding** (Gear 3), learning (Gear 2), and memorizing (Gear 1)...

The rauding process [a general reading and listening rate], Gear 3, is the process most readers use regularly. It is the type of reading that is most typical; it is normal reading, ordinary reading, natural reading or simple reading. It is the process that is used most often when adults are reading something that is relatively easy for them to comprehend – that is, a magazine, a newspaper, a novel, a memo at work or a letter from a friend. Evidence that most of reading that goes on in the world involves rauding comes from Sharon (1973); he surveyed 5,067 adults in a national probability sample and found that less than 1% of their reading involved anything that was difficult to understand during their typical 2 hours of reading each day.

Carver (1997, pp. 5–6)

these circumstances, a more critical set of goals must be established for an effective synthesis: the reader needs to remember points of comparison or opposition, assess the relative importance of the information, and construct a framework in which the information will be organised.

Finally, and most commonly in L1 settings, people read for general comprehension (whether for information or for pleasure). Here we might read a novel, a short story, a newspaper article, or a report of some type to understand the information in the text, to be entertained and/or to use the information for a particular purpose. The overall goal is not to remember most of the specific details but to have a good grasp of the main ideas and supporting ideas, and to relate those main ideas to **background knowledge** as appropriate.

Quote 1.2

On a very basic level, it is clear that knowledge of any text topic is essential for successful comprehension regardless of the language of the text being processed. Without basic knowledge it would be impossible to even approximate a writer's intended message. However, the exact nature of the interaction is not clear. . . . Still considerations of background knowledge cannot be ignored when attempting to understand . . . reading comprehension.

Hudson (2007, p. 293)

All of these ways of reading, and a few others, have to be accounted for in a full explanation of reading (see Grabe, 2009; Linderholm and van den Broek, 2002). We believe that reading purposes can be classified under seven main headings (see Concept 1.1), while recognising that these headings are heuristic and many variations could be proposed (e.g. Khalifa and Weir, 2009). Each purpose for reading is explained further in the upcoming sections of the chapter.

Concept 1.1 Purposes for reading

1. Reading to search for simple information
2. Reading to skim quickly
3. Reading to learn from texts
4. Reading to integrate information
5. Reading to write (or search for information needed for writing)
6. Reading to critique texts
7. Reading for general comprehension

1.1.1 Reading to search for simple information and reading to skim

Reading to search for simple information is a common reading ability, though some researchers see it as a relatively independent cognitive process (Guthrie & Kirsch, 1987). It is used so often in reading that it is probably best seen as a type of reading ability. In reading to search, we typically **scan** the text for a specific word, or a specific piece of information, or a few representative phrases. As an example, we usually search through a telephone directory to find key information, either an address or a phone number. In prose texts, we sometimes slow down to process the meaning of a sentence or a phrase in search of clues to indicate that we are at the right page, section or chapter. Similarly, reading to **skim** (i.e. sampling segments of the text for a general understanding) is a common part of many reading tasks and a useful skill in its own right. It involves, in essence, a combination of strategies for guessing where important information might be located in the text, and then using basic reading comprehension skills on those segments of the text until a general idea is formed.

1.1.2 Reading to learn from texts

Reading to learn typically occurs in academic and professional contexts in which a person needs to learn a considerable amount of information from a text. It requires abilities to:

- remember main ideas as well as a number of details that elaborate the main and supporting ideas in the text
- recognise and build **rhetorical frames** that organise the information in the text
- link the text to the reader's knowledge base

Reading to learn is usually carried out at a reading rate somewhat slower than general reading comprehension (primarily due to rereading and reflection strategies to help remember information). In addition, it makes stronger **inferencing** demands than general comprehension to connect text information with background knowledge (e.g. connecting a character, event or concept to other known characters, events or concepts; or connecting possible causes to known events).

1.1.3 Reading to integrate information, write and critique texts

Reading to integrate information requires additional decisions about the relative importance of complementary, mutually supporting or conflicting information and the likely restructuring of a rhetorical frame to accommodate information from multiple sources. These skills inevitably

require critical evaluation of the information being read so that the reader can decide what information to integrate and how to integrate it for the reader's goal. In this respect, both *reading to write* and *reading to critique texts* may be task variants of reading to integrate information. Both require abilities to select, critique and compose information from a text. Both purposes represent common academic tasks that call upon the reading abilities needed to integrate information (see Enright, Grabe, Koda, Mosenthal and Mulcahy-Ernt, 2000; Perfetti, Rouet and Britt, 1999, for ways to interpret 'reading to integrate').

1.1.4 Reading for general comprehension

The notion of general reading comprehension has been intentionally saved for last in this discussion for two reasons. First, it is the most basic purpose for reading, underlying and supporting most other purposes for reading. Second, general reading comprehension is actually more complex than commonly assumed. (Note that the term 'general' does not mean 'simple' or 'easy'.) These assumptions are addressed in detail in the next two sections of this chapter. Reading for general comprehension, when accomplished by a skilled fluent reader, requires very rapid and automatic processing of words, strong skills in forming a general meaning representation of main ideas, and efficient coordination of many processes under very limited time constraints.

These abilities are often taken for granted by fluent readers because they usually occur automatically; that is, we make use of these abilities without giving them much thought if we are fluent readers. In L2 contexts, however, the difficulties that students have in becoming fluent readers of longer texts under time constraints reveal the complexities of reading for general comprehension. Because of its demands for processing efficiency, reading for general understanding may, at times, be even more difficult to master than reading to learn, an ability that is often assumed to be a more difficult extension of general comprehension abilities. (This misperception is most likely due to the ways in which reading comprehension and reading to learn are commonly tested in schools.)

Before defining fluent reading, we would like to comment on two terms commonly used to describe the activity of reading: **skills** and **strategies**. For us, *skills* represent linguistic processing abilities that are relatively automatic in their use and their combinations (e.g. word recognition, syntactic processing). In most educational psychology discussions of skills, they are seen as general learning outcomes of goal-driven tasks, acquired gradually and eventually automatised (Anderson, 1995; Proctor and Dutta, 1995; Schunk, 2000). *Strategies* are often defined as a set of abilities under conscious control of the reader, though this common definition is not likely

to be entirely true (see Afflerbach, Pearson and Paris, 2008; Anderson, 2009). In fact, many abilities that are commonly identified as strategies are relatively automatic in their use by fluent readers (e.g. skipping an unknown word while reading, rereading to re-establish text meaning). Thus, the distinction between skills and strategies is not entirely clear precisely because of the very nature of reading (not because of a definitional problem) (cf. Anderson, 2009). To be complete, the term **reading processes** refers to cognitive activity involving skills, strategies, attentional resources, knowledge resources, and their integration. The term *abilities* is used as a general term that covers comprehension skills, strategies and knowledge resources available to the reader.

Quote 1.3

During the 1970s, when it first dotted the reading landscape, the term *strategies* signified a form of mental processing that deviated from traditional skills-based reading. However, any distinctions between skills and strategies that seemed apparent then have begun to fade, leaving many to wonder where skills end and strategies begin. As a way to unearth those contrasts, we propose two differences between skillful and strategic processing relevant to text-based learning: automaticity and intentionality... Skills are, in essence, essential academic habits. They are the routinized, automatic procedures we employ when we engage in any nontrivial task. Thus, skilled readers, like skilled cooks or skilled accountants, have honed essential domain procedures to a level of automaticity...

The same procedures (e.g. finding main idea) can fit under both the skill and strategy categories. The appropriate label rests on whether the reader consciously evokes the procedure or is simply functioning in a typical, automatic way.

Alexander and Jetton (2000, pp. 295–6)

Quote 1.4

Paris and his colleagues (Paris, Wasik and Turner, 1991) described reading strategies as 'skills under consideration' to denote that the same actions could be either a skill or a strategy, depending on the reader's awareness, control, intention, and the specific reading situation.

Afflerbach, Pearson and Paris, 2008, p. 17)

For example, in a number of cases, skills may have been learned as strategies but have become thoroughly automatised (e.g. mentally summarising a newspaper story to tell a friend). Nonetheless, 'strategies' is still an important concept for reading abilities. Strategies, for definitional purposes, are best defined as abilities that are potentially open to conscious reflection, and reflect a reader's intention to address a problem or a specific goal while reading (see Anderson, 2009) (see Concept 1.2 for some example strategies; see also model action research projects 8.1.1 to 8.1.3 in Chapter 8).

Concept 1.2 **Sample reading strategies**

- Specifying a purpose for reading
- Planning what to do/what steps to take
- Previewing the text
- Predicting the contents of the text or section of text
- Checking predictions
- Posing questions about the text
- Finding answers to posed questions
- Connecting text to background knowledge
- Summarising information
- Making inferences
- Connecting one part of the text to another
- Paying attention to text structure
- Rereading
- Guessing the meaning of a new word from context
- Using discourse markers to see relationships
- Checking comprehension
- Identifying difficulties
- Taking steps to repair faulty comprehension
- Critiquing the author
- Critiquing the text
- Judging how well purposes for reading were met
- Reflecting on what has been learned from the text

1.2 Defining fluent reading comprehension

Reading for general comprehension is, in its most obvious sense, the ability to understand information in a text and interpret it appropriately. However, comprehension abilities are much more complex than this definition suggests. To offer a more accurate picture of reading comprehension, we define it according to a set of necessary processes (see Concept 1.3). No one process defines reading comprehension by itself, but together they provide a fairly accurate account of the processes required for fluent reading. (See also Grabe, 2009; Hudson, 2007; Koda, 2005, for more detailed discussions.)

Concept 1.3 Processes involved in fluent reading comprehension

Fluent reading is:

- | | |
|---------------------------|----------------------------|
| 1. a rapid process | 6. an evaluating process |
| 2. an efficient process | 7. a purposeful process |
| 3. an interactive process | 8. a comprehending process |
| 4. a strategic process | 9. a learning process |
| 5. a flexible process | 10. a linguistic process |

Fluent reading must occur *rapidly* in almost any purposeful context, and the more rapidly a text is (successfully) read, the better the various processing components are likely to operate. Thus, a good L1 reader will read almost all texts at rates somewhere between 200 and 300 words per minute, depending on reading purpose. Related to rate is the notion that specific processes must be carried out *efficiently* in combination if comprehension is to take place. That is, the various processes involved in comprehension must be coordinated and certain processes need to be carried out automatically (Breznitz, 2006).

Reading is also an *interactive* process in at least two ways. First, the various processes involved in reading are carried out virtually simultaneously. While we are recognising words very rapidly and keeping them active in our **working memories** (Baddeley, 2007; Baddeley, Eysenck and Anderson, 2009; see Concept 1.4), we are also analysing the structure of sentences to assemble the most logical clause-level meanings, building a main-idea model of text comprehension in our heads, monitoring comprehension and so on. Combining these skills in an efficient manner makes general comprehension a time-consuming ability to master. Reading is also interactive in the sense that linguistic information from the text interacts with information activated by the reader from long-term

Concept 1.4 What is working memory?

The term *working memory* is now generally preferred to *short-term memory*. Working memory refers to the information that is activated, or given mental stimulation, for immediate storage *and* processing. Working memory for reading involves the active use of cognitive processes such as recognising and storing word information, using syntactic information, connecting pronoun references, building overall text structure, integrating and restructuring information, establishing main ideas, assessing inferences and adapting reader goals. In Baddeley's (2007) version, working memory comprises a central executive processor and three sub-components: the visual-spatial sketchpad, the episodic buffer and the phonological loop.

memory, as background knowledge. These two knowledge sources (linguistic and background) are essential for building the reader's interpretation of the text.

Balancing the many skills needed for comprehension also requires that the reader be *strategic*. The reader needs to recognise processing difficulties, address imbalances between text information and reader knowledge, and make decisions for monitoring comprehension and shifting goals for reading (Pressley, 2006). Being a strategic reader means being able to read *flexibly* in line with changing purposes and the ongoing monitoring of comprehension. Similarly, reading is an *evaluating* process in that the reader must decide if the information being read is coherent and matches the purpose for reading. This evaluation also extends to the reader's motivations for reading, the reader's attitudes toward the text and topic, the reader's feelings of likely success or failure with text comprehension, and the reader's expectation that the information from the text will be useful (or interesting, or enjoyable) (Baker and Beall, 2009).

Reading is always *purposeful* not only in the sense that readers read in different ways based on differing reading purposes, but also in the sense that any motivation to read a given text is triggered by some individual purpose or task, whether imposed internally or externally. Reading is also a *comprehending* process. The notion of comprehending is both obvious and subtle. It is obvious in that any person could say that understanding a text is the purpose for reading; it is less obvious with respect to the ways that such understanding might be carried out by the reader, as will be seen in the next section. One outcome of reading being a purposeful and comprehending process is that it is also a *learning* process. This aspect of reading should be evident to anyone who works in academic settings where the most common way for students to learn new information is through reading.

Lastly, reading is fundamentally a *linguistic* process (rather than a reasoning process, a common perspective in the 1980s and 1990s), though this aspect of reading is often downplayed (as is the visual aspect). It makes little sense to discuss or interpret a text without engaging with it linguistically. For example, anyone who has tried to read a text on political policy written in Chinese (without knowing any Chinese characters) or in Finnish (without knowing Finnish, even though the writing system is similar) will quickly recognise the primacy of linguistic processes for reading comprehension. If we cannot understand any words, we are not going to comprehend the text.

1.3 Describing how reading works: Components of reading abilities

To this point, we hope to have persuaded readers that reading comprehension abilities are quite complex and that they vary in numerous ways depending on tasks, motivations, goals and language abilities. One might even get the impression that large differences exist among the various ways of reading. However, a set of common underlying processes are activated as we read. In this section, we outline the way that reading comprehension processes are likely to work for skilled readers, assuming a purpose of general comprehension of a longer text (like when we read a book at night before going to sleep). (See Grabe, 2009; Perfetti, Landi and Oakhill, 2005; Pressley, 2006 for detailed descriptions and references of skilled reading processes.) For the sake of simplicity, we have divided this explanation of skilled reading into two parts: lower-level processes and higher-level processes (see Concept 1.5), common metaphorical designations that will be explained in the sections that follow. The lower-level processes represent the more automatic linguistic processes and are typically viewed as more skills-oriented. The higher-level processes generally represent comprehension processes that make much more use of the reader's background knowledge and inferencing abilities. It should be noted that we do not assume lower-level processes to be in any way easier than higher-level processes.

1.3.1 Working memory processes for reading

Working memory is best understood informally as the network of information and related processes that are being used at a given moment (**working memory activation**) (see Baddeley, Eysenck and Anderson, 2009). As we look at Concept 1.5, we see both lower-level and higher-level component processes as aspects of working memory processing

Concept 1.5 Working memory processes for reading**Lower-level processes**

- Lexical access
- Syntactic parsing
- Semantic proposition formation

Higher-level processes

- Text model of comprehension
- Situation model of reader interpretation
- Background knowledge use and inferencing
- Executive control processes

(which encompass both lower- and higher-level processes). The words that are accessed, the information that is cued grammatically, the emerging meanings of words, the formation of a text model of comprehension, inferencing and executive control processes are all active in working memory. In the case of lower-level processes, the activation is brief, one or two seconds, unless rehearsed or connected to new incoming information. In the case of higher-level processing, there is continual reactivation of main ideas as long as reading is continuing or the reader is reflecting on the text information. If new information is to be integrated so that an accurate update of meaning is formed, the information must be combined rapidly. Working memory keeps *new* information active for one to two seconds while it carries out the appropriate processes. For this reason, speed of processing is essential; it is not simply a nice additional aspect of comprehension abilities. If processing of active information is not done quickly enough, the information fades from memory and must be reactivated, taking more resources and making the reading process inefficient.

We can use a simple analogy to make the various component processes of reading easy to remember. We can think of reading comprehension (generally speaking, our purpose for reading) much like a car. Reading, like a car, gets us to our destination (it achieves text comprehension). In line with the car analogy, we can think of word recognition as the fuel for the car. Recognising words is not the same as reading comprehension, but reading comprehension needs words in order to work, much like a car needs fuel. If word recognition is the fuel, then the other lower-level processes are the engine that drives the car. The building up of semantic information to be used for comprehension (through both syntactic parsing and semantic proposition formation) is much like the car engine in that these processes drive comprehension development.

We would not, of course, want to suggest that a car is nothing more than the engine, since it is the car, and not just the engine, that gets us to our destination. But a car, if it is going to get us to our destination, must have an efficiently working engine. It is possible to envisage lower-level processes working memory as doing much the same for reading comprehension. In this way, the efficient coordination of information from rapid and automatic processes is a necessary component of fluent reading comprehension abilities. Finally, the higher-order processes take the basic information and build reading comprehension of the text, much like the car brings us to our destination.

1.3.2 Lower-level processes

The most fundamental requirement for fluent reading comprehension is rapid and automatic word recognition (or **lexical access** – the calling up of the meaning of a word as it is recognised). Fluent L1 readers can recognise almost all of the words they encounter (98–100 per cent of all words in a text), at least at some basic meaning level. They also recognise four to five words per second, about 230 milliseconds per word on average (Pressley, 2006).

Quote 1.5

[W]hen a reader is attempting to learn what is in text, reading is a word-by-word affair, with fixations on most of the individual words. For a skilled adult reader who is reading material carefully, each word is typically fixated for about a quarter of a second. That translates to about 200 words per minute when readers are reading to learn material. . . . Reading at a more relaxed pace occurs at a rate of between 250 and 300 words per minute.

Pressley (2006, p. 51)

Amazing as it may seem, fluent readers can actually focus on a word and recognise it in less than a tenth of a second (less than 100 milliseconds). Thus, four to five words per second even allows good readers time for other processing operations. For fluent readers, lexical access is automatic. In addition to being very fast, it cannot be readily reflected on consciously, and it cannot be suppressed (a good definition of **automaticity**); that is, when the eye sees a word, the reader cannot stop him- or herself from accessing its meaning. Both rapid processing and automaticity in word recognition (for a large number of words) typically require thousands of hours of practice in reading.

Quote 1.6

Why does automaticity matter? ... Decoding and comprehension compete for the available short-term [memory] capacity. When a reader slowly analyzes a word into component sounds and blends them, a great deal of capacity is consumed, with relatively little left over for comprehension of the word, let alone understanding the overall meaning of the sentence containing the word and the paragraph containing the sentence. In contrast, automatic word recognition (i.e. recognizing a word as a sight word) consumes very little capacity, and thus, frees short-term capacity for the task of comprehending the word and integrating the meaning of the word with the overall meaning of the sentence, paragraph, and text.

Pressley (2006, p. 68)

Many L1 researchers focus a lot of attention on word recognition abilities. They explore these aspects of reading not because they believe that word recognition *is* reading comprehension, but because reading comprehension cannot be carried out for an extended period of time without good word recognition skills (Perfetti, Landi and Oakhill, 2005; Stanovich, 2000). However, these skills are difficult to develop without **exposure to print** (through many hours of reading practice). In L2 reading contexts, much less discussion is devoted to this topic (cf. Birch, 2007; Eskey, 1988). This avoidance is partly due to a limited understanding of the role of rapid and automatic word recognition processes in reading. It is also due to the tremendous difficulties involved in providing L2 students with the time, resources and practice needed to develop a very large recognition vocabulary. However, word recognition abilities cannot be ignored in L2 contexts if a goal is to help students become fluent L2 readers.

In addition to word recognition, a fluent reader is able to take in and store words together so that basic grammatical information can be extracted (a process known as **syntactic parsing**) to support clause-level meaning. The ability to recognise phrasal groupings, word ordering information, and subordinate and superordinate relations among clauses quickly is what allows fluent readers to clarify how words are supposed to be understood. (For example, the word 'book', as in 'the book fell', will be recognised as a noun, rather than the verb 'to book', as in a hotel. It will also be recognised as the clause subject that will be described, and as an inanimate object that will be followed by an 'event' description, 'fell'.) Syntactic parsing helps to disambiguate the meanings of words that have multiple meanings out of context (e.g. bank, cut, drop). Moreover, it helps a reader determine what pronouns and definite articles are referring to in prior text (Grabe, 2009).

Strong evidence exists for the importance of syntactic parsing in reading comprehension. In L1 settings, Klauda and Guthrie (2008) found that syntactic processing correlated most strongly with reading comprehension among six component skills measured ($r = .75$) with 278 fifth-graders. In L2 settings, Alderson (1993) observed remarkably high correlations between syntactic knowledge and reading comprehension ($r = .80$), as did van Gelderen *et al.* (2004) ($r = .80$). There is also persuasive observational evidence for the strong relationship between grammar and reading for L2 learners (Urquhart & Weir, 1998).

Quote 1.7

To claim . . . that syntactic processing [or syntactic parsing] is not necessary is frankly unbelievable. This is easily demonstrated. The following string represents an English sentence from which most (not all) function words and all inflectional morphemes have been deleted. Moreover, since ordering plays a major part in English syntax, the order of the remaining words has been jumbled.

begin several it recogniser module machine digital pass record speech

We challenge anyone, whether expert in the content area (artificial language) or not, to process this string. Things begin to be a bit better if we restore the original ordering:

Machine begin digital record speech pass it several recogniser module

However, it is only when we restore function words and inflections that the message becomes easy to extract:

The machine begins by digitally recording the speech and passing it to several recogniser modules.

Urquhart and Weir (1998, pp. 60–1)

Perhaps most importantly, **parsing** is done very rapidly without much effort or conscious attention (unless something does not work right; then the process becomes less automatic). So once again, rapid and automatic processing – at the level of initial syntactic parsing – is a necessary ability. The subconscious automaticity of syntactic parsing processes should be obvious to anyone who has taught high school or undergraduate university students in L1 settings; many L1 students can read fluently, but, in many cases, they have difficulty completing a grammar exercise at a conscious level (very prevalent in the US). So these L1 students ‘know’ grammar

tacitly but not explicitly. This example shows that we can have automatic processing without having overt metalinguistic knowledge of grammar. In L2 settings, the need for rapid and automatic syntactic processing appears to be less obvious, because most L2 students develop an overt knowledge of L2 grammatical structures before they become fluent L2 readers. With L2 students, what is often overlooked is not the fact that L2 students need grammar knowledge to be readers but rather that, like developing L1 readers, they need countless hours of exposure to print (that they are capable of comprehending successfully) if they are to develop automaticity in using information from grammatical structures to assist them in reading.

A third basic process that starts up automatically as we begin any reading task is the process of combining word meanings and structural information into basic clause-level meaning units (**semantic proposition formation**). Words that are recognised and kept active for one to two seconds, along with grammatical cueing, give the fluent reader time to integrate information in a way that makes sense in relation to what has been read before. As meaning elements are introduced and then connected, they become more active in memory and become central ideas if they are repeated or reactivated multiple times.

This process is depicted in Concept 1.6 (where bolding signifies repetition or reactivation). As each sentence from a text is read (on the left-hand side of the diagram), a semantic proposition of that information is constructed (as shown on the right-hand side). Each semantic proposition reflects the key elements of the input (word and structure) and also highlights linkages across important units (in this case, verbs), where relevant. The reactivated concepts of 'man' and 'camera' reflect the main idea of this small text; that is, something happened that involved a man and a camera.

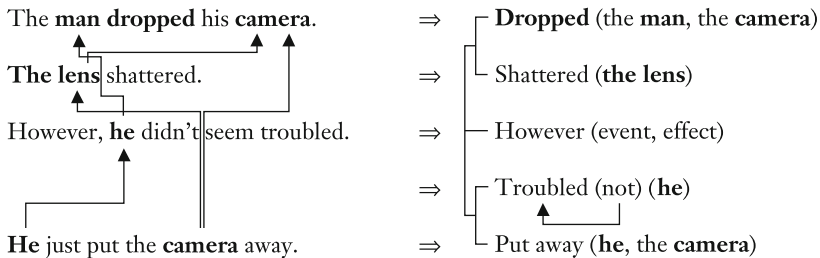
In the sentences in Concept 1.6, there are cause–effect relations between the first action and the second action, and between the third action and the fourth action. In the semantic proposition network that is generated, these relations are incorporated as well (as indicated by the brackets from the first verbal predicate to the second verbal predicate, and the third verbal predicate to the fourth verbal predicate). The third sentence of the grammatical input actually has two propositions. One is signalled by 'however', and it indicates a larger relation between sets of propositions; the other proposition reflects the new information presented in the sentence. Semantic propositions are formed in this way and a propositional network of text meaning is created. It is worth noting that this process of semantic network building anticipates the discussion in the next section (on building a text model of comprehension).

The process of ongoing semantic proposition formation, as described here, is not easily controllable in any conscious way (much like fluent word recognition and syntactic parsing). Only when some aspect of comprehension

Concept 1.6 An example of semantic proposition formation

Grammatical input.....leads to.....Possible propositional structure

Word meaning + structural information ⇒ Clause-level meaning units



does not work right, or the meaning does not seem to fit, might a reader pause to consider consciously how to extract the most appropriate meaning from the text being read. In such circumstances, we have time to become aware of the problem and address it more consciously.

The three processes discussed up to this point – lexical access or word recognition, syntactic parsing and semantic proposition formation – are typically seen as lower-level processes that occur relatively automatically for the fluent reader. When they are functioning well, they work together effortlessly in working memory. When they are not functioning fluently in combination, the reading comprehension process slows down considerably and comprehension becomes more difficult to maintain.

1.3.3 Higher-level processes

Added to these lower-level processes is a set of higher-level comprehension processes that more closely represent what we typically think of as reading comprehension. As fluent readers, we form a summary model of what the text is likely to mean. We also construct a more elaborated interpretation of how we want to understand text meaning. Beyond understanding and interpreting the ideas represented by the text, we establish purposes for reading, combine reading strategies as needed, make inferences of many types, draw extensively on background knowledge, monitor comprehension, form attitudes about the text and author, adjust goals as appropriate, and critically evaluate the information being read. Returning briefly to the car analogy, all of these higher-level processes, together, represent the car (and a skilled driver) that will take readers to their destinations, assuming of course, that the car has an engine and fuel.

The most fundamental higher-level comprehension process is the coordination of ideas from a text that represent the main points and supporting ideas to form a meaning representation of the text (a **text model of reading comprehension**, not to be confused with general models of reading, discussed later in the chapter) (see Kintsch and Rawson, 2005). As clause-level meaning units are formed (drawing on information from syntactic parsing and semantic proposition formation), they are added to a growing network of ideas from the text. The new clauses may be hooked into the network in a number of ways: through the repetition of an idea, event, object or character; by reference to the same thing, but in different words; and through simple inferences that create a way to link a new meaning unit to the appropriate places in the network (e.g. part-whole, subordinate-superordinate; refer back to Concept 1.6). As the reader continues processing text information, and new meaning units are added, those ideas that are used repeatedly and that form usable linkages to other information begin to be viewed as the main ideas of the text. More technically, they become, and remain, more active in the network. Ideas that do not play any further roles in connecting new information (i.e. ideas that are no longer named nor referred to indirectly), or that do not support connecting inferences, lose their activity quickly and fade from the network. In this way, less important ideas tend to get pruned from the network, and only the more useful and important ideas remain active.

Quote 1.8

What people remember is the gist. . . . For example, suppose you are beginning a paragraph-long text. The first sentence contains a number of ideas, with the reader coding the main idea of the sentence. This idea is held in active memory as the next sentence in the paragraph is read. Attempts are made to link the main idea from the first sentence to the ideas of the second sentence, with another main idea emerging from this synthesis, integrating the meanings expressed in the first two sentences of the paragraph. . . . Sometimes there will be a need for bridging inferences to reconcile the meaning of the previous sentences with the ideas in the new sentences. . . . Good readers do not make inferences willy-nilly, however.

In summary, during normal beginning-to-end reading of a text, such as a story, the reader processes the individual ideas but remembers the gist. In processing the text and constructing the gist, prior knowledge plays an important role, permitting the generation of inferences required to understand the text.

Pressley (2006, pp. 53–4)

As the reader continues to build an understanding of the text, the set of main ideas that the reader forms is the text model of comprehension. The text model amounts to an internal summary of main ideas (which is one reason why summary tasks for learning purposes are reasonable tasks to practise). The inferencing required of a reader to support this text model is typically not extensive unless the text information is so new that the reader has comprehension difficulties, or unless the reader's language-proficiency level is impeding comprehension. Background knowledge (whether understood as linked networks of reconstructed knowledge, instances of memory, schema theory or mental models) plays a supporting role and helps the reader anticipate the **discourse organisation** of the text as well as disambiguate word-level and clausal meanings as new information is incorporated into the text model. (See Grabe, 2009, for a more detailed description of text model construction and references.)

At the same time that the text model of comprehension is being built by the reader, the reader begins to project a likely direction that the reading will take. This projection is influenced by background knowledge, inferences, reader goals, reader motivation, task, text difficulty, and reader attitudes toward the text, task and author. So, almost immediately, the reader begins to interpret the information from the text in terms of his or her own goals, feelings and background expectations. This reader interpretation (the **situation model of reader interpretation**) is built on and around the emerging text model. The reader is likely to interpret the text (and begin to create a situation model) differently if he or she

Quote 1.9

What counts [as text comprehension] is how the reader comes to construct mental models of the text and the situations described in the text.

Two classes of mental models are needed, a model of what the text says (the text base) and a model of what the text is about (the situation model). ... The text base is a mental representation of the propositions of the text, as extracted from the reading of successive sentences, supplemented only by inferences necessary to make the text coherent. The reader builds a situation model from the text base by combining knowledge sources through additional inference processes. Thus, a text base is essentially linguistic, consisting of propositions derived from sentences, whereas a situation model is essentially agnostic in its form of representation. ...

The main difference between a text base and a situation model is assumed to be one of inferences, with text bases inferentially poor and situation models inferentially rich.

Perfetti, Van Dyke and Hart (2001, pp. 133–4)

knows that the text is the beginning of a good mystery novel, a biography of a well-known photographer or a social statement on waste in society.

For the fluent reader who has no great difficulties in understanding the text, the developing situation model of reader interpretation is the likely goal for reading comprehension. The situation model *integrates* text information with a well-developed network of ideas from the reader's background knowledge, and it *interprets* new information in the light of reader background knowledge, attitudes, motivations, goals and task purposes (Kintsch, 1998). The ability of fluent readers to integrate text and background information appropriately and efficiently is the hallmark of expert reading in a topical domain (e.g. history, biology, psychology).

The situation model of reader interpretation accounts for how a reader can understand both what an author is trying to say (as the text model) and how the reader can interpret that information for his or her own purposes (the situation model). This duality of understanding explains how a reader can provide a summary of a text but also offer a critique of the text's position. It also explains how a reader can read a text (or a particular **genre**) to emphasise either what the author most likely means or what the reader wants the text to mean. Thus, a poem is usually read with the goal of creating a reader interpretation, but a technical manual is usually read with the assumption that there is a preferred author interpretation of its contents. In this way, we can see how different genres both signal and lead to different ways of reading (in a sense, then, providing some of the justification for the existence of different genres).

This description of two higher-level processes reveals where background knowledge takes on the most importance and when inferencing abilities play a greater role in reading. As the reader transforms information from clause-level meaning units to the text model of comprehension, and then to the elaborated situation model of reader interpretation, both background knowledge and inferencing take on greater importance. Interestingly, it is at the point when the reader is interpreting the text (the situation model of reader interpretation) that wrong or incomplete background knowledge, or faulty inferences, can lead a reader, even a fluent reader, astray.

Text-model and situation-model construction require the abilities to oversee, or monitor, comprehension, use strategies as needed, reassess and re-establish goals, and repair comprehension problems. How such an attentional monitor (as an aspect of **executive control processing** in working memory) might operate cognitively is not entirely clear (see Baddeley, 2007; Baddeley, Eysenck and Anderson, 2009), but a large body of research has established the centrality of attentional processing (see Robinson, 2003; Styles, 2006). Despite the lack of details, we know that an executive control processor (or monitor) represents the way that we focus selective attention while comprehending, assess our understanding

of a text and evaluate our success. Thus, our evaluation of the text information itself, or how we feel about the text, is typically part of our developing situation model (of reader interpretation). Our evaluation of how well we comprehend the text is dependent on an executive control processor.

In summary, the higher-level cognitive processes outlined here, in combination with the lower-level processes discussed earlier, form the cognitive processing resources that let us carry out reading for various purposes (see Grabe, 2009). Usually, a specific reading purpose will lead to greater or lesser emphases on different reading processes. So, reading to find simple information will emphasise word recognition abilities and some background knowledge anticipation of what items (e.g. words, numbers) to look for. Reading for general comprehension will use a balanced combination of text-model comprehension and situation-model interpretation. Reading to learn will first emphasise the building of an accurate text model of comprehension, and then a strong interpretive situation model that integrates well with existing or revised background knowledge.

Reading comprehension processes, seen in this way, highlight the seemingly miraculous nature of reading comprehension. Reading comprehension is an extraordinary feat of balancing and coordinating many abilities in a very complex and rapid set of processes that makes comprehension a seemingly effortless and enjoyable activity for fluent readers. In fact, the many processes described here all occur in working memory, and they happen very quickly unless there are comprehension problems. So, roughly, in the space of any two seconds of reading time, fluent readers accomplish numerous operations (see Concept 1.7).

Concept 1.7 Reading processes occurring each and every two seconds we read

Roughly, in each and every two seconds of reading, *fluent* readers:

1. focus on and access eight to ten word meanings
2. parse a clause for information and form a meaning unit
3. figure out how to connect a new meaning unit into the growing text model
4. check interpretation of the information according to their purposes, feelings, attitudes and background expectations, as needed
5. monitor their comprehension, make appropriate inferences as needed, shift strategies and repair misunderstanding, as needed
6. resolve ambiguities, address difficulties and critique text information, as needed

Three conclusions become clear when we consider the number of reading processes occurring each and every two seconds:

1. Reading comprehension processes work in parallel when some skills are relatively automatic.
2. Some processes need to be relatively automatic if reading is going to work efficiently.
3. Fast and efficient processing is the hallmark of fluent reading comprehension abilities.

It is important to emphasise, at this point, that these processes do not operate efficiently or effortlessly when readers encounter texts (and accompanying tasks) that are too difficult for them. Difficulties may arise when readers do not have adequate background information, do not have the necessary linguistic resources or have not read enough in the language to have developed efficiencies in reading. Readers, especially L2 readers, who encounter such difficulties can try to understand the text by using a slow mechanical translation process; alternatively, they can make an effort to form a situation model from past experiences and try to force the text to fit preconceived notions. In the first case, working memory efficiencies cannot operate well; in the latter case, a situation model unconnected to text information is imposed on reading comprehension, activating inappropriate background information and leading to poor comprehension. In either case, successful reading comprehension is not likely to occur.

In L2 reading contexts, where such problems commonly arise, readers resort to coping strategies by translating or by guessing to form a coherent account of the text, whether that account matches the text or not. If this experience is repeated on a continual basis, it is not hard to see why these learners would lose motivation to become fluent readers. Yet, this problem also suggests a likely long-range solution. Students need to engage in reading for many hours at text- and task-levels appropriate to their abilities. It is only through extended exposure to meaningful print that texts can be processed efficiently and that students will develop as fluent readers.

1.4 Synthesising research perspectives: Models of reading

Many researchers and teachers attempt to create a general understanding of the reading comprehension process by means of some reasonable mental framework. So we often read about general **models of reading**

(not to be confused with the text-model and situation-model concepts for comprehension processes that were discussed earlier). General models of reading serve useful purposes, most commonly by providing a metaphorical interpretation of the many processes involved in reading comprehension (cf. Grabe, 2009; Hudson, 2007; Urquhart and Weir, 1998). Other models are more specific in nature, trying to account for, and interpret, the results of much research. In this section, we comment briefly on general metaphorical models and then discuss a few of the models of reading that are grounded in more specific research syntheses (see Concept 1.8).

Concept 1.8 Two ways of viewing models of reading

Metaphorical models of reading

1. Bottom-up models
2. Top-down models
3. Interactive models

Specific models of reading

1. Interactive Compensatory Model
2. Word Recognition Model
3. Simple View of Reading Model
4. Dual-Coding Model
5. Psycholinguistic Guessing Game Model

1.4.1 Metaphorical models of reading

We typically hear about bottom-up, top-down and interactive models of reading, particularly in L2 discussions. These models represent metaphorical generalisations that stem from comprehension research conducted over the past four decades. As an initiation into thinking about reading comprehension, these models serve useful purposes; however, they do not clarify more recent research advances. Metaphorically, **bottom-up models** suggest that all reading follows a mechanical pattern in which the reader creates a piece-by-piece mental translation of the information in the text, with little interference from the reader's own background knowledge. In the extreme view, the reader processes each word letter-by-letter, each sentence word-by-word and each text sentence-by-sentence in a strictly linear fashion. We know that such an extreme view is not entirely accurate. At the same time, aspects of this view (e.g. lower-level processes such as word recognition abilities and syntactic parsing) are reflected in the overview of the reading process presented in this chapter.

Top-down models assume that reading is primarily directed by reader goals and expectations. Again, such a view is general and metaphorical. Top-down models characterise the reader as someone who has a set

of expectations about text information and samples enough information from the text to confirm or reject these expectations. To accomplish this sampling efficiently, the reader directs the eyes to the most likely places in the text to find useful information. The mechanism by which a reader would generate expectations is not clear, but these expectations might be created by a general monitoring mechanism (i.e. an executive control processor). Inferencing is a prominent feature of top-down models, as is the importance of a reader's background knowledge. Top-down views highlight the potential interaction of all processes (lower- and higher-level processes) with each other under the general control of a central monitor. In extreme interpretations, there is a question about what a reader can learn from a text if the reader must first have expectations about all the information in the text. In fact, few reading researchers actually support strong top-down views.

Quote 1.10

Two decades of empirical research have largely resolved . . . debates in favour of the bottom-up models. A greater use of context cues to aid word recognition is not a characteristic of good readers; developing phonological sensitivity is critical for early success in reading acquisition; and instructional programmes that emphasize spelling-sound decoding skills result in better reading outcomes because alphabetic coding is the critical subprocess that supports fluent reading.

Stanovich and Stanovich (1999, p. 29)

The seeming compromise to satisfy everyone is to propose **interactive models** of reading, again as a general metaphorical explanation. The simple idea behind this view is that one can take useful ideas from a bottom-up perspective and combine them with key ideas from a top-down view. So, word recognition needs to be fast and efficient; and background knowledge serves as a major contributor to text understanding, as does inferencing and predicting what will come next in the text. Unfortunately, using this logic leads to a self-contradictory model. As it turns out, the key processing aspects of bottom-up approaches, that is, efficiently coordinated automatic processing in working memory such as automatic word recognition, are incompatible with strong top-down controls on reading comprehension. The automatic processing aspects of comprehension, by definition, need to be able to operate without a lot of interference from the moment-to-moment information gained from background knowledge or massive amounts of inferencing. These top-down aspects of comprehension must be reserved primarily for higher-level processing.

More accurate ways to understand reading comprehension, even metaphorically, require ‘modified’ interactive models that highlight the number of processes, particularly automatic processes, being carried out primarily in a bottom-up manner with little interference from other processing levels or knowledge resources. So, word recognition may involve interactions of information from letters, letter-shapes, phonology and whole-word orthography. But fluent word recognition does not usually involve information from context or background knowledge (because activating such supporting information, to be useful, would take too much time, greatly slowing down processing efficiency). Similarly, first efforts to activate grammatical knowledge seem to be carried out relatively automatically by fluent readers. For the most part, the fluent reader is not misled by the structural information that is quickly assembled (e.g. subject, verb, object = doer, action, recipient), and it would be inefficient to wait for confirming information from inferencing or from context clues. On occasion, readers do use context to disambiguate word meaning (e.g. ‘bank’, ‘bug’, ‘dope’). In these cases, context information supports one possible word meaning over another for the word form already activated. Sometimes readers find themselves being led down a wrong path with a complex sentence, and then the structure of the sentence emerges to a conscious level for a dose of problem solving (and much slower processing).

Asserting that a modified interactive model of reading may be useful does create complications when we consider the various purposes for reading noted at the outset of the chapter. If a reader is trying to understand a text as part of integrating information across multiple texts, then background knowledge and inferences play greater roles in developing text comprehension. Similarly, skimming a text for the main idea is likely to involve processing that appears to be much more top-down in nature because the reader supplies a lot of background knowledge. Keeping these caveats in mind, it is still possible to refer to a modified interactive model, or a hybrid bottom-up/top-down model, as a useful interpretation of general reading comprehension processes.

1.4.2 Specific models of reading as research syntheses

An alternative approach to generalised metaphorical models of reading is to consider recent accounts of reading comprehension to determine which ones, at least for the present, provide good explanations for what we know about reading from research. In the past 20 years, a number of such models have been proposed. We introduce, in turn, five (types of) models of reading that have achieved some prominence and that figure in many discussions of reading: the Interactive Compensatory Model, the Word Recognition Model, the Simple View of Reading Model, the Dual-Coding Model and the Psycholinguistic Guessing Game Model.

A model of reading that was first proposed in the late 1970s and is still relevant from the point of view of reading researchers is the Interactive Compensatory Model (Stanovich, 2000). This model argues that (a) readers develop efficient reading processes, (b) less-automatic processes interact regularly, (c) automatic processes operate relatively independently and (d) reading difficulties lead to increased interaction and compensation, even among processes that would otherwise be more automatic. For example, using context clues to understand a text better or to decide what a word means is a compensatory strategy when normally expected abilities break down, or have not yet been developed. In these cases, the reading processes slow down to accommodate the time needed to use context information effectively. Thus, the reader compensates for limitations in automatic processing of the text by slowing down and using additional attentional resources. Over the past three decades, a number of studies have validated the basic arguments underlying this model (see Stanovich, 2000).

The Word Recognition Model of Seidenberg and McClelland (1989) provides a now widely recognised explanation for word recognition processing as it is likely to occur in fluent reading (but see also Coltheart, 2005 for a well-recognised alternative view). Word recognition models, and there are several, are not seen as models of reading comprehension in themselves, but rather as a depiction of the major input for efficient reading comprehension (without accounting for higher-level processing) (Harm and Seidenberg, 2004; Plaut, 2005). Most current versions of word recognition models are based on **connectionist theories** of how the mind organises information and learns from exposure to text. That is, information in our brains is composed of millions of bits of neuron networks that create larger neural networks representing a given lexical item, or a given concept, or non-verbal information. As we encounter words with similar meaning and use multiple times, the neuron network reassembles itself again with slightly greater facility. In this way, we develop automaticity in recognising word forms based on prior input and experience. The key point is that these models are fundamentally bottom-up in orientation, and they account for a considerable amount of what we currently know about word recognition processes under time constraints.

A third major account of reading comprehension abilities and reading development that has grown in popularity is known as the Simple View of Reading Model (Hoover and Gough, 1990). This model argues that reading comprehension is composed of a combination of word recognition abilities and general comprehension abilities (typically measured by listening comprehension). The basic idea is that when a decoding-skill measure and a (listening) comprehension-skill measure (both as percentage scores) are multiplied, the resulting score is an accurate measure of reading comprehension. This view, compatible with word recognition models and

the Interactive Compensatory Model, provides a reasonable account of individual differences in reading abilities and has generated much discussion among reading researchers over the past decade. At issue is how exactly should decoding and comprehension be measured, how should scores for decoding and comprehension be combined, and what other factors might be added for an improved explanation of reading abilities (passage reading fluency, motivation, background knowledge, metacognitive awareness, etc.) (see Adlof, Catts and Little, 2006; Kirby and Savage, 2008). At present, the Simple View of Reading is among the most influential views of reading abilities among reading researchers.

Quote 1.11

Skilled reading clearly requires skill in both decoding and comprehension... A child who cannot decode cannot read; a child who cannot comprehend cannot read either. Literacy – reading ability – can be found only in the presence of both decoding and comprehension. Both skills are necessary; neither is sufficient.

Gough, Hoover and Peterson (1996, p. 3)

Quote 1.12

An increasingly common view in the research literature is that reading is essentially divided into two components: decoding (word recognition) and comprehension. The latter is often described as consisting of parsing sentences, understanding sentences in discourse, building a discourse structure, and then integrating this understanding with what one already knows. This comprehension process, however, is not seen as unique to reading, but also describes the process of listening.

Alderson (2000, p. 12)

A fourth important model of reading is the Dual-Coding Model (Sadoski, 2009; Sadoski and Paivio, 2001, 2007). This model has been growing in popularity among researchers in the last decade. It draws on several key concepts from other reading models, including the Interactive Compensatory Model, Simple View of Reading Model and Verbal Efficiency Model (Perfetti, 1999). But it also highlights the idea that verbal and

visual information represent two linked but separable cognitive processing systems that reinforce each other (thus, learning effectiveness is improved when visual representations for key information match and support prose information from a text). Both visual and verbal processing of reading input (e.g. through imagery, visual representations, action responses to show comprehension, as well as generally recognised component skills for reading) work together to improve reading comprehension abilities (Sadoski, 2009). A large amount of evidence for this view of separable but supportive sub-systems of cognition to support comprehension is presented in Paivio (2007) and is directly supported by decades of research on **multimedia learning** (Mayer 2009). The model also suggests, based on Paivio (1986, 2007), that abstract representations of meaning information and text model networks are not necessary (e.g. semantic propositions, conceptual schemata); rather, comprehension is built directly from linguistic and visual input.

Finally, the Psycholinguistic Guessing Game Model of Reading (Goodman, 1986, 1996) is well known among applied linguists; it is also recognised today among reading researchers as being fundamentally wrong (Gough and Wren, 1999; Pressley, 2006; Stanovich, 2000). This model portrays reading comprehension as a universally applicable iterative process of (a) hypothesising, (b) sampling and (c) confirming information based on background knowledge, expectations about the text, a sampling of surface features of the text and the deriving of context information from the text. It is, despite protestations by Ken Goodman, a classic example of a top-down approach to reading comprehension. Proponents of this strongly top-down-oriented model have used it to support suggestions for reading instruction that have not been particularly beneficial for students' reading development, despite the continuing popularity of the model. Good readers typically do not guess what words will appear next in the text and good readers make less use of context than poor readers while they are engaged in fluent reading (see Pressley, 2006; Stanovich, 2000).

Moreover, the Guessing Game Model claims that all instances of reading are the same, across all proficiency levels and across all languages, and that all reading abilities transfer automatically across languages. However, it is clear that reading development is not universally the same across languages or proficiency levels, nor are all reading abilities easily transferred from one language to another (as we will see in the next chapter). Related models of reading, commonly referred to as **constructivist models** and **transactional models**, typically presume that readers are able to carry out basic reading comprehension processes rather than explain how these processes operate or how they develop (see Quote 1.13). In some respects, the Guessing Game Model provides a useful interpretation of an early stage of reading development, but representing just one stage of reading development has never been Goodman's intention.

Quote 1.13

Response-oriented curricula based on reader-response theories [e.g. constructivist theories] were developed for high school and college literature classes. . . . Response-oriented classes, in which students are encouraged to discuss their individual reactions to what they have read, are [seen as] a bracing alternative [to traditional instruction].

[However], transporting a response-oriented approach to literature down to the early grades creates a new set of problems. . . . [First], excessive response to a pleasant, but not richly evocative, text may be as numbing as excessive questioning on minute details. Second, responding to a work presupposes that one can read the work. . . .

Even if children read the text themselves, long discussions may take away time from more practice in reading. Harris and Serwer (1966) found that children in language-experience classes spent less time actually reading and more time discussing what they read than children in traditional classes. This discussion time was negatively correlated with achievement.

Stahl (1997, pp. 22–3)

1.5 Conclusion

In this chapter, we have outlined a view of reading that is well supported by current research in English L1 contexts and is compatible with L2 reading research of the past 20 years. Beginning with our discussion of purposes for reading and our extended definition of reading comprehension, we have sought to describe current research views on reading comprehension while also providing explanations that have real implications for instructional contexts. We have also developed an account that focuses on individual reader processing. This emphasis on individual processes is not intended to deny the relevance of social factors on reading development (e.g. family literacy experiences, social group experiences, primary schooling, peer and sibling interaction around literacy events; see Grabe, 2009) or the relevance of social contexts on purpose and processes themselves (see Chapter 2). Rather, our intention is to highlight information that is not well known among reading teachers, and raise awareness of issues that curriculum planners and teachers should consider if reading instruction is to be appropriate for student needs and institutional expectations. Our view of reading, as summarised in Figure 1.1, reveals the complex nature of reading and the many factors that must be taken into account when assessing students' needs and planning meaningful reading instruction.

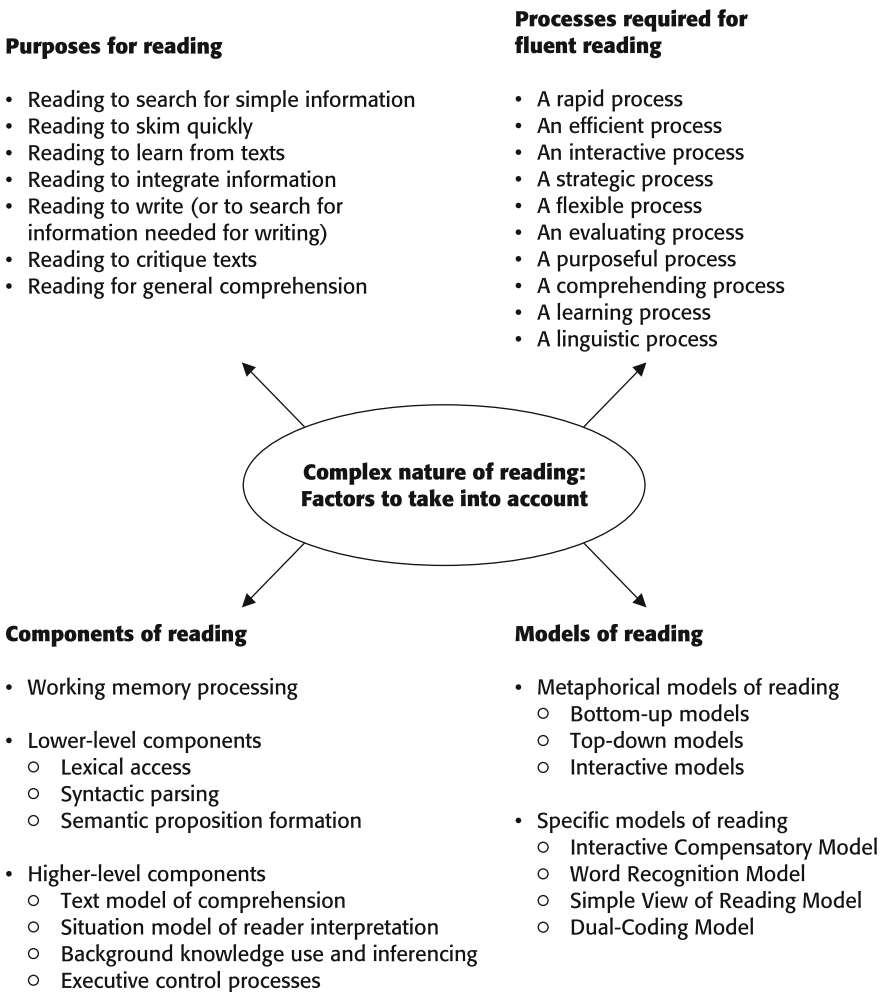


Figure 1.1 Factors to take into account when considering the complex nature of reading

As we pointed out earlier, much of the research that supports the views presented in this chapter is drawn from L1 contexts. In the next chapter, we explore the differences between L1 and L2 reading. These differences should influence our interpretation of L2 reading comprehension abilities, the development of L2 abilities and implications for reading instruction.

Further reading

Citations that appear frequently in the chapter represent key references for further details. For additional readings on a number of key issues in this chapter, see Chapter 10 (mainly 10.1 and 10.2) and refer to the following. For:

- alternative views on *purposes for reading*, see Carver (1992)
- variations on the *reading-to-learn* concept, see Enright *et al.* (2000), Khalifa and Weir (2009)
- comprehensive overviews of *general reading comprehension*, see Grabe (2009), Pressley (2006), Snow, Griffin and Burns (2005)
- resources on *reading comprehension processes*, see Koda (2005), McCardle, Chhabra and Kapinus (2008), Perfetti, Landi and Oakhill (2005), Pressley (2006), Snow, Griffin and Burns (2005), Stanovich (2000)
- information on *working memory activation*, see Baddeley, Eysenck and Anderson (2009), Gathercole and Alloway (2008), Pickering (2006)
- specific models of reading that are similar in nature to the *Interactive Compensatory Model*, see Kintsch (1998), Perfetti (1999)
- a discussion of a wide *range of reading models*, see Grabe (2009), Hudson (2007)
- specifics on the *Simple View of Reading Model*, see Gough, Hoover and Peterson (1996), Kirby and Savage (2008)
- specifics on the *Dual Coding Model* of reading, see Sadoski (2004, 2009)

Comparing L1 and L2 reading

This chapter highlights differences that exist between first-language (L1) and second-language (L2) reading contexts and readers. In addition, it explores how those differences might influence classroom instruction. Three major types of differences form the core of the discussion:

- linguistic and processing differences
- individual and experiential differences
- socio-cultural and institutional differences

One of the more difficult tasks we face as reading teachers is deciding how to make use of reading research for our own purposes. The research on reading comprehension in L1 contexts is extensive and complex. Research studies have looked at children and students ranging from 3-year-olds to university level. Some studies have explored comprehension by varying the purposes for reading through a number of different tasks. Others have emphasised different skills that are usually considered part of reading comprehension. For example, some studies focus on reading strategies, others explore vocabulary development, others examine the role of discourse organisation and **text structure**, and yet others emphasise word recognition and reading **fluency**. Students participating in these studies have come from a range of social and ethnic backgrounds, with varying motivations and attitudes toward reading. As one might imagine, this range of emphases and reader variables makes it hard to generalise from the research literature to any one specific classroom context.

In L2 contexts, the issues become even more complex. L2 students and research settings can vary as widely as those described for L1 contexts. In addition, L2 students have much wider ranges of language proficiencies, unlike most L1 readers who have considerable tacit grammar knowledge

by the time they begin to read. Many L2 students have often already had experiences learning to read in an L1, more or less successfully (though others may have no L1 literacy experience). Moreover, they come with linguistic knowledge of their L1, even if most of it is tacit knowledge, and this knowledge can either support the transfer of reading skills or become a source of interference. Research efforts in L2 contexts also extend beyond the array of issues pertinent to L1 studies. For example, they explore the role of low-level language proficiency on reading, or they explore the impact of **transfer** at various ability levels, on various processes (e.g. word recognition, syntactic parsing, strategy use), and with different knowledge resources (e.g. general background knowledge, specific topical knowledge and cultural knowledge). Adding more complexity to L2 contexts are the comparisons between bilingual children and children who learn an L2 subsequently to their L1.

Aside from the additional complexities for research in L2 contexts, there are logistical difficulties with carrying out large-scale studies in many L2 settings because many sites for research cannot track L2 students for long periods of time. Moreover, the follow-up research that commonly occurs in L1 settings is less frequently done in L2 settings. There are also fewer L2 reading researchers to carry out such projects. These factors make it more difficult to assert wide generalisations from research in L2 contexts. Strong generalisations can only be developed for L2 reading after several near-replications of a research study across a number of L1 groups, across L2 proficiency levels and across socio-cultural and institutional learning contexts.

The differences between L1 and L2 reading contexts, however, go beyond numbers of studies and limitations of research methodology. L2 reading must account for issues that are qualitatively different from L1 issues. L2 learners, while learning to read, must broaden their linguistic knowledge at the same time, deal with transfer effects, and learn to use L2-specific resources (e.g. translation, glosses, bilingual dictionaries), among many other factors. If this were not enough, the L2 reader learns to read in the L2 with a two-language processing system. This is to say, reading in an L2 is supported by a two-language system (L1 and L2 together) rather than just an L2 system. (The L1 never completely turns off.) All of these factors suggest that L2 reading can be quite different from L1 reading.

This chapter outlines 14 ways in which L2 reading comprehension processes and instruction may differ from L1 contexts. We have divided the 14 differences into three general areas: linguistic and processing differences, individual and experiential differences, and socio-cultural and institutional differences. The chapter closes by depicting the L2 reader as one who engages in multi-language processing whenever he or she reads.

2.1 Linguistic and processing differences between L1 and L2 readers

This section presents six major differences between L1 and L2 readers involving vocabulary, grammar, discourse, orthography and metalinguistic and metacognitive issues (see Table 2.1). The linguistic and processing issues inherent in these differences are actually the most widely studied aspects of reading development and quite a bit of research can help us understand these differences and their possible impact on reading comprehension abilities. These differences highlight issues related to language transfer, an L2 threshold, differences across various student L1s and the simple fact that two languages are involved in comprehension processing in L2 settings.

Table 2.1 Linguistic and processing differences between L1 and L2 readers

1. Differing amounts of lexical, grammatical and discourse knowledge at initial stages of L1 and L2 reading
2. Greater metalinguistic and metacognitive awareness in L2 settings
3. Varying linguistic differences across any two languages
4. Varying L2 proficiencies as a foundation for L2 reading
5. Varying language transfer influences
6. Interacting influence of working with two languages

2.1.1 Differing amounts of lexical, grammatical and discourse knowledge

As a first difference, most L1 students first learn to read after they have been learning their L1 orally for 4–5 years. In the US, students typically begin to read (formally) at the age of 6, in the first grade. By this time, they have learned most of the basic grammatical structures of their L1 as tacit knowledge (Finegan, 2008; Tomasello, 2003). Further learning of the language structures commonly used in written texts continues regularly through the age of 12, but most of the basic structures are already well learned. Estimates of the vocabulary knowledge of a 6-year-old vary considerably, but a commonly agreed upon range is 5000 to 7000 words (Cunningham, 2005). That is, a 6-year-old in the first grade knows about 6000 words when reading instruction begins. These linguistic resources provide a tremendous boost for young L1 students beginning to learn to read. It does not take much reflection to recognise how different this situation is from most L2 contexts (Grabe, 2009).

Unlike the L1 student's initial linguistic resource base, many L2 students begin to read simple sentences and passages almost at the same time that they learn the language orally. Other L2 students, primarily in academic reading courses, are not even expected to increase their oral L2 abilities to keep up with their reading development. It is true that curricula in certain L2 contexts (e.g. in elementary-school ESL and bilingual settings in the US, the UK and Australia) encourage oral use of the L2 before a student begins to read, but this encouragement is extremely variable and also controversial as a curricular principle.

In most cases, the vocabulary and grammar knowledge of the beginning L2 student marks a very different starting point from that of the beginning L1 reader. One obvious implication of these differences is that having L2 students sound out a word to 'discover' its meaning is likely to be less effective than it is in L1 settings (though not without value in L2 contexts). Beginning L2 students do not have a mental resource of several thousand words stored in their heads to be matched with the newly sounded-out word. Thus, one benefit of developing accurate letter-sound correspondences as a support for reading is lost in most L2 settings; that is, L2 students cannot match a sounded-out word to a word that they know orally because they do not yet know the word orally.

The lack of tacit L2 grammatical knowledge and **discourse knowledge** also suggests that L2 students need some foundation of structural knowledge and text organisation in the L2 for more effective reading comprehension. How much of a grammar and discourse foundation is needed is an open question, and one that is likely to vary considerably depending on the students being taught. Arguments that L2 readers do not need knowledge of grammar, occasionally voiced in the L2 literature, are clearly wrong (see Alderson, 2000; Grabe, 2009; Khalifa and Weir, 2009). Knowledge of discourse organisation may be very important for students who read L2 texts in more advanced academic settings, and patterns of discourse organisation may need explicit attention. Sometimes, students may know most of the vocabulary and understand the main concept(s) of a text, but they may not follow the specific development of the text, the new information being presented or the arguments being made. In some cases, L2 students may not be fully familiar with overall genre expectations of certain types of texts (e.g. newspaper stories, biographies, abstracts, reports, memos, editorials). Students recognise that something is not working the way they expect, but they do not know why.

2.1.2 Greater metalinguistic and metacognitive awareness in L2 settings

The general need to teach vocabulary, grammar and **discourse structure** in L2 settings from the very beginning acts as a support for early reading

Quote 2.1

Knowledge of structure is clearly important in efficient and strategic processing of text.

Goldman and Rakestraw (2000, p. 323)

Knowledge about text genre is an important factor in reading comprehension. . . . Readers unaware of [text] structure will likely not have a plan of action for a particular text and may gain information from that text in a random manner, whereas those who are aware of the way a text is structured are better able to organize information as they read.

McCardle, Chhabra and Kapinus (2008, pp. 145–6)

Any sort of systematic attention to clues that reveal how authors attempt to relate ideas to one another or any sort of systematic attempt to impose structure upon a text, especially in some sort of visual representation of the relationships among key ideas, facilitates comprehension as well as both short term and long term memory of the text.

Pearson and Fielding (1991, p. 832)

development and highlights our second L1–L2 difference: L2 readers often develop a greater awareness of the L2 itself as part of their reading resources, unlike L1 readers who typically have a more tacit knowledge of their native language (Koda, 2008). In many L2 contexts (but not all), a good part of the students' knowledge of the L2 results from direct instruction in the classroom, or it comes about indirectly through instructional tasks, projects and outside reading. In these cases, students develop a greater **metalinguistic awareness** as a resource for reading. With the recent emphasis on awareness and reflection for language learning in L2 contexts, more L2 students now discuss, and reflect on, the linguistic resources (e.g. vocabulary, morphology, grammar and discourse knowledge) that they use to assist them in comprehension. Unlike the tacit knowledge that is typical of L1 learners, many older L2 students are thus able to discuss and reflect on the linguistic resources available to them.

A natural extension of linguistic awareness is a more developed **metacognitive awareness** of the learning that takes place while reading in the L2. Many students growing up bilingually or in L2 environments may approach L2 reading with many of the tacit resources of the L1 student; yet, a large percentage of L2 students approach L2 reading with quite different linguistic and learning backgrounds, beginning with minimal L2 knowledge. In many L2 academic settings and foreign language settings, L2 students only begin to read in their L2 after they have been learning literacy skills and content knowledge for several years in their

Quote 2.2

Recently, much attention has been devoted to a particular kind of metalinguistic ability, phonemic awareness (i.e. the ability to reflect on and manipulate phonemes, the individual units of sound out of which spoken words are constructed). However, other types of metalinguistic awareness, such as morphological awareness and syntactic awareness, are also believed to play an important role in reading.

Nagy and Scott (2000, p. 274)

L1s. As a result, they develop a greater awareness of (a) how they have learned to read because of their instructed L2 learning efforts, (b) what learning strategies can work for them and (c) how language knowledge can support literacy development. L2 students can more easily bring their **metalinguistic knowledge** (see Concept 2.1) to a conscious level to provide strategic support or understand comprehension failure (and in the process, become more strategic readers). For example, while we do not believe that all L1 reading strategies transfer automatically to L2 reading contexts, it is still far easier to raise learner awareness of, and practice with, strategies that have been productive for them in L1 situations than would be the case with strategies that have never been used before by learners.

Quote 2.3

Greater involvement of [metalinguistic analysis and control processes] makes tasks more difficult, and this difficulty results in behavior appearing to be increasingly metalinguistic. However, no specific boundary in the development of either process signals a category shift into metalinguistic performance; it is a gradual transition into a continuously evolving domain.

Bialystok (2001, p. 177)

Quote 2.4

Roeschl-Heils *et al.* (2003) examined interrelations among metacognition, motivation, and comprehension among seventh- and eighth-grade students. ... A regression analysis showed that **metacognitive knowledge** accounted for more than 25% of the variance in reading comprehension, with reading self concept (motivation) adding an additional 5%.

Baker (2008, pp. 37–8)

Concept 2.1 Metalinguistic and metacognitive knowledge

Metalinguistic knowledge: Our knowledge of how language works. Metalinguistic knowledge includes knowledge of letters and sounds and how they relate, knowledge of words and word parts, knowledge of sentences and their parts, and knowledge of texts and genres and how they are organised.

Metacognitive knowledge: Our knowledge of what we know. Simply put, this knowledge permits us to reflect on our planning, goal setting, processing of tasks, monitoring of progress, recognition of problems and repair of problems. Metacognitive knowledge represents a basic way to understand learning strategies and, especially, our explicit and conscious use of reading strategies.

In both cases, our knowledge includes not only what we know (declarative knowledge) but also how we use this knowledge (procedural and conditional knowledge). In both cases, it is not straightforward to assert a separation between linguistic and metalinguistic knowledge, or between cognitive knowledge and metacognitive knowledge (see Quotes 2.3 and 2.4).

2.1.3 Varying linguistic differences across any two languages

Linguistic differences across any two languages are likely to vary considerably, and these differences may influence L2 reading comprehension variably when students come from different L1s and are in the same L2 classroom. For example, students whose L1 is a Romance language (e.g. Spanish, French, Italian, Portuguese) tend to pay greater attention to the ends of words because there is much more grammatical information in the suffixes of their L1s than in English. As another example, words in languages such as Hebrew and Arabic, which have greater morphological complexity with embedded grammatical information, are read more slowly than words in a language such as English (Geva, 2008). Another illustrative example involves Czech-speaking children who demonstrated greater awareness of consonant clusters and complex consonants than did English-speaking children (Caravolas and Bruck, 1993). Another difference, which has been supported in multiple studies, reveals that readers of Chinese and Japanese make greater use of visual processing than do readers of English because of their L1 **orthography** (Hanley, Tzeng and Huang, 1999; Koda, 2005). There is also evidence that these differences lead to variation in reading rates and fluency in word processing, though these specific issues need much more research before any implications might be suggested for instruction (Koda, 2005, 2008).

Two further differences across L1s with more general implications for L2 reading include orthographic differences and the extent of shared vocabulary or **cognates**. With regard to orthographic differences across

Quote 2.5

The heavy processing demands associated with morphemic [complexity] play a role even in the text-reading speed of highly literate bilingual Hebrew–English adults. . . . It is not only lack of L2 linguistic proficiency that slows down text reading for L2 beginners, but also the high morphemic density associated with inflected languages such as Hebrew.

Geva, Wade-Woolley and Shany (1997, p. 140)

L1 processing experience has a lasting effect on the formation of L2 morphological awareness, thus accounting in part for performance variations in L2 lexical processing among ESL learners from typologically diverse L1 backgrounds.

Koda (2000, p. 315)

languages, differing orthographies are more or less transparent with respect to **letter–sound relationships** (sometimes referred to as the Orthographic Depth Hypothesis, see Concept 2.2). That is, depending on the transparency of the orthography, a reader looking at a word will be able to sound out the word's (or activate the word's sounds in working memory) more or less easily. Some languages are seen as completely transparent (e.g. Serbo-Croatian, Finnish, Turkish); others are quite transparent (e.g. Greek, Italian, Spanish), and some a bit less so (e.g. German, Swedish); some are relatively more opaque (e.g. French, Danish), and some very opaque for an alphabetic language (e.g. English). Consonantal alphabetic languages are yet more opaque (e.g. unpointed Hebrew and Arabic), and some are very opaque (e.g. Japanese and Chinese are not alphabetic scripts) (Frost, 2005; Perfetti and Dunlap, 2008). The key issues here revolve around what happens when a reader with a transparent L1 begins to read in a less transparent L2, or, what happens when a reader with a less transparent L1 begins to read in a transparent L2. In both cases, if both languages are fully alphabetic, there should be positive transfer to the L2 (Geva and Siegel, 2000; Harris and Hatano, 1999a). In effect, as soon as a reader understands the concept of letter–sound correspondences in an L1, this ability seems to transfer to reading in another alphabetic language (Bialystok, 2002).

At present, while recognising the many other factors that influence reading, the research suggests that readers process words differently in transparent and opaque orthographies. In general, L2 students tend to draw on L1 processing skills when they try to read the L2, although the tendency influences beginning L2 reading more than advanced L2 reading.

Quote 2.6

Italian children...learn to read very rapidly, and, only six months after the start of formal reading instruction, they are highly accurate at reading both words and non-words....German...although less transparent than Italian, has very consistent grapheme–phoneme correspondences....The demands placed on working memory in successfully applying grapheme–phoneme correspondences to reading are much lower for a regular orthography than an irregular orthography like English.

Harris and Hatano (1999a, pp. 2–3)

Concept 2.2 Orthographic Depth Hypothesis

The Orthographic Depth Hypothesis (ODH) asserts that a continuum of orthographic transparency...influences the strategies adopted by readers. The more shallow or transparent the orthography – that is, the more reliable the correspondence between graphemes and speech segments – the more the reader uses a print-to-sound decoding strategy. The deeper or less transparent the orthography, the more the reader uses a direct look-up of the word, without grapheme-speech decoding.

Perfetti and Dunlap (2008, p. 18)

For example, in beginning L2 adult reading, students must adapt from a lifetime of efficient word recognition processing in the L1 to accommodate word recognition processes in the L2. Increasing evidence suggests that the orthography of a student's L1 will influence L2 reading development even among advanced L2 readers (Koda, 2005, 2008). Understanding more about a student's L1 literacy skills and orthography may help explain possible L2 difficulties in word recognition, fluency and reading rate (Koda, 2008).

The final issue involving differences across L1s, and differences across any two languages (L1s and L2s), relates to the role of cognates. The development of L1 reading does not involve the use of cognates as support for reading comprehension. In L2 contexts, however, cognates may play a large role in supporting reading comprehension, depending on the particular L1 and L2. For example, for interesting historical reasons, French and English share thousands of cognates, and they are particularly useful at more advanced levels of reading. By extension, Spanish, Portuguese and Italian all share thousands of useful cognates with English. In cases where a student has a Romance language as an L1, and is learning

to read in English, cognates represent a significant resource if we help students to recognise and use them (Nagy, Garcia, Durgunoğlu and Hancin-Bhatt, 1993). When students come from an L1 such as Chinese, there are very few cognates to assist them in L2 reading development.

2.1.4 Varying L2 proficiencies as a foundation for L2 reading

L2 proficiency plays a large role as a foundation for L2 reading (often discussed in the context of the Language Threshold Hypothesis). The **Language Threshold** Hypothesis argues that students must have a sufficient amount of L2 knowledge (i.e. vocabulary, grammar and discourse) to make effective use of skills and strategies that are part of their L1 reading comprehension abilities (Clarke, 1980). The fundamental issue for L2 reading centres on the relative importance of L2 knowledge versus L1 reading abilities. The Language Threshold Hypothesis, as proposed by researchers, states that language knowledge is more important than L1 reading abilities up to some point at which the learner has enough L2 knowledge to read reasonably fluently. Although there are a number of qualifications, this hypothesis has been strongly supported by recent L2 reading research. A number of studies have demonstrated the greater importance of L2 linguistic knowledge (than L1 reading knowledge) for students in varying contexts (Pichette, Segalowitz and Connors, 2003; Yamashita, 2002; see Bernhardt, 2011; Grabe, 2009).

Concept 2.3 Language Threshold

Language Threshold: This hypothesis states that L2 readers need to have enough L2 knowledge (vocabulary and structure) so that L1 reading strategies and skills can be used efficiently to help comprehend the L2 text. If readers are devoting most of their cognitive resources to figuring out the language of the L2 text, there are few cognitive resources left over for the fluent comprehension processes that would normally support the L1 reader. Readers usually cross the threshold whenever they encounter L2 texts in which they know almost all of the words and can process the text fluently. Because L2 readers are all different in their L2 knowledge, topic knowledge and L2 reading experiences, there is no one level of general language proficiency that counts as the threshold for all readers or for all texts. The threshold will vary depending on the reader, the text difficulty, the topic, and, in some cases, the task.

Critics of this hypothesis have argued that there is no single set of linguistic knowledge that can be defined as presenting the necessary foundation (or the threshold). However, this objection does not represent

a strong criticism because reading success varies with a number of factors. A given text may be too difficult to read because of its linguistic demands, but it also might be too hard to read fluently because of a new topic, poor organisation or insufficient time to read. The idea behind the linguistic threshold is not that there is a fixed set of language knowledge that students need. Rather, a variable amount of linguistic knowledge, combined with fluency of processing, is needed to read a specific text, on a specific topic, for a specific task. Students can be said to pass above the threshold (perhaps only temporarily for one specific text) when they have enough linguistic knowledge to read the text without great vocabulary and grammatical difficulty. As students are able to read more and more texts fluently, one can say that they are moving beyond the linguistic threshold, yet any new and difficult text might throw them back to a level of less fluent and hence inefficient reading.

One major consequence of passing through the linguistic threshold is that students free up cognitive resources, which were previously used to figure out language structures and vocabulary, to read more strategically and transfer L1 strategic reading practices to the L2 setting. This hypothesis provides a strong argument for giving students a lot of exposure to reading, focusing both on fluency and on texts that are not too difficult.

Quote 2.7

Despite the common-sense assumptions of the importance of language knowledge, the belief has existed for some time that if students cannot read well in their first language, they will be unable to read well in the second/foreign language. . . .

The clear conclusion of [L1 reading versus L2 language knowledge] studies is that second-language knowledge is more important than first-language reading abilities, and that a linguistic threshold exists which must be crossed before first-language reading ability can transfer to the second-language reading context. However, it is clear that this linguistic threshold is not absolute but must vary by task: the more demanding the task, the higher the linguistic threshold.

Alderson (2000, pp. 38–9)

In all studies, L2 variables were found to have a stronger impact, overriding the variance attributable to L1 experience. Thus, although L2 print information processing is guided by insights stemming from literacy experiences in the two languages, L2 print input appears to be the dominant force in shaping reading subskills in that language.

Koda (2007, p. 29)

2.1.5 Varying language transfer influences

A natural extension of the Language Threshold Hypothesis is the larger issue of transfer, a uniquely L2 topic. An initial issue in discussing transfer, and one that is sometimes downplayed, is that transfer of L1 knowledge to L2 reading may support comprehension but it may also interfere with comprehension. A second major issue for transfer involves transfer of basic reading purposes (see Chapter 1) and (meta)cognitive knowledge, the latter including strategies, inferences, motivation, attitudes and background knowledge resources.

Transfer as interference is typically assumed to influence beginning and intermediate levels of L2 reading. When L2 students are asked to read material that is difficult for them, they rely on any resources available to try to make sense of the text (refer to the discussion of the situation model in Chapter 1). At beginning L2 levels, students' strongest resources are their L1 language abilities, their L1 reading abilities and their knowledge of the world. At times, these resources provide enough support to carry out certain comprehension tasks; at other times, these same resources mislead students or slow L2 processing routines. In this latter situation, it is important to recognise that such interference is both natural and strategic on the part of students (and L1 resources are always active to some extent for the L2 reader). The instructional goal at lower levels is for students to develop enough vocabulary, reading practice and processing fluency in the L2 so that they rely less on L1 resources that might interfere. Of course, one of the best ways to move beyond heavy L1 interference in L2 reading is to be sure that students are not always reading texts that are too difficult for them; students should be given sufficient opportunities to read texts that are easy to read and enjoyable.

Concept 2.4 Transfer in L2 reading

Transfer refers to the idea that L2 readers will use their L1 knowledge and experiences to help them carry out L2 tasks. In the case of reading, transfer applies to a variety of language knowledge bases and cognitive abilities. Transfer can occur, for example, with phonological knowledge, morphological knowledge, topical knowledge, general background knowledge, problem-solving strategies and inferencing skills. We also tend to transfer our prior experiences to tasks of various sorts, including academic tasks that involve reading L2 texts. Sometimes transfer supports reading tasks; but sometimes it interferes with successful task completion. Transfer is also discussed more generally, in Educational Psychology, in terms of transfer of learning. Transfer in this broader context is usually seen as problematic in that skill learning in one context is difficult to transfer immediately to new contexts and situations (see Quotes 2.8 and 2.9).

A different aspect of interference is likely to persist for much longer periods and may require consistent and direct teacher intervention, even at advanced reading levels. Students may not be aware of the varying purposes for reading called upon in L2 settings, particularly in academic settings. They may still be making assumptions about the uses of reading that are appropriate to their L1 experiences but not as appropriate for some L2 reading purposes. These assumptions may also be influenced by different motivations for reading and different attitudes toward reading. To minimise these types of interference, it is important to explore goals for L2 reading, appropriate strategies for completing L2 reading tasks and inferences that connect background knowledge to text information.

Positive transfer effects, on the other hand, represent valuable resources for L2 reading development. In the right circumstances, many aspects of

Quote 2.8

The literature on transfer tends to be pessimistic. [L.] Mikulecky (1990) claims that a major misconception in literacy studies is that 'mastering literacy in one context substantially transfers to other contexts', and adds 'Transfer of literacy abilities is severely limited by differences in format, social support networks, and required background information as one moves from context to context' (p. 25).

Urquhart and Weir (1998, p. 3)

Quote 2.9

One way of defining transfer is automatic activation of well-established L1 competencies... triggered by L2 input. Thus, transfer transpires regardless of learners' intent... and its occurrence cannot be easily controlled... Several assumptions underlie this view of transfer. First, for transfer to occur, the competencies in question must be well rehearsed – to the point of automaticity – in a L1. Second, transfer is not likely to cease at any given point in time during L2 development. Third, the transferred competencies will continue to mature through experience with L2 print input...

L2 reading subskills emerge through crosslinguistic interactions between transferred L1 competencies and L2 print input; the emerging subskills are gradually adjusted to the salient properties of the L2 input.

Koda (2007, pp. 17–18)

L1 reading abilities support L2 comprehension, though this transfer typically assumes well-developed literacy abilities in the student's L1. Examples of positive transfer effects include the following: effective strategies for reading academic texts, appropriate purposes for reading, experiences with successful task completion, flexibility in monitoring comprehension and skills for analysing and learning new words. Positive transfer effects provide a means for accelerated development of L2 reading abilities when they are assisted by instruction and teacher guidance.

A very popular notion in language teaching is that skills transfer is uniformly good and an easily accessible resource for L2 students. Very little evidence actually exists for these views, and there is now much evidence that such perspectives are simplistic and, at times, counterproductive (Baddeley, Eysenck and Anderson, 2009; Schunk, 2000). Aside from numerous studies documenting interference from L1 resources, there is growing evidence – from Language Threshold research and strategy research – that skills transfer is not uniformly automatic. One important consequence is the need to explore which L1 skills and strategies might be more, or less, automatically transferred, which might be positive supports for L2 reading development and how positive skills and strategies might be reinforced through direct instruction in, for example, word recognition skills, vocabulary-learning strategies, cognate use and comprehension strategies.

2.1.6 Interacting influence of working with two languages

Closely related to transfer discussions is the very fact that two languages are involved in L2 comprehension processes. The inevitable interplay between two languages in L2 reading influences word recognition, reading rate, the organisation of the lexicon, the speed of syntactic processing, strategies for comprehension, experiences in task performance, expectations of success and failure, motivations for reading and a number of other possible points of interaction (Cook and Bassetti, 2005; Koda, 2007, 2008; Scott and de la Fuente, 2008). This interplay is seldom discussed, perhaps because there is relatively little research that focuses specifically on this point. However, this issue may become more important as more research is reported on cognitive processing in bilingual individuals and as research in discourse comprehension increases in the field of psychology. Instructional implications drawn from this perspective suggest greater use of the L1 in L2 classrooms, particularly when students work together on more complex comprehension tasks. The issue of two languages working at the same time also reveals a range of non-linguistic factors that distinguish L1 and L2 reading comprehension. These factors are discussed in the next section of the chapter.

Quote 2.10

Crosslinguistic interaction has attracted little attention among L2 reading researchers. Apparently, the lack of crosslinguistic focus is attributable, in part, to L2 researchers' heavy reliance on L1 theories without due regard for a significant difference: L2 processing, unlike L1 reading, involves more than one language. . . . There has been little systematic exploration of the ways in which the interchange among linguistic systems affects L2 processing performance.

Muljani, Koda and Moates (1998, p. 100)

2.2 Individual and experiential differences between L1 and L2 readers

In addition to the six linguistic and processing differences noted above, further distinctions exist between L1 and L2 reading. A number of these differences centre around other resources and experiences that influence L2 reading comprehension, including students' proficiency levels in L1 literacy skills, their prior L2 reading experiences, their differing personal experiences with and motivations for L1 and L2 reading, their attitudes toward authentic texts and their training in the use of various supporting resources (see Table 2.2). Each of these differences will be discussed, in turn, in the following sections.

2.2.1 Differing levels of L1 reading abilities

An important L1–L2 difference is that L2 readers are influenced by their levels of L1 reading abilities. In one respect, this point could have been

Table 2.2 Individual and experiential differences between L1 and L2 readers

1. Differing levels of L1 reading abilities
2. Differing motivations for reading in the L2
3. Differing amounts of exposure to L2 reading
4. Differing kinds of texts in L2 contexts
5. Differing language resources for L2 readers

made in earlier discussions of transfer; students who have limited L1 literacy abilities cannot be expected to transfer many supporting resources to their developing L2 reading. The types of abilities that students use in their L1 reading represent the upper limit of what can be expected for linguistic transfer, strategic practices, problem-solving abilities, task-completion skills and metacognitive awareness of reading processes; these are all skills and resources that can influence L2 reading, but only if they are already developed as L1 reading abilities. All too often, teachers and researchers do not examine the L1 reading skills of their students. Without such knowledge, we are more limited in deciding what skills and strategies to focus on and promote for transfer.

2.2.2 Differing motivations for reading in the L2

When comparing L1 and L2 reading contexts, it is likely that we will find different individual motivations for reading, as well as differing senses of self-esteem, interest, involvement with reading and emotional responses to reading. As students progress through different levels of education, and as academic-task demands increase, L2 students tend to have differing (and perhaps more conflicting) combinations of motivations for reading L2 texts. Some of these differences in motivation are based on varying academic goals, socialisation practices from home and community, prior educational instruction or broad cultural frameworks for literacy uses. These possible differences should be explored in classroom settings (e.g. through discussions, student-interest surveys, simple surveys of parents and community members, parent-teacher conferences and family literacy projects). This information may help us understand student strengths and weaknesses beyond any language assessment measure and may lead to more effective instruction (see Dörnyei and Ushida, 2010; Rueda, Velasco and Lim, 2008).

Aside from specific motivations for reading and task performance, students bring with them varying underlying attitudes toward L2 reading, which are often linked to perspectives on past educational experiences in both L1 and L2 contexts and to socio-political differences between L1 and L2 societies. These experiences shape perceptions of how well L2 readers can perform tasks, and lead to student self-perceptions of how successful they are as students (and readers). These perceptions, in turn, influence students' self-esteem, emotional responses to reading, interest in reading and willingness to persist. No one disputes the fact that students' self-perceptions, emotional attitudes toward reading, interest in specific topics, and willingness to read texts and learn from them are important issues for the classroom learning environment. Unfortunately, these issues are often ignored in discussions of reading comprehension instruction, but in L1 reading research they are now seen as important predictors of academic success (Guthrie, 2008; Guthrie, Wigfield and Perencevich, 2004; Schunk

and Zimmerman, 2006). L2 teachers are not likely to be given much guidance on these issues (cf. Grabe, 2009), so reading motivation and its various manifestations represent an important topic for teacher research and classroom exploration (see model action research projects 7.3.1, 7.3.2, 7.3.3 in Chapter 7).

2.2.3 Differing amounts of exposure to L2 reading

A major difference for L2 reading, and one that strongly influences the linguistic knowledge differences mentioned in 2.1, is the total amount of exposure to L2 reading and to L2 print that a student experiences. In many cases, the extent of reading practice in the L2 will mark the typical L2 reader as different from the L1 reader. As we emphasised in Chapter 1, the development of fluency and automaticity in word and syntactic processing is an essential foundation for reading. Most L2 readers are simply not exposed to enough L2 print (through reading) to build fluent L2 processing (Koda, 2005; Lundberg, 1999). Nor do they have enough exposure to build a large recognition vocabulary. These differences between L1 and L2 reading situations are significant because L1 readers spend years building up the amount of exposure to print needed to develop fluency and automaticity. The extent of students' exposure to L2 print is an issue that we can (and should) explore with our students to understand better just how much L2 reading practice students have had, and what types of reading practice and L2 texts they have been exposed to.

2.2.4 Differing kinds of texts in L2 contexts

The experiences that individual students have with differing kinds of texts in L1 and L2 contexts are additional potential sources of reading comprehension differences. Because L1 and L2 readers are likely to have different experiences with various text genres, they develop diverse approaches to the range of texts that they encounter. In many L2 contexts, students read quite simple texts, yet in other L2 contexts, students read texts far more difficult than they should be encountering. In the cases of the simpler texts (as in certain L2 reading textbooks and graded readers), these reading experiences may not match the reading experiences of L1 readers at comparable cognitive-ability levels. In settings where L2 students are asked to read difficult, often authentic, texts, reading experiences at first glance appear to be similar to L1 students, but closer examination reveals that the texts are often much shorter in length, a recognition on the part of materials developers of the difficulties students are likely to have with authentic texts. L2 students, over a period of time, are also less likely to be exposed to the full range of text genres that are commonly

read by L1 students, partly because a number of these genres are read outside of class or even outside of educational task requirements. It is not obvious what impact these differences have on L2 students, except that the range of texts that they could be reading is generally restricted (and new vocabulary exposure may be more limited as a result; cf. Gardner, 2004).

2.2.5 Differing language resources for L2 readers

Important L1–L2 differences centre on the use of bilingual dictionaries, glosses, translation and cultural background resources in L2 contexts, but not in L1 contexts. Bilingual dictionaries are, by definition, unique to L2 reading. L2 students often use learner dictionaries that carefully attend to the ways in which words are defined. Neither of these resources is typical of L1 literacy learning. L2 students often read materials with glosses for more difficult terms. It is true that glosses are also found in L1 textbooks (e.g. in science-learning textbooks that often require extensive technical vocabulary development), but they most often assist readers with unusual vocabulary, technical terms or archaic words. In L2 contexts, glosses commonly provide synonyms for vocabulary that is above learners' levels but well within the range of vocabulary knowledge expected of L1 readers. In addition, L2 students commonly write out translations of texts and do their own mental translations as ways to assist comprehension (Kern, 1994). Such translation resources are unique to L2 settings. Finally, L2 students can reference their own specific L1 cultural knowledge and text resources for L2 reading tasks (e.g. proverbs, special and sacred texts, and cultural narratives). How these resources influence L2 reading comprehension for different groups of readers is not well known, but they indicate a clear difference between L1 and L2 readers, and they should be investigated in the classroom for insights that a teacher might gain (see Hartmann, 2001; Scott and de la Fuente, 2008).

Pointing out unique and distinct resources for L2 students is only part of the issue. We need to evaluate the effectiveness of these resources, and students need to be taught to use these resources efficiently. For example, effective teachers do not take an absolute stand on bilingual dictionary use because students are likely to use bilingual dictionaries no matter what is said. Rather, the issue becomes which bilingual dictionaries to use, when to use them and how to use them effectively. If we 'ban' bilingual dictionaries, we only guarantee that students will not receive the guidance needed to use them efficiently – because we can be sure that students will use them on their own. (See model action research projects 7.1.1, on the use of dictionaries, and 7.1.2, on the effectiveness of glosses, in Chapter 7.)

2.3 Socio-cultural and institutional differences influencing L1 and L2 reading development

Aside from specific individual differences, linguistic and otherwise, a number of larger cultural and social issues operate outside of the specific classroom context (see Table 2.3). Reading development and reading instruction are strongly influenced by parental and community attitudes toward reading and uses of literacy. This is true for both L1 and L2 contexts, but, as will become apparent in the sections that follow, these factors do not always operate in the same way, either between L1 and L2 contexts, or across various L2 contexts.

2.3.1 Differing socio-cultural backgrounds of L2 readers

A key difference between L1 and L2 reading settings, but one often overlooked, relates to the L1 socialisation to literacy practices that L2 students bring from their L1 cultural backgrounds. In some cultures, literacy is relatively uncommon, and written communication often involves scribes and letter writers. Other cultures use literacy extensively, but emphasise certain uses over others, often placing greater value on sacred texts or other highly valued traditional texts. Yet other societies use literacy extensively, despite the fact that individual limitations in literacy skills are common and socially accepted. Finally, societies like the US, the UK and Australia socialise citizens to believe that everyone should be literate. In such settings, the literacy environment is intense and pervasive (i.e. signage, labels and texts of all types are found everywhere).

In each cultural context, assumptions about how to use text resources, including technology resources, also tend to differ (Garton and Pratt, 2009; Wagner, 2009). Some social groups see texts as unchanging; others consider texts as serving utilitarian purposes but not to be highly valued; others view texts as sources of truth to be studied; yet others value texts as alternative interpretations of realities and facts that can be disputed.

Table 2.3 Socio-cultural and institutional differences influencing L1 and L2 reading development

1. Differing socio-cultural backgrounds of L2 readers
2. Differing ways of organising discourse and texts
3. Differing expectations of L2 educational institutions

Quote 2.11

What it means to be literate, how this literacy is valued, used and displayed, will vary from culture to culture. Some cultures have enormous respect for the printed word, such that it is implicitly accepted as authority, and cannot be questioned. Others fear the implications of putting any opinions in print, since the greater permanence accorded to opinions thereby makes the owner of the opinion more 'accountable'.

Alderson (2000, p. 25)

In each setting, individuals are socialised in their L1 education to engage with texts in specified ways (Haeri, 2009; Lundberg, 1999). L2 readers moving from one orientation to another are likely to encounter some difficulties in reading texts for purposes that do not complement cultural assumptions; these students may need teacher assistance in making these shifts. In almost all cases, L2 students will have some difficulties framing assumptions presented in L2 texts when these texts make use of cultural assumptions that the L2 students do not share. These mismatches in assumptions may cause serious problems especially when L2 students read literary and contemporary-culture texts.

2.3.2 Differing ways of organising discourse and texts

Another major distinction between L1 and L2 reading contexts is the differing cultural and social preferences given to particular ways of organising discourse and texts. In literate societies around the world, people develop preferred ways of organising information in written texts (and also in oral texts for that matter). For example, people make arguments in writing by presenting observational and numerical evidence, by emphasising a culturally accepted logic, by pointing to a persuasive example or by referring to traditional wisdom or religious doctrines. Certain socio-cultural preferences for making an argument or taking a position then tend to become conventionalised in writing so that the structures and organisational plans for writing tend to reflect an expected way to write an argument. Thus, purposes for writing, beliefs about the preferred way to make an argument and the ways in which information is used in writing all influence how texts may be organised and how linguistic resources are employed. The study of this phenomenon is sometimes referred to as contrastive rhetoric or intercultural rhetoric (Connor, Nagelhout and Rozycki, 2008; Hudson, 2007; Kaplan, 2005). The essential point for the purposes of reading is that L2 text resources may not always be organised in ways that match students' L1 reading experiences.

Additional factors related to text organisation that may influence L2 reading comprehension include differences in (a) the ways in which texts express interpersonal relations with the reader (e.g. the use of 'I' and 'you' as pronouns), (b) expectations about the amount of new information that is embedded in a text (e.g. the use of many nominalisations), and (c) assumptions about how explicitly reader interpretation should be guided (e.g. with supporting details, descriptions and explanations). These issues suggest the benefits of exploring the discourse organisation of texts as part of instruction and raising student awareness of the ways in which information is presented (or not presented), all the while being cautious with certain over-generalised claims about discourse differences across languages. (See model action research projects 8.2.1, focusing on the use of graphic organisers, and 8.2.3, focusing on the identification of signal words indicating sequence and contrast, in Chapter 8.)

2.3.3 Differing expectations of L2 educational institutions

Our last distinction between L1 and L2 reading is shaped by the different attitudes, resources and expectations of L1 and L2 educational structures. L2 students are shaped in their assumptions and their performances by their previous L1 institutional experiences (with, for example, national exams, national curricula, teacher behaviour, classroom management, teacher inspectors and district and regional mandates), which could be in sharp contrast with the L2 institutional settings in which they find themselves (Hanley, Tzeng and Huang, 1999; Leki, 1992; Lundberg, 1999). Additional differences include amounts of funding for teacher training, levels of teacher experience, allocations of money to educational resources, level of support for educational infrastructure, teacher–student relationships and class sizes. Of course, these differences can be found within L1 contexts, with ethnic minority groups often experiencing lower levels of institutional support. However, these differences may be magnified considerably with L2 students from many different socio-cultural and language backgrounds, and these differences can lead to reading difficulties that might otherwise be unexpected (Fairbanks, Cooper, Masterson and Webb, 2009; Rueda, Velasco and Lim, 2008).

In line with this issue are the differences that stem from group socialisation to the usefulness (or non-usefulness) of institutional structures generally and, on many occasions, the potential oppressiveness of these institutional structures more specifically. In L1 contexts, ethnic minorities often see school institutions as representing interests at odds with their own, and they tend to develop resistant attitudes toward educational efforts (Ogbu and Simmons, 1998). In L2 contexts, students may bring strong attitudes from the L1 to the L2, with little room to accept the L2 as a relatively utilitarian tool for further learning. At the same time, many

L2 students do adopt a strongly utilitarian attitude toward the L2, an attitude that may be quite different from their attitudes toward their L1s. A utilitarian attitude may, in turn, limit students' willingness to engage in a long-term consistent effort to learn to read fluently.

2.4 Conclusion

The many differences that exist between L1 and L2 reading contexts point out the complexities of L2 reading comprehension (see Table 2.4 for a summary of differences). Not only are L2 students and student groups as diverse as L1 student groups, but they are involved in learning goals that are even more complicated than those in most L1 literacy environments. Many of the assumptions associated with L1 reading instruction should be rethought and modified in light of these differences. On the basis of this chapter, it should also be apparent that there is no straightforward blueprint for how a teacher should adapt instruction for all L2 contexts. It is also clear that no one-size-fits-all approach or set of procedures can be offered.

Table 2.4 Differences between L1 and L2 reading

Linguistic and processing differences

1. Differing amounts of lexical, grammatical and discourse knowledge at initial stages of L1 and L2 reading
2. Greater metalinguistic and metacognitive awareness in L2 settings
3. Varying linguistic differences across any two languages
4. Varying L2 proficiencies as a foundation for L2 reading
5. Varying language transfer influences
6. Interacting influence of working with two languages

Individual and experiential differences

7. Differing levels of L1 reading abilities
8. Differing motivations for reading in the L2
9. Differing amounts of exposure to L2 reading
10. Differing kinds of texts in L2 contexts
11. Differing language resources for L2 readers

Socio-cultural and institutional differences

12. Differing socio-cultural backgrounds of L2 readers
 13. Differing ways of organising discourse and texts
 14. Differing expectations of L2 educational institutions
-

If there is one lesson that has emerged strongly in the past decade of research on L2 reading, it is that the L2 reader is not simply a reader in contrast with the L1 reader. Instead, current L2 research suggests that the L2 reader is one who incorporates both L1 and L2 language and literacy knowledge. Such a perspective opens up more careful explorations of L2 reading processes, the role of L1 transfer, the development and use of the bilingual lexicon, and the strengthening impact of L2 input knowledge as the L2 reader develops. This view is captured well in Quote 2.12 by Keiko Koda.

Quote 2.12

Dual-language involvement is the foremost attribute highlighting the unique characteristic of second-language reading. A clearer understanding of how literacy experiences in two languages interact and coalesce in the formation of second-language reading skills should take primacy in second language reading research.

Koda (2008, p. 90)

Becoming informed about the many possible differences between L1 and L2 students can assist all of us in (a) interpreting reading research and the many assertions made about effective reading instruction, (b) recognising the particular demands of L2 reading and (c) investigating pertinent concerns in our own classrooms. At the same time, we cannot wait for sweeping assertions from research, nor should we be swayed by claims of ‘perfect’ classroom solutions. Rather we should use our own classrooms, and our own students, as a forum for meaningful classroom-based research. Real classroom environments often provide the best context for exploring L2 learning issues important for effective learning. The differences showcased in this chapter represent useful starting points for meaningful and purposeful teacher-initiated enquiry, as shall be illustrated in Section IV of this volume.

But before considering how teachers can engage in their own action research, we would first like to provide an introduction to current research on reading in both L1 and L2 contexts. We begin by viewing research studies as types of stories. Just like every well-formed story, each study has a setting, a set of episodes, a culminating event, and a moral for the reader. We then tell ten good stories about L1 reading research (in Chapter 3) and ten good stories about L2 reading research (in Chapter 4). These next two chapters also allow us to introduce readers to very interesting research

efforts by some leading researchers, highlight key component features of reading comprehension, and illustrate a range of ways that good reading research is being carried out in both L1 and L2 contexts.

Further reading

Citations that appear frequently in the chapter represent key references for further details. Some additional resources, beyond those referred to in the chapter, are noted in Chapter 10 (mainly 10.1 and 10.2) and here:

- On *language threshold*, see Alderson (2000), Bernhardt (2011), Hudson (2007), Koda (2005)
- On *transfer*, see Koda and Zehler (2008), Koda and Reddy (2008)
- On *the interplay between two (or more) languages in reading*, see Cook and Bassetti (2005), Koda (2007)
- On *motivation as a predictor of academic success*, see Guthrie, Wigfield and Perencevich (2004), Pressley (2006)
- On *the use of different L2-specific resources to facilitate reading*, see Hudson (2007), Nation (2001), Prichard (2008)
- On *cultural and social issues related to reading*, see Goldenberg, Rueda and August (2006), Rueda, Velasco and Lim (2008)

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Section



Exploring research in reading

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Key studies in L1 reading

This chapter showcases eleven L1 reading research studies that have made major contributions to our understanding of reading and learning. The studies are explained in easy-to-understand terms to show how and why researchers carry out their research and how results are interpreted. A review of these studies will help practitioners understand important aspects of reading and reading research, including the following:

- the relationship between vocabulary and reading abilities
- the role of fluency in developing reading abilities
- the effect of morphological knowledge and metalinguistic awareness on reading abilities
- the value of strategies and discourse awareness for skilled reading
- the impact of specific instructional practices and curricula on reading skills development
- the role of motivation in the reading classroom

The first two chapters of this book outline a theory of fluent reading and differences between first-language (L1) and second-language (L2) reading. These introductory chapters highlight the fact that we know a lot about reading in general, but much less about L2 reading and how best to teach L2 reading more specifically. Chapters 1 and 2 also illustrate the benefits that we, as reading teachers, can gain from (a) understanding reading research and theory building, (b) developing abilities to interpret and evaluate research studies and corresponding implications for instruction and (c) carrying out small-scale action research projects in our own local contexts. What we can learn from each of these sets of activities has the potential to help us improve reading instruction. In essence, a goal for us as teachers and hopefully as researchers, should be to engage in evidence-based instructional

practices, whether that evidence comes from research studies reported in journals and books or from our own and others' action research projects that suggest new options for instruction. In this chapter and the next, we consider how research can be understood, how it can be interpreted, and how good research studies on reading have been carried out. Chapter 3 focuses on understanding key L1 reading research studies and Chapter 4 shifts the focus to L2 reading research. Particularly important in this chapter is the link between specific research efforts and the types of implications from research that lead to theory building and recommendations for instruction (the latter is explored in more depth in Chapter 5).

3.1 Research studies as stories: An extended example

Every research study, in essence, represents a story. We read stories almost every day and do not see them as difficult; in fact, we often think of reading stories as pleasurable. So why don't most of us think of reading a research study as pleasurable? Certainly, the story structure of a research article is different from what we are used to in more standard story telling. A lack of familiarity with the many conventions of a research 'story' sometimes makes it hard for us to follow the story line. Nevertheless, research studies are stories and they contain features of story structures. Only the format and the formal reporting features are truly different, reflecting a different target audience and its set of well-defined expectations. In this section, we translate the story of an extended research study, one that has had a major influence on L1 reading research for the past 20 years.

This story – which could be thought of as an epic narrative that unfolds over a period of eight years – begins with two researchers (Byrne and Fielding-Barnsley) who wanted to understand what makes children better readers at early stages of reading development. They wanted to find out if practice in relating letters and sounds (**letter-sound knowledge**), along with practice in identifying phonemic sounds in words (**phonemic awareness**), would make children better readers or not. One conflict that they encountered early on (like any good narrative) was that another teaching method was being promoted by school officials as the *only* way to teach reading, even though there was little evidence of better reading development among children with this other method. The researchers wanted to determine if their ideas about beginning reading would give students an advantage.

The researchers anticipated a number of challenges early on. First, they recognised the need to measure the long-term effects of their ideas for

teaching and learning. Fundamentally, they wanted to know if their ideas would make a difference in student performance 3 or 4 years after the study. Second, they wanted to be able to make strong claims from their work; they realised that the best way to do so was to ensure that their research was controlled and balanced. They needed to be sure that their results, if in their favour, would not be due to luck, but rather would be because their ideas actually made a difference in student performance. A third problem that they planned for was related to the fact that students come and students go. Consequently, they needed to look at enough students to be able to make general statements even when some students moved away or could not be located years later.

The researchers realised that they needed three tools to accomplish their mission: (a) an instrument for checking students' abilities *before* training, (b) procedures for the training itself and (c) procedures to determine what changes in student performance had occurred *after* the training. Because the researchers knew that their study would provoke criticisms, they wanted to be careful. They took three precautionary steps. First, they looked for measurement instruments that were appropriate for their study and that other researchers had used successfully. Then they adapted some of those instruments to fit their own research setting and gathered the most appropriate information to answer their questions. Finally, they had to make sure that all students in the study were receiving similar instruction. After taking this final precautionary step, they could feel comfortable stating that differences between groups of students, if, indeed, there were differences, were more likely to be because of specific training differences (rather than differences in regular instruction).

In a first study (1989), Byrne and Fielding-Barnsley wanted to demonstrate the importance of their ideas. They worked with thirteen preschoolers to see if the children could be trained to match consistent symbols (i.e. colour-coded geometric symbols like a blue circle and a red triangle) with words used in compound forms (i.e. 'little boy', represented by a red triangle followed by a green square; 'big boy', represented by a blue circle followed by a green square). When confronted by new compound forms like 'little fish' (red triangle followed by yellow diamond), they were to associate the red triangle with 'little'. Ten of the thirteen children could do this well; that is, they could associate a spoken word to a matching symbol that they had seen before. These ten children, however, could not transfer this ability (to match words with symbols) to the ability to relate *sounds* in words to consistent symbols (with symbols representing sounds, rather than words, so that words like 'fat' and 'bat' were made up of three symbols each, the first one is different, the last two identical). Children could not detect and identify repeated sounds in new spoken words. The conclusion reached by the researchers was that identifying individual sounds in words is not easily learned by automatic transfer from

more general symbolic learning skills. This difficulty showed a likely need for explicit instruction in beginning literacy, and particularly in letter–sound correspondences.

After demonstrating the importance of their ideas, the researchers needed to develop an appropriate direct-instruction programme. They trained children through a series of seven stages to accomplish the following three goals: identify sounds in words, divide words into separate sounds and explicitly learn the sound–symbol correspondences. After testing students at the completion of each stage, they found that students could not develop the **alphabetic principle** (transferring letter–sound relations to new words) until they had been directly taught *both* letter–sound correspondences and sound-identification skills. The researchers found that direct training in both abilities helped young children learn the alphabetic principle.

With this set of results in hand, Byrne and Fielding-Barnsley (1991) carried out their major **training study** that they designed for teaching sound-identification skills and letter–sound correspondences. They recruited 126 children (average age 4 years, 7 months) from four preschools and divided them into two groups: 64 in the experimental **treatment group** and 62 in the **control group** that followed the standard curriculum. At the beginning, they tested the two groups to be certain that they were equal in verbal abilities, **concepts about print**, rhyme recognition and **phoneme-identification abilities**. The experimental children then received a total of 6 hours of explicit training in phoneme identification, sound segmentation and letter–sound correspondences over a period of 12 weeks (30 minutes per week). At the end of the training, the experimental children could identify phonemes in words significantly better than control children; these results were not really surprising because the children in the experimental group had been practising the identification of phonemes as part of their training.

As a second phase to their study, all children were reorganised into three new groups: those who were successful in (a) phoneme identification, (b) letter–sound knowledge or (c) both abilities. (Eighty per cent of the children who were successful in both abilities came from the original experimental group, whereas 20 per cent were from the control group.) The researchers found that 75 per cent of the children who were good in both abilities could ‘read’ a set of new simple words when, seeing a written word, they were asked to choose between two spoken words. Only 4 per cent of the other children (those without *both* abilities) could ‘read’ the words. Once again, the researchers demonstrated that young children need both phoneme-identification abilities and knowledge of letter–sound correspondences and that they benefit from direct instruction in these abilities.

Quote 3.1

The purpose of this study was to evaluate a new program.... The program emphasizes recognition of phoneme identity across words.... Comparison of pretraining and posttraining measures of phonemic awareness showed greater gains by the experimental group in comparison with controls. The increased levels of phonemic awareness occurred with untrained as well as trained sounds.

Byrne and Fielding-Barnsley (1991, p. 451)

The data clearly show that recognition of phoneme identity can be trained with the program used in this study.... This result indicates that phoneme identity is a stable construct once it is achieved.

Byrne and Fielding-Barnsley (1991, p. 454)

The researchers did not stop with this study because they wanted to build a more persuasive argument. Anyone looking at their results could have said that the experimental children did better simply because they had been trained on the very skills that were measured. What the researchers really wanted to determine was if the 6 hours of direct instruction would have any long-lasting benefits for the experimental children. So Byrne and Fielding-Barnsley (1993) did a one-year follow-up study of the children to find out. Even though the children were now spread across a number of schools, they found 63 of the experimental children and 56 of the control children (for a total of 119 children, average age 6 years, 0 months) and gave them a set of follow-up tests. They tested for six basic skills: (a) phoneme-identification skills (e.g. children match two pictures of objects, from among four, that begin with the same sound), (b) phoneme-elision skills (e.g. children look at a word such as 'small' and identify a new word without the first sound), (c) alphabet knowledge, (d) word identification, (e) **pseudoword identification** (e.g. children hear a made-up word such as 'sut' and point out the right written form after looking at 'sut' or 'ig') and (f) spelling of simple pseudowords. The pseudoword tests were vital to the study because they prevented children from using prior knowledge of real words; the pseudowords led to a purer measure of applying the alphabetic principle. The experimental children, one year after the initial training, were significantly better in phoneme-identification skills, phoneme elision skills, and pseudoword recognition (requiring strong knowledge of the alphabetic principle). (Remember that these groups were matched in verbal-ability tests and phonemic-awareness skills at the

outset of the first study in 1991.) The researchers noted, however, that the differences were no longer as great as a year earlier, a natural expectation after another year and a half of school exposure.

Quote 3.2

In the original study, preschoolers were trained with the program for 12 weeks and gained in phonemic awareness and knowledge of the alphabetic principle as compared with a control group. The children were retested at the end of kindergarten on phonemic awareness, word identification, decoding, and spelling. Children who enter school with advanced levels of phonemic awareness scored significantly higher on each of the measures.

Byrne and Fielding-Barnsley (1993, p. 104)

As a second part of their 1993 study, they again regrouped the children into those who had demonstrated successful phoneme-identification skills at the end of the earlier preschool study (across both experimental [80 per cent] and control [20 per cent] groups) and those who had not. They found that the successful group was significantly better on all follow-up study measures (phoneme identification, phoneme elision, alphabetic knowledge, word identification, pseudoword identification, spelling). So although the modest original instructional **treatment** still showed a benefit, the principle that children need early phoneme-identification skills was a powerful predictor of early literacy skills measured one year later.

Quote 3.3

Children in our samples who entered elementary school understanding that words can share individual sounds performed at higher levels in reading real words and pseudowords and in spelling than children who did not understand this concept.

Byrne and Fielding-Barnsley (1993, p. 109)

The researchers, still not entirely satisfied, asked themselves another question: Will these differences continue into later years? So in 1995, Byrne and Fielding-Barnsley published another study based on 2- and 3-year follow-ups with the initial preschool training groups. At the end of Grade 1 (Australian system), they found 64 of the experimental children and 54 of the control children (for a total of 118 children, average age 7 years, 2 months). They tested these children once again with some similar

tests and some new tests to reflect emerging reading abilities. After more than 2 years since the original 6-hour training programme, the experimental children were still scoring significantly higher than control children on pseudoword reading abilities (but no longer significantly better on real word reading abilities). Additional testing was conducted at the end of Grade 2 with 62 experimental children and 53 control children (for a total of 115 children, average age 8 years, 2 months). By this time, some of the earlier tests no longer measured differences, and new tests were used for measuring grade-appropriate abilities in speed of processing, word recognition, pseudoword recognition, listening comprehension, reading comprehension and exposure to print. Experimental children still scored higher in word recognition, pseudoword recognition, listening comprehension, and reading comprehension, but only pseudoword recognition and one reading measure remained significantly better.

Quote 3.4

This article reports a follow-up study of children in grades 1 and 2 who had been instructed in phonemic awareness in preschool. Compared to a control condition, the trained children were superior in nonword reading 2 and 3 years later and in reading comprehension at 3 years.

Byrne and Fielding-Barnsley (1995, p. 488)

As a final step in their long and persistent search, the researchers again regrouped the children based on their success in phoneme identification while in preschool (rather than on whether they received the 6 hours of training in preschool). The students who were initially successful in phoneme identification remained significantly better in all word recognition and pseudoword recognition measures more than 3 years later. (They also had higher scores in listening comprehension and reading comprehension, but differences were not all significant.) Byrne and Fielding-Barnsley concluded from this work that children benefit from phoneme-identification skills (as well as knowledge of letter-sound correspondences) with regard to reading abilities. Moreover, they showed that a six-hour instructional programme taught in preschool has a lasting benefit on abilities needed for fluent reading.

This long story is a significant one. At a time when so many people are debating the strengths of holistic and natural approaches to reading versus direct instruction in skills that support reading, the long-term efforts of Byrne and Fielding-Barnsley add strong evidence that certain types of direct instruction can benefit children who are learning to read. As one might imagine, the original story, in its various segments, was reported in a very

Quote 3.5

The persistent effects of the preschool training on decoding should be considered in context. Recall that training was conducted more than three years prior to the most recent testing round, and then only for 6 hours in total. . . . Thus, it might be expected that any advantage accruing from the preschool exposure to an element of the alphabetic principle, phonemic structure, would wash out in several years in a school system that uses code-based teaching. Apparently it does not.

Byrne and Fielding-Barnsley (1995, p. 497)

different manner – in a condensed scientific way, as expected by other professional researchers. Together, the various studies tell a very captivating story that lasted more than 7 years in all. The researchers' story started with an idea. Then they posed a question; they developed materials; they tested students before teaching them (to have fair groupings and establish baselines); they taught the children; and then they tested the children to see if the instruction added anything to the children's abilities. One, two, three and four years later, they found the children and tested them again to see if their research ideas held up over time. This sequence can certainly be seen as a 'quest' narrative or possibly an epic narrative.

3.2 Ten more key research studies

Most research shares similarities with the Byrne and Fielding-Barnsley studies. At the core, there is a simple and straightforward format for telling these stories: a real concern; a good question; a way to collect information – often by means of teaching or testing with materials that are created or used from other studies; and means for reviewing and then interpreting results. What is not plainly visible in this simple sequence is the human side of the story. In the story just told, the researchers had to find schools, teachers and children to work with; they made sure that all materials would work well; they talked to teachers, parents, administrators and the children themselves to make sure that the testing would be appropriate; and they tried to anticipate the problems that they would encounter. Throughout the entire process, there were always concerns to be fair, reliable and accurate, and there was the need to come up with unique and clever ways to observe and measure student abilities.

The 'moral of the story' is that research is an understandable process, even if certain details related to controls and statistics can seem overwhelming

Table 3.1 Topics of L1 research studies summarised in the following sections of the chapter

SECTION	TOPICS OF SELECTED L1 RESEARCH STUDIES	RESEARCHERS
3.2.1	Very early vocabulary knowledge and reading ability	Hart and Risley (2003)
3.2.2	Relationship of early vocabulary to later reading abilities	Snow, Porche, Tabors and Harris (2007)
3.2.3	Relationship between reading fluency and reading comprehension	Klauda and Guthrie (2008)
3.2.4	Impact of fluency training on reading development	Kuhn <i>et al.</i> (2006)
3.2.5	Role of morphological awareness in reading abilities	Nagy, Berninger and Abbott (2006)
3.2.6	Influence of discourse organisation on reading	Meyer and Poon (2001)
3.2.7	Impact of student questioning on reading comprehension	Taboada and Guthrie (2006)
3.2.8	Reading strategies and student questioning	McKeown and Beck (2004)
3.2.9	Concept-Oriented Reading Instruction (CORI) and reading development	Guthrie, McRae and Klauda (2007)
3.2.10	Building of a strategy-based reading curriculum	Pressley, Gaskins, Solic and Collins (2006)

at times. In this section of the chapter, we briefly highlight ten other remarkable research stories (see Table 3.1). They were chosen for their contributions to the field of L1 reading and because they (a) address central questions about reading in L1 contexts, (b) focus on distinct issues in reading and (c) reveal different ways to conduct research about reading. In every case, the researchers have made major contributions to our understanding of reading and learning. (It is worth noting that the particular research discussed typically represents only one aspect of the researchers' contributions to the field.) Each study contributes real 'food for thought' to practitioners who are interested in improving reading instruction in their classrooms.

3.2.1 A study of early vocabulary knowledge and later reading comprehension abilities

One of the major component skills associated with reading ability is the role of vocabulary knowledge. This relationship has been pointed out

in a number of L1 (and L2) research studies with students at varying grade levels. Recently, major research has demonstrated that the relationship between vocabulary knowledge and reading ability is very powerful, beginning almost from the first words a child hears and utters. Two studies in this chapter (this one and the one in 3.2.2) highlight some key findings.

Over the course of 20 years, Betty Hart and Todd Risley studied the development of young children's L1 vocabulary exposure and knowledge through the first 3 years of young children's lives. From the 1980s, they received many years of research support to collect and analyse data for 42 children from ages 11 months to 36 months (age of 3). Among the many steps they took was to collect data on how many words and utterances young children were exposed to in the early years of their lives. Some of their findings are extraordinary. One major finding of their work was that the growth in a child's vocabulary knowledge varied systematically with the amount of words uttered in a young child's environment, by the child and by **interlocutors** (Hart and Risley, 1995, 1999, 2003). Children whose parents were professionals heard or spoke about 800 utterances per hour. Children whose parents were working-class heard or uttered about 525 utterances per hour. Children whose parents were on welfare heard or spoke about 240 utterances per hour.

Converting these different verbal experiences to words heard or spoken by each child, and extending these differences to words in the young child's environment, led the researchers to conclude that children of professional families encounter/utter 11.2 million words per year on average, working-class children experience 6.5 million words per year on average, and children from welfare families experience on average 3.2 million words per year. In the first 4 years of a child's life, then, children from professional families experience approximately 45 million words, working-class children experience 26 million words, and welfare-family children experience 13 million words. In addition, the number of different words encountered by children in professional families was almost 2.5 times as large as children from welfare families, and children themselves from professional families used more than twice the number of different words than children from welfare families by 36 months. At the same time, Hart and Risley demonstrated that socio-economic status itself was *not* the major causal factor (nor was ethnic background). Rather, the actual number of total words, as well as different words in the child's environment was the major causal factor in a child's vocabulary growth. Thus, a child from a more talkative welfare family not only experienced more words in the family environment but also used more words. Accordingly, children's exposure to and experience with words in their early childhood environments is the key to their subsequent linguistic (and academic) development.

Quote 3.6

We undertook 2½ years of observing 42 families for an hour each month to learn about what typically went on in homes with 1- and 2-year-old children learning to talk. The data showed us that ordinary families differ immensely in the amount of experience with language and interaction they regularly provide their children and that differences in children's experience are strongly linked to children's language accomplishments at age 3...

It took six years of painstaking effort before we saw the first results of the longitudinal research. And then we were astonished at the differences the data revealed.

Hart and Risley (2003, pp. 1, 3)

The final piece of the puzzle was reported by Hart and Risley in 2003. They wanted to know if the differences in vocabulary experience seen in the children at the age of 36 months would disappear or if it would predict language skills at age 9–10. They managed to recruit 29 of the original 42 families to be part of a follow-up study when students were in the 3rd grade (age 9–10). The children's *rate of vocabulary growth* (as measured by the number of new words used each month) at age 3 was strongly associated with receptive vocabulary knowledge scores in 3rd grade (Pearson **correlation** of .58) and language knowledge in 3rd grade (Pearson correlation of .74).¹ The child's *size of vocabulary use* at age 3 was also strongly associated with these two 3rd grade measures (.57 for receptive vocabulary knowledge and .72 for language knowledge). In addition, vocabulary use at age 3 was strongly associated with reading comprehension scores in 3rd grade (Pearson correlation of .56). These findings are remarkable in that very early childhood vocabulary experience impacted reading performance 7–9 years later. Moreover, they raise a number of crucial issues for long-term literacy development that are explored in Hart and Risley (2003) and Snow *et al.* (2007) (also see below).

This study is also remarkable for the story it tells. Two researchers worked for almost two decades to design, develop and implement a very large and long-term study. They spent a decade collecting and then analysing the data from their study. During this time, they involved dozens of people in data collection and analysis, and worked with 42 families for years. The amount of energy and effort invested was exceptional. What they had done was take on a major research question and found answers

¹ Language knowledge is strongly correlated with reading ability by about 3rd or 4th grade (NICHD, 2005; Storch and Whitehurst, 2002).

that were very revealing for vocabulary and reading development. They were also exceedingly careful and rigorous in their research efforts, as detailed in their two books (Hart and Risley, 1995, 1999). In brief, their story is a compelling one: they asked a fundamental question about language learning, they engaged in sound research practices, they persevered and were tireless, and the results have led to much discussion and further research in the past decade. This two-decade-long enterprise makes for a very good ‘quest’ story.

3.2.2 Predicting reading abilities from early vocabulary knowledge

Other research has been exploring the linkages between vocabulary knowledge and reading abilities in the past decade. Two studies are notable as very well controlled **longitudinal studies** that take up the story where Hart and Risley left off. One is noted briefly here, but the second will be the ‘story’ for this section of the chapter. Monique Sénéchal, Gene Ouellette and Donna Rodney explored how children’s early literacy experiences (e.g. reading to children, shared book reading experiences) in two different L1 settings (English and French) would influence later language knowledge in kindergarten, and how oral vocabulary knowledge in kindergarten would then influence later vocabulary and reading comprehension abilities three and four years later. In two separate studies, Sénéchal and her colleagues (2006) found that vocabulary knowledge in kindergarten was not a strong predictor of word reading abilities in 1st grade (either for French-speaking children or for English-speaking children). However, when students were retested four years later, in 3rd and 4th grades, vocabulary knowledge in kindergarten was a very strong predictor of reading comprehension performance. These are quite important findings.

Quote 3.7

The findings presented... are consistent with previous findings showing that early vocabulary skills are indirectly associated with reading during the first years of instruction... but that early vocabulary has a direct long-term relation to reading comprehension in grades 3 and 4... These findings provide additional evidence that early vocabulary is an important predictor of eventual success in reading.

Sénéchal, Ouellette and Rodney (2006, p. 180)

The Sénéchal *et al.* study provides powerful evidence for the role of vocabulary knowledge in reading development. A more recent study reinforces and extends these findings even further. Catherine Snow, Michelle

Porche, Patton Tabors and Stephanie Ross Harris (2007) reported on a longitudinal study that lasted for 13 years! The ultimate goal of the study was to understand paths of academic development for adolescents in the US school system, particularly as they relate to literacy skills. Snow and her colleagues began with a 5-year longitudinal study to examine the development of language and literacy skills among 83 low-income 3-, 4- and 5-year-old preschool children, and followed their literacy progress in grades 1–4. In this first segment of their research, they went into homes, interviewed parents, observed children and developed measures to assess the students' preschool literacy experiences. They found that vocabulary development in kindergarten was significantly predicted by (a) exposure to rare words (low-frequency words) in the home, (b) exposure to rare words in preschool classrooms and (c) extended teacher discourse in preschool classrooms (all indicative of high-quality verbal environments). As the researchers noted, 'the first 3 years of the Home-School Study pointed to the value of high-quality environments during the pre-school years in preparing children for literacy learning' (Snow *et al.*, 2007, pp. 16, 18). Their findings, along with those of Sénéchal, Ouellette and Rodney (2006), form a natural bridge from the results of Hart and Risley into literacy skills performance in the early school grades for a large number of students.

Continuing the longitudinal study for 8 more years, Snow and her colleagues tracked 59 students into 4th grade, 54 students into 7th grade and 41 students into 10th grade! This very long-term student tracking is very unusual and allows for very powerful findings. The researchers tested these students for both reading comprehension abilities and vocabulary knowledge at all three of the later grade levels (4th, 7th and 10th). They found that receptive vocabulary knowledge in kindergarten was strongly associated with both reading comprehension and vocabulary abilities at all three grade levels (Pearson correlations between vocabulary knowledge in kindergarten and reading comprehension in 4th, 7th and 10th grades were .62, .69 and .60, respectively; Pearson correlations between vocabulary knowledge in kindergarten and vocabulary abilities in 4th, 7th and 10th grades were .77, .63 and .68, respectively).

It is important to point out that a lot happens to students in their educational experiences between kindergarten and 10th grade that could change how students perform. Yet, 11 years later, vocabulary knowledge in kindergarten accounted for 46 per cent (**shared variance**) of their performance on a 10th grade vocabulary measure and 36 per cent of their performance on a 10th grade reading measure. These results are truly remarkable. Snow and her colleagues report on a number of other issues that go beyond this summary; however, it is safe to say that their story is impressive. As a research story, they found and kept track of many students in a large city; they kept and maintained careful records over a very long

period of time; they worked with dozens of researchers and graduate students; and they interacted with a large number of families, school teachers and school officials. The end result is a study that confirms the predictions first suggested by Hart and Risley and also matches closely with Sénéchal and colleagues. Vocabulary is an essential, if not the most basic, component skill for reading comprehension abilities. We certainly hope that this study becomes a future foundation reference for enhanced vocabulary instruction in early grades for both L1 and L2 students.

Quote 3.8

The very strong correlations between kindergarten and later measures suggest that the variation in those school settings was largely irrelevant to child outcomes – those who started out with larger vocabularies and better emergent literacy skills ended up as better comprehenders 5, 8, and even 11 years later. . . .

The knowledge and skills that children take with them into kindergarten strongly predict where they will end up as readers in 10th grade.

Snow et al. (2007, pp. 22, 24)

3.2.3 A study on the impact of fluency skills on reading

The importance of reading fluency has been argued for decades, but relatively few research studies have demonstrated a strong effect of multiple fluency skills on reading comprehension beyond studies involving 1st and 2nd grade students. A recent study by Susan Klauda and John Guthrie (2008), however, provides powerful evidence that fluency skills at multiple levels each directly influence reading comprehension abilities among 5th grade L1 students. The questions posed by Klauda and Guthrie were important ones. Do fluency abilities at word, sentence and passage levels influence reading comprehension abilities even when the researchers first take into account students' inferencing skills and background knowledge for the reading passages? Do the three types of fluency, together, account for a large part of reading comprehension abilities? Do students' reading abilities improve in line with improvements in fluency skills?

Klauda and Guthrie recruited 278 5th grade students across a range of reading abilities from 13 classrooms. They tested these students with measures of reading comprehension, reading inferencing skills and background knowledge of the passage topics in addition to three measures of reading fluency: word recognition fluency, sentence processing (syntactic) fluency and passage reading fluency. Twelve weeks later, they retested

Concept 3.1 Fluency

Fluency itself is as complex a notion for reading as it is for speaking and writing. In the case of reading, fluency involves a combination of speed, accuracy and fluidity of processing (Segalowitz, 2000). These features of fluent reading reflect cognitive abilities to process visual and semantic information efficiently, combining automatic and attentional skills most appropriately for the reading task involved. Fluency also needs to be understood in relation to other important factors, such as age, difficulty of task, familiarity of topic and amount of total exposure to the L2 (see Kuhn, Schwanenflugel and Meisinger, 2010).

students for their reading comprehension abilities and sentence processing fluency. As a story, imagine these researchers testing so many students with six different measures. This project certainly involved a tremendous amount of work.

Quote 3.9

One of the major findings of the present study was that each of the three types of fluency – at word, syntactic, and passage levels – related individually to performance on a standardized reading comprehension test... In other words, the students who demonstrated the highest performances in reading comprehension also displayed (a) fast recognition of isolated words; (b) adeptness in processing phrases and sentences as syntactic units while engaged in oral and silent reading; and (c) appropriate, consistent expression when reading stories and information text out loud.

Klauda and Guthrie (2008, p. 317)

Klauda and Guthrie examined correlations among the measures collected for the study and then carried out multiple **regression models**. Correlation measures showed that all of the measures used correlated significantly and very strongly with reading comprehension. The **multiple regression** models go one step further and provide a way to examine if each fluency measure significantly accounts for reading abilities even after removing the effects of inferencing skills and background knowledge. Results of the study showed that each of the three fluency measures did significantly predict reading abilities independently of other abilities (inferencing, background knowledge). In fact, an unusual, almost startling, result of this study is that all five component-skill variables involved (including inferencing, amount of background knowledge, and three

levels of reading fluency) contributed to reading comprehension abilities independently of the other skills. Moreover, the five abilities, together, accounted for 75 per cent of the shared variance with reading abilities. To say this differently, 75 per cent of whatever abilities are used in reading comprehension are explained by these five component skills. This is a remarkable result. Two further specific results worth mentioning are that the three fluency measures, on their own, accounted for 56% of the shared variance with reading abilities, and that reading abilities were shown to develop as reading fluency measures improved. This latter result argues that reading abilities improved at least in part because of improvements in reading fluency, again, a notable finding.

The questions that Klauda and Guthrie asked were important. The researchers recognised the potential significance of fluency as a component of skilled reading but also recognised that earlier research did not provide consistent positive evidence of this direct effect. As a result of much hard work and careful research design, they demonstrated that reading fluency can be a powerful factor in reading performance and reading development.

3.2.4 A study of training students to become more fluent readers

For more than 15 years, Melanie Kuhn, Paula Schwanenflugel and colleagues have been examining the importance of reading fluency as a component of reading comprehension. Kuhn and Schwanenflugel have also engaged in multiple training studies to determine the effect of fluency practice on reading development (see Kuhn, Schwanenflugel and Meisinger, 2010, for an overview). For the last decade, increasing research has shown that oral repeated readings of texts (but not traditional round-robin reading) help beginning readers and weaker readers read more fluently and with better comprehension. However, there are relatively few studies that have examined this claim with a carefully selected control group and a large sample of students.

In an impressive 2006 study, Kuhn, Schwanenflugel and colleagues wanted to determine if students who read with a variety of oral repeated reading techniques would outperform a control group (using a traditional **basal curriculum**) in word recognition and reading comprehension. They also wanted to know if other students, who engaged in oral reading, but with more different texts and fewer repeated readings, would also outperform a control group. They recruited 24 2nd grade classes, which were then divided into two treatment groups and a control group. Students were tested for word recognition skills, oral reading skills and reading comprehension *before* the onset of two training programmes (and a control group of classes). Students were assessed again *after* 20 weeks (in winter) and *after* 30 weeks (in spring) of the same academic year.

Quote 3.10

Two major, recent reviews of fluent reading (Kuhn & Stahl, 2003; National Reading Panel, 2000) indicate that fluency-oriented approaches to literacy instruction are effective at increasing students' accurate and automatic word recognition, assisting with their comprehension, and promoting their use of prosodic features, such as stress, pitch, and suitable phrasing. . . . One key aspect of these approaches is that they combine extensive opportunities to read connected text with the provision of scaffolding. That is, they provide learners with support through either feedback or modeling that emphasizes appropriate decoding, phrasing, and expression.

Kuhn *et al.* (2006, p. 358)

The repeated reading treatment group carried out treatment activities for about 20–30 minutes per day. Each week, the students reread the *same* main text by (a) listening to the teacher and reading along silently, (b) engaging in echo oral reading practice (during which the class rereads after the teacher has read several sentences), (c) participating in student choral reading and (d) doing student-partner reading, as well as engaging in comprehension discussions and carrying out extension activities. Students also reread the main text at home to a parent once per week and engaged in **extensive reading** for 15–30 minutes four nights a week.

The second treatment group – the wide-reading group – read the main text orally in similar ways for the first three days of the week, but then orally read a second and third text on each Thursday and Friday of the week. So this second group orally reread the main text, but not as often, and also read two other texts orally one to two times per week. The wide-reading group was also expected to engage in home **rereading** one night per week in addition to extensive reading for 15–30 minutes four days per week.

Results of the study showed that the wide-reading group performed significantly better than the control group in all measures (word recognition, oral reading, and reading comprehension) after 20 weeks and after 30 weeks. The oral repeated reading group did not significantly outperform the control group at 20 weeks. However, the oral repeated reading group did significantly outperform the control group after 30 weeks of treatment.

The results of this study showed that a large group of students could be trained in oral rereading (and extensive reading at home) and would significantly improve their reading abilities over a control group that spent as much time as the treatment groups on reading instruction. Overall, Kuhn, Schwanenflugel and colleagues showed that two focused training

Quote 3.11

This study found better growth for both of the interventions on word **reading efficiency** and reading comprehension relative to the growth experienced by children in the control classrooms. These benefits emerged earlier for the wide-reading approach when compared to the control classrooms than they did for the [repeated reading] group. . . .

By the end of the year, the [repeated reading] and wide-reading approaches had demonstrated a positive impact on children's reading skills. As a result, we conclude that increasing the amount of time children spend reading challenging connected text with the proper scaffolds will lead to improvements in word reading efficiency and reading comprehension.

Kuhn *et al.* (2006, pp. 377, 382)

programmes that used oral reading practice (and that incorporated careful **scaffolding** support for oral reading) would provide very effective reading instruction for students. The size of this research study, involving 24 different classrooms, represents a remarkable effort to pursue an important question, and tell a very captivating story.

3.2.5 A study of the role of morphological awareness in reading comprehension

To this point, we have seen that two very important component skills of reading (i.e. vocabulary knowledge and reading fluency) demonstrate very significant impacts on reading comprehension. Furthermore, extensive reading appears to have played a major contributing role in the Kuhn *et al.* study just reviewed (3.2.4). And Klauda and Guthrie (3.2.3) demonstrated that sentence processing (as syntactic fluency) also plays a critical role in reading. In the study to be discussed here, carried out by William Nagy, Virginia Berninger and Robert Abbott, we see that **morphological awareness** – knowledge of word prefixes, word suffixes and word stems – also contributes significantly to reading abilities.

Nagy, Berninger and Abbott (2006) used a sophisticated statistical technique known as **structural equation modelling** to explore two important questions: (a) whether morphological awareness would make a significant contribution to literacy outcomes (especially vocabulary knowledge and reading comprehension) independently of **phonological awareness** and (b) whether students in higher grades would make greater use of morphological awareness than younger students in grades 1–3. Because many researchers have argued that morphological awareness is simply an aspect of phonological awareness, this research team wanted to demonstrate that

Quote 3.12

More than half of the words in English are morphologically complex. . . . With each grade children encounter an increasing number of morphologically complex words. The majority of these have meanings that can be inferred from the meanings of their component parts . . . so recognizing the morphological structure of words should aid children in interpreting and learning them. And, in fact, children's awareness of the morphological structure of words has been found to be correlated with their vocabulary knowledge . . . and reading comprehension.

Nagy, Berninger and Abbott (2006, p. 134)

morphological knowledge is a separate source of reading comprehension abilities. With regard to the second question, Nagy *et al.* expected older students to show a stronger influence of morphological knowledge on reading because older students are generally exposed to more morphologically complex words than younger students.

Nagy, Berninger and Abbott recruited 607 students in grades 4–9 and gave students a battery of tests. They combined students into three groups: 4th and 5th graders, 6th and 7th graders, and 8th and 9th graders. The tests given to students included tests of morphological knowledge, tests of phonological awareness, and multiple tests of literacy outcomes (including vocabulary, reading comprehension, spelling, and word decoding). Correlations between morphological awareness and both vocabulary knowledge and reading comprehension were very strong across all three groups of students (correlations of .83, .76 and .62 between morphology and vocabulary; correlations of .76, .65 and .59 between morphology and reading comprehension). Test results were used in structural equation modelling, a statistical technique used to show the impact of specific variables (such as morphological awareness) while statistically eliminating the impact of other variables (such as phonological awareness). In brief, the results showed that morphological awareness strongly predicted vocabulary knowledge and reading comprehension abilities for all three groups of older students. Given the large number of student participants, the researchers' care to carry out reliable testing, and the sophisticated (and powerful) statistical procedures used, these results are very persuasive.

Nagy *et al.* offer us a major study and a compelling story on the effort to understand reading better. They worked very hard to recruit so many students and they were very careful in how they measured specific skills that should help reading development. Based on their study, it is possible to make a strong argument that morphological knowledge is an important component resource contributing to our reading abilities.

Quote 3.13

Results showed that when the shared variance among morphological awareness, phonological working memory, and phonological decoding are controlled statistically, morphological awareness contributed uniquely to all outcome measures. . . . It made a significant unique contribution at all grade levels to reading comprehension, reading vocabulary, and spelling.

Nagy, Berninger and Abbott (2006, p. 143)

3.2.6 A study of discourse structure knowledge and its impact on reading abilities

For the past 30 years, the awareness of discourse structure has been seen as an important component skill that contributes to reading comprehension. Discourse structure awareness includes knowledge of the higher-level organisation of texts, an ability to identify the major **rhetorical organisation** (top-level structure in this case) in texts, the important ideas in texts, and various verbal signals of text organisation. In particular, an awareness of how texts are organised at the highest levels (e.g. as cause and effect, comparison and contrast, problem and solution) appears to be an important ability that contributes to reading comprehension. A key question is how students can be trained to recognise discourse structures so that this knowledge can be used consistently, especially when reading expository texts. Bonnie Meyer and Leonard Poon pursued this question with an impressive study involving ‘structure strategy training’.

Quote 3.14

Readers who use [their knowledge of text structure] . . . approach reading with the strategic knowledge that authors structure texts in predictable ways. . . .

Readers who use the structure strategy tend to remember more of what they read and to remember more of the important information than do those who do not use the strategy.

Meyer and Poon (2001, p. 141)

Meyer and Poon (2001) asked a set of compelling research questions. Does structure strategy training – their approach to discourse structure knowledge – lead to significant improvements in text comprehension? Does structure strategy training outperform training that develops

comparison-group students' *interest in text content*? These are key questions because the researchers wanted to show that a viable training programme in structure strategy would make a real difference in comprehension skills. They recruited 111 younger and older adults to participate in ten 90-minute sessions. Six of these sessions (sessions 4–9) comprised the actual training given to the treatment group over a three-week period.

During sessions 1–3, before treatment, all participants took a range of preliminary tests measuring vocabulary, reading, working memory and reaction time speed; participants also completed a questionnaire about reading activities, interests, health, and biographical information. During the training sessions, the experimental participants (those who engaged in the structure strategy training) were explicitly taught five basic top-level text structures (description, sequence, cause and effect, problem and solution, comparison and contrast) and learned to recognise the top-level discourse structure of multiple instructional texts. Diagrams were used to display the top-level structure and support learning. Participants were given practice in writing summaries and informational recalls of text information and were told to use the basic text structures to organise their **recall tasks**. Finally, participants were given homework after each session to read texts and identify the text structures in these texts. During these training sessions, Meyer and Poon collected recall information and text summaries.

Finally, Meyer and Poon collected results from two transfer tasks (session 10). These post-training tasks were intended to ascertain if the training could be transferred to other tasks that were somewhat different in nature (e.g. the amount of recall of a nutrition video with a problem-solution structure); such extended transfer is usually the most demanding evaluation of training effectiveness.

Quote 3.15

Structure strategy training [significantly] increased total recall, recall of the most important information, correspondence between recall and text organization, and consistent use of the structure strategy across five passages...

The data from both [post-training] transfer tasks were consistent with the hypothesis that training with the structure strategy transfers to remembering other types of everyday materials.

Meyer and Poon (2001, pp. 151–2)

Meyer and Poon found that study participants learned how to recognise text structure, use this awareness for information recalls and summaries, draw on this awareness consistently across several texts, and transfer this

awareness to tasks using more complex text types. Overall, the researchers showed that students could be trained in recognising how texts are organised and use that information to improve their reading comprehension significantly over a comparison group (interest instruction) and a control group (no training). Moreover, this result was found with only nine hours of actual training time. Meyer and Poon not only demonstrated that awareness of discourse structure can be taught in a reasonable amount of time, but also that it had an important impact on reading abilities. This research, in fact, depicts a remarkable story that involved the recruitment of many participants (all adults or young adults), the creation of a large set of instructional materials that were field-tested in prior research, the development and implementation of an efficient training programme, and the design of detailed scoring procedures for evaluating recall and summary tasks. All in all, Meyer and Poon's research represents a major effort to show how awareness of discourse structure impacts reading abilities.

3.2.7 A study of student question-making strategy and reading development

Readers' use of discourse structure awareness, explored in the previous section, is sometimes considered a reading strategy that students can use for better reading comprehension. Several other reading strategies have been identified as crucial for reading development, especially for academic purposes. Some of those reading strategies are not well supported by research though they remain popular (e.g. **SQ3R** – Survey, Question, Read, Recite, Review). Others are not well supported by explicit research on the specific strategy but are supported in terms of the underlying goals that the technique addresses (e.g. **KWL** – What we **K**now, what we **W**ant to know, what we **L**earned). Other strategies have received some research attention, but further confirmation is preferred. In the present study, a key reading strategy is examined – that of student question formation – to see if it contributes to reading comprehension improvement. Ana Taboada and John Guthrie (2006) wanted to determine if forming questions prior to reading actually supports reading comprehension abilities or if prior knowledge of a topic is the underlying cause of comprehension improvement when students are asked to form questions.

Three hundred and sixty 3rd and 4th grade students were recruited to determine if students who formed better questions would perform better on reading comprehension measures and if their abilities with question formation would be independent of their prior knowledge on the reading topic. Students worked with multiple-text packets (each about 75 pages in length) on ecological topics (e.g. oceans and forests, ponds and deserts). Students performed tasks that generated four measures: a measure of prior knowledge, a measure of question-forming ability,

Quote 3.16

Instruction in generating questions in relation to both expository and narrative texts has been shown to positively influence reading comprehension for elementary school, middle school, high school, and college students.... However, a limitation of many of these studies is that the authors have not attempted to provide evidence that the processes of question asking were the source of improvement in reading comprehension.... For example, it is possible that instruction on questioning increased students' activation of their background knowledge and that such activation accounted for the positive effects of the instruction.

Taboada and Guthrie (2006, p. 2)

a measure of multiple-text comprehension and a standardised measure of reading comprehension. One task asked students to skim through their packets for 2 minutes and then, with the materials removed, generate up to 10 important questions about the topic in 20 minutes. These questions were rated on a 0–4 scale based on whether they were valid questions, were simple factual questions, or were questions that involved larger concepts and groupings of individual items into categories, reflecting three degrees of higher-level conceptual questions.

Taboada and Guthrie first looked at correlations among the variables and saw that question-generation ability correlated significantly with both reading comprehension measures, as did prior knowledge scores. Prior knowledge and question formation also correlated with each other. To determine if the impact of question formation on reading comprehension is independent of the influence of prior knowledge, the researchers carried out two regression models, one for the 3rd graders and one for the 4th graders. When the statistical procedure removed the influence of prior knowledge, question-forming ability was still a significant predictor of reading comprehension. So, from this research, we have evidence that question formation represents an important reading strategy that influences reading skills.

The results of Taboada and Guthrie's study showed that (a) question-forming ability is an important strategy that promotes reading comprehension and (b) students who formed more conceptually complex questions were stronger in comprehension abilities. This study depicts an intriguing story, not only for the results obtained but also for the efforts of the researchers to produce carefully developed and controlled measures of prior knowledge, question-forming ability and multiple-text comprehension. Creating these measures took much effort and considerable ingenuity. The full story deserves our attention.

Quote 3.17

Questioning accounted for [unique] variance in reading comprehension. . . . In our view, questioning contributes to comprehension in parallel – concurrently with prior knowledge. Questioning facilitates the use of prior knowledge but does not itself require prior knowledge beyond the extremely minimal level that any student would bring to the text. . . .

Further, our data suggest that it is not the presence or absence of questions in general, but the presence or absence of higher-level questioning that facilitates comprehension.

Taboada and Guthrie (2006, pp. 24, 27)

3.2.8 A study of training students to form good questions to improve reading comprehension

The role of questioning in reading comprehension has also been explored through a reading comprehension approach called ‘Questioning the Author’. Since the early 1990s, Isabel Beck, Margaret McKeown and their colleagues have explored the importance of student discussions as a primary means for building reading comprehension skills. The approach that they developed guides students’ meaningful interactions around text information through questions such as these (see also Table 8.4 in Chapter 8):

- What is the author doing in the text?
- Why is the text written the way it is?
- How well has the author explained or connected the information for the reader?
- What could the author do to help readers understand better?

The goals behind Questioning the Author are to show students how to engage in collaborative discussions about the text and to have students (a) explore information provided or inferred in greater detail, (b) make connections among ideas in the text and (c) become the primary interactants in discovering the main ideas of the text.

Through a series of studies, Beck and McKeown have shown that getting students to become active participants in asking questions and forming answers to text information improves comprehension. However, they also recognised that demonstrating the success of an approach does not necessarily guarantee that teachers will adopt the approach and use it effectively and comfortably (a common problem with research on instructional practices). To address this issue, and also demonstrate the effectiveness of Questioning the Author with the support of teacher

Quote 3.18

Questioning the Author [is] an approach that emphasizes students' construction of meaning from text by encouraging students to collaboratively grapple with and reflect on what an author is trying to say. . . . [It] focuses on students working actively to make sense of ideas in a text. Sense-making is promoted by having them . . . [respond] to teacher-posed queries. . . . Responses to the queries are the building blocks of meaning, which is developed through teachers' responses to students and students' subsequent elaboration and connections. Thus, the development of meaning in Questioning the Author focuses on readers' interactions with the text as it is being read, situates reader-text interactions in whole-class discussion, and encourages explanatory, evidence-based responses to questions about text.

McKeown and Beck (2004, pp. 392–3)

resources provided by the researchers, McKeown and Beck (2004) carried out a study with six teachers (from grades 3 through 6). They trained the teachers to use Questioning the Author in reading and social studies lessons over a 7-month period. In addition to a 3-day orientation workshop at the beginning of the school year, and monthly observation and feedback visits to each teacher, McKeown and Beck created 25 'Accessibles' – brief single-issue documents for teachers to consult on their own (see Beck and McKeown, 2006). These Accessibles covered authentic scenarios about which teachers had expressed concerns during years of prior research (e.g. getting discussions going, handling unanticipated student comments, managing discussions that do not seem to get anywhere, posing follow-up queries, dealing with ideas gone astray). The goal in providing these Accessibles was to help teachers break away from traditional thinking about the use of comprehension questions and become comfortable with a more complex pattern of exploration and interaction with a text and with students.

As part of this study, the researchers trained the six teachers to use Questioning the Author, showed teachers how to use Accessibles to teach more effectively, videotaped early and late lessons during the 7-month period, developed measures of instructional effectiveness, and interviewed teachers on the effectiveness of the approach and the Accessibles. McKeown and Beck's mixed-method research approach combined analyses of quantitative measures and included qualitative reporting on comments and concerns raised by teachers throughout the study.

The research questions that McKeown and Beck proposed explored quantitative changes over seven months in (a) the types of questions

Quote 3.19

The problem addressed in the work reported here was how to transform knowledge gained from classroom implementations of an instructional approach titled Questioning the Author so that teachers could use it in their classrooms. . . . The crux of the problem is that, to create a pedagogy that is supportive of and responsive to students' thinking, researchers need to develop systematic, reliable ways to prepare teachers to conduct and sustain such teaching.

McKeown and Beck (2004, pp. 392, 393)

used by teachers, (b) the types of teacher responses given after students responded, (c) the amount of teacher talk versus student talk and (d) the types of information provided in student responses. These changes were determined by analysing videotaped lessons from the beginning and end of the study. Teacher comments on the use of Accessibles were also reported. For each of the four quantitative measures, teacher and student behaviours changed significantly. By the end of the study, teachers asked fewer simple information retrieval questions, asked more questions that extended meaning, engaged much less in repeating a student's response and much more in refining a student's response, and engaged in less teacher talk and supported more student talk. Students provided far fewer verbatim responses from the text and far more responses that integrated information from the text. Teacher comments on using Accessibles were overwhelmingly positive: 72 per cent were comments on the helpfulness of the teacher resources, the majority of them stated how Accessibles 'provided direction, giving teachers a sense of some situation that might arise in a Questioning the Author discussion and action they could take to deal with it' (p. 402).

This study is important in several respects. First, it is a study that points out the difficulties that teachers can encounter when asked to implement a new instructional approach, one that adds to the complexity of classroom interactions and instructional goals. Second, it describes a research process that can actually be carried out, in a less formal context, as an action research study to offer teachers greater awareness of the complexities of instructional activities. Third, it combines both **quantitative** and **qualitative analyses** in a way that supports the research questions and the goals of the study. Fourth and finally, it explores teachers' understanding of instructional practices and how to build a level of teacher acceptance for new practices. Even though this study is a small-scale one, involving just six teachers and their teaching practices, it took a considerable

amount of work to create good Accessibles, collect data, and work with teachers collaboratively. In short, the study makes for a very persuasive research story.

3.2.9 A study of an instructional approach to reading comprehension that combines motivation, strategy training and content-based learning

Teachers in many countries commonly say that their students do not like to read and do not read – they are just not motivated to read. These same teachers then find it surprising to hear that students in US schools feel the same way, but it is true. An unwillingness to engage in reading is a universal educational problem.

Quote 3.20

There is a remarkable amount of evidence that children's motivation for reading is low in both absolute and relative terms. According to a 2005 nationally representative survey of fourth graders, 65% of students did not have reading as a favorite activity. In the same survey, 73% of students did not read frequently for enjoyment, and 59% of students stated that they did not believe that they learned very much when reading books. . . .

These statistics indicate that a substantial majority of Grade 4 students are not intrinsically motivated to read.

Guthrie, McRae and Klauda (2007, p. 237)

Motivation to read is not only important for general academic achievement, but it is also an important predictor of reading comprehension abilities. Several studies have identified strong associations between motivation and reading comprehension and a number have shown that motivation is a strong predictor of reading abilities (see Grabe, 2009; Guthrie and Wigfield, 2000; Taboada, Tonks, Wigfield and Guthrie, 2009). Given the importance of motivation for reading development, the key questions to ask include the following. How can instruction support the development of student motivation? How well can motivational instruction be incorporated into a realistic curriculum? (A parallel question was raised in the Questioning the Author study above.) In the present study, John Guthrie, Leslie McRae and Susan Klauda carried out a **meta-analysis**² to examine the extent to which Concept-Oriented Reading

² Refer to 4.2.7 in Chapter 4 for a brief description of how a meta-analysis is conducted.

Instruction (CORI) incorporates instructional practices that build motivation and also that improve reading comprehension directly. CORI is an instructional approach developed by Guthrie and colleagues that centres on reading engagement, combining instruction that improves (a) motivation, cognitive skills and strategies central to comprehension and (b) behavioural outcomes such as persistence and willingness to carry out challenging tasks.

Quote 3.21

In designing CORI, we decided to depict our challenge as enhancing students' reading engagement to increase reading comprehension.... We... define reading engagement as a construct that fuses motivational, cognitive, and behavioral attributes of students. In brief, an engaged reader is internally motivated to read....

Ultimately, our instructional practices were designed... [to] increase both student motivations and student cognitive competencies in reading (e.g. strategies) sufficiently to increase their standardized reading comprehension performance.

Guthrie, McRae and Klauda (2007, p. 238)

Before reporting on the meta-analysis of 11 CORI experimental studies, and their impact on both motivation and reading comprehension, Guthrie, McRae and Klauda explain the specific instructional features that build motivation and reading skills, how they are all incorporated into the CORI framework, and what CORI instruction looks like. From a reading engagement perspective, instructional practices that promote intrinsic motivation, perceived autonomy, self-efficacy, collaboration, and mastery goals (i.e. a desire to build expertise in a topic) should all lead to increased motivation for learning. These goals translate into the following CORI principles: relevance (e.g. connect to student experience), student choices, opportunities for success, cooperative and group activities, and thematic units that maintain coherence of content and allow for the build-up of content mastery. Instructional aspects of CORI that focus specifically on reading development include (a) explicit instruction in key reading strategies on a continual basis, (b) an emphasis on vocabulary development, (c) a range of materials that provide coherent content and student choice, (d) reading fluency practice, (e) time for extensive reading and (f) integrated reading-writing tasks.

Eleven experimental studies evaluating the effectiveness of CORI had been published in the 10 years prior to this meta-analysis. The studies ran from a minimum of 12 weeks of instruction to a full year of instruction,

60–90 minutes per day, every day of the week. The various studies all had control groups for comparison, and comparisons between CORI and control groups are reported in the Guthrie, McRae and Klauda meta-analysis as effect sizes, that is, the extent to which the CORI students performed better than control students. (Note that statistically .80 and higher is a large effect size, .50 is a moderate effect size and .20 is a low effect size.) These studies provided 75 points of comparison in terms of effect size, almost all of them involving significant differences. With respect to motivation measures, CORI students significantly outperformed control students in measures of curiosity, self-efficacy, intrinsic motivation, reading motivation and amount of reading (as a behavioural outcome measure). All of these measures involved strong to moderate effect sizes. With respect to reading comprehension outcome measures, CORI students significantly outperformed control students in measures of standardised reading comprehension tests (effect size of .91), on multiple experimenter-created comprehension measures (effect size of .93), on reading expository texts more effectively (effect size of .73), on reading strategy use (effect size of .91), on content learning (effect size of 1.34), on word recognition skills (effect size of .75) and on oral reading fluency (effect size of .59). These results of the meta-analysis provide strong evidence for the impact of the CORI approach on motivation and reading comprehension.

Quote 3.22

For reading comprehension, we computed the impact of CORI on standardized tests of reading comprehension . . . from 5 effect sizes [ES]. The mean ES was .91, showing that CORI had a relatively substantial impact on standardized tests of reading comprehension. We believe that this is relatively rare. Most reading intervention programs have shown effects with experimenter-designed tests but not with standardized tests.

Guthrie, McRae and Klauda (2007, p. 246)

This meta-analysis of 11 different experimental studies carried out in real classroom settings, involving more than a thousand students, is extraordinary. The meta-analysis has shown that CORI developed strong student motivation for reading, and along with motivation for learning, the cognitive reading skills taught in CORI led to large and significant improvement in reading comprehension in comparison with control groups. It is also worth noting that CORI is one of the most prominent curricular approaches for teaching multiple comprehension strategies in combination to students. CORI research studies also address the difficult issue of

transforming research findings into a viable and effective instructional approach that can be readily implemented in regular classrooms over an extended period of time. As a story of a major research synthesis, this meta-analysis captures the efforts of teams of researchers working in perhaps more than a hundred classrooms and teaching more than a thousand students. The time, planning, training, record keeping and interpersonal communication efforts are extraordinary. The meta-analysis represents much more than a research story; it depicts an epic narrative – with many characters, in many settings – about helping students become better readers.

3.2.10 A case study of an effective strategies-based curriculum

Most of the research reported in this chapter has focused on gathering evidence directly about students and their performance, often as a result of some training that they receive. In a few cases, there is also a qualitative component, asking students and teachers to state their own views, verbalise their own thoughts about a particular task, or provide answers to survey or interview questions. This last research story is somewhat different from the others because it focuses on the effectiveness of an entire curriculum in a specific school rather than the study of a group of students. As such, it is a **case study** of how a school in the US achieves extraordinary success with students who enter with reading and learning difficulties.

Michael Pressley and his colleagues have, for a long time, asked what makes for especially effective instruction, and what makes a school particularly successful. In a series of studies, Pressley has explored highly successful first-grade teachers and highly effective fifth-grade teachers. He has also spent time at certain schools that have developed reputations for unusual success with students. This story is a case study of his, and his colleagues', analysis of the Benchmark School (for a case study of another school, see Pressley, Raphael, Gallagher and DiBella, 2004). Benchmark School was chosen in part because of its excellent reputation for success and its curriculum built on evidence-based research findings. Its elementary and middle school students, on average, moved from the 34th percentile for a standardised reading test to the 77th percentile by grade 7 in middle school. The Benchmark School curriculum is known for intensive strategy instruction directed to comprehension; it also emphasises motivation instruction, extensive reading, reading for content learning across the curriculum, vocabulary development and fluency practice.

As a case study, Pressley and colleagues collected data from January to July 2004. Among the four researchers, they spent more than 60 full days collecting data at Benchmark School, interviewing, observing and taking notes. Case studies such as this one require extensive triangulation of

Quote 3.23

Benchmark School in Media, PA is an independent [private] school ... serving bright underachieving elementary and middle school students [grades 1 to 8]. Most Benchmark students come to the school because of difficulties learning to read. Many arrive devastated by several years of school failure, with little confidence that they can learn. ... Most Benchmark students do go on to graduate from high school. ... Most attend college [almost 100 percent]. How does the school so consistently produce high achievement in its students, transforming nonreaders into readers and students who return to regular education and succeed? That is the question addressed in this investigation.

Pressley, Gaskins, Solic and Collins (2006, pp. 282–3)

findings across researchers and a continual rereading of notes and data to draw out key patterns and trends. The research team compared notes on days when they overlapped at the school and noted no major discrepancies in their data. Pressley and colleagues reviewed their findings many times and derived a scale of critical features of the Benchmark School based on a 1–5 scale. The scale identified nine elements that scored at 4.5 or higher and that provide a profile of criteria that contribute to curricular effectiveness:

1. Professional development of teachers
2. Small classes
3. Intensive/extensive instruction
4. Word recognition strategies
5. Writing strategies
6. Comprehension strategies
7. Reflection and monitoring strategies
8. Motivating instruction
9. Pedagogical caring

The priorities given to these nine criteria reflect the evidence-based principles of the school. They are each described in detail in the case study. Additional features that contributed strongly to curricular success include parental commitment and regular homework, three staff members (teachers and/or support teachers) per class of twelve students, high expectations for success and student accountability, regular assessment feedback, a high level of student time on-task, and a commitment to the development of strategic readers more generally. (Comprehension strategy instruction – identified as **Transactional Strategies Instruction** – occurred every day in almost every class hour and reading instruction is continual across content subjects; see Pressley, 2006.)

The Pressley *et al.* case study allows us to observe a successful curriculum in great depth and key features that contribute to successful student outcomes. Such case study research involves a major commitment of time, effort and dedication to research goals. The value of such case study research is that other schools (and educators) can draw from findings and select criteria that might help them improve their own instruction and student outcomes. After implementation (and possible adaptation), such schools can determine if the innovations lead to student improvements. When these schools share their findings with others, the story then continues.

Quote 3.24

We think the heart of the school was reflected by those elements rated as 'extremely important'...goals. These included professional development, intensive and extensive instruction of the Benchmark curricula (especially comprehension and reflection/monitoring strategies), motivating instruction, and pedagogical caring.

Pressley, Gaskins, Solic and Collins (2006, p. 301)

3.3 Seeing the story structure of research studies

The studies described in this chapter have highlighted a number of central issues and questions about reading abilities and reading development. Key connections across multiple studies point to the importance of vocabulary development, active and intensive comprehension strategies instruction, motivation instruction, fluency development, and reading instruction that also focuses on content learning. The last three studies (3.2.8–3.2.10) also highlight three recognised multiple strategies-in-combination approaches to reading instruction – Questioning the Author, Concept-Oriented Reading Instruction (CORI) and Transactional Strategies Instruction (TSI). Moreover, the studies in this chapter reflect a variety of ways to explore questions, collect information, and conduct quantitative and qualitative analyses. Finally, these studies introduce major research personalities in English L1 reading research, though there are many other major contributors to L1 reading research knowledge.

Beyond the importance of the research described here, these studies also represent ways to tell stories. The researchers (the storytellers) all propose good questions, demonstrate the importance of their questions, provide background information and explain the impetus(es) for the study, thereby

setting the scene. The researchers prepare for their studies and plan ways to answer the questions raised. They all go through a series of steps to collect the information needed (like episodes of a story). After collecting information, they analyse it in ways that should help them find answers (much like the final confrontation in stories). The results are reported and the implications are discussed (akin to the story climax, conclusion and implied moral). In short, research studies are interpretable as stories. The difficulties that many people face in understanding these stories are due to the compressed and specialised way in which the stories are told, but the stories are important to everyone who wants to know more about reading and how to teach it well. It is also important to note, in closing this chapter, that research studies and reports of their findings often do not impact instruction systemically for many years, or even decades (see further commentary on this issue in Chapter 4). We hope that these research ‘stories’ lead teachers to explore the instructional implications suggested here in their own classrooms.

3.4 Conclusion

This chapter has focused on L1 reading research and its connections to the discussion of reading in Chapters 1–2. In the next chapter, we introduce an additional set of research studies, though with different emphases. The studies just reported cover student groups that may be several steps removed from many L2 settings, and this difference cannot be ignored. The studies introduced in Chapter 4 bring us closer to the L2 teaching situation, focusing on research interests in L2 contexts. Moreover, they introduce us to researchers, applied linguists for the most part, who tend to have closer connections to L2 instructional practices. The implications of their work argue much more directly for teachers to adjust the ways in which they teach and modify the materials that they use to promote L2 reading skills development.

Further reading

Citations that appear in the chapter represent key references for further details about the studies showcased here. The researchers referred to in this chapter contribute regularly to reading research journals (see 10.1 in Chapter 10). Any search through these journal databases will reveal more work by these researchers and their colleagues. Additional readings on a number of issues discussed in this chapter are noted below. For:

- *instructional approaches that make a commitment to strategies-in-combination* (e.g. Questioning the Author, Concept-Oriented Reading Instruction and Transactional Strategies Instruction), see Beck and McKeown (2006), Grabe (2009), Guthrie, Wigfield and Perencevich (2004), Pressley (2006), Swan (2003)
- *effectiveness of strategy instruction*, see Block and Pressley (2002), Grabe (2009), Janzen (2001), Pressley (2006)
- *discourse structure awareness*, see Dymock and Nicholson (2007), Jiang and Grabe (2007, 2009), Williams (2007)
- *reading fluency and related instructional practices*, see Rasinski (2003, 2009), Rasinski, Blachowicz and Lems (2006), Kuhn and Schwanenflugel (2008)
- *vocabulary development*, see Beck, McKeown and Kucan (2002), Blachowicz and Fisher (2007), Nation (2001), Stahl and Nagy (2006)

Key studies in L2 reading

This chapter reviews ten research studies conducted in L2 contexts. The studies illustrate useful methods for conducting research and showcase topics central to reading development in L2 settings, including the following:

- the importance of word-level issues in L2 reading development
- the role of vocabulary in reading
- the centrality of reading strategy instruction for reading development
- the benefits of fluency and extensive reading
- the influence of motivation on reading

Conducting research in second-language (L2) classrooms has much in common with the research conducted in first-language (L1) settings. The topics are often the same, methods and procedures are typically the same and ways of analysing the information collected are also mostly the same. There are differences, however. Among these differences in L1 and L2 research are the issues discussed in Chapter 2. For example, L2 research, unlike L1 research, often views the roles of language proficiency and language knowledge as important factors in reading development (although the impact of language knowledge is taking on a greater role in L1 reading research; see NICHD, 2005; Snow, Porche, Tabors and Harris, 2007; Storch and Whitehurst, 2002). L2 research often explores transfer of L1 linguistic, strategic and content knowledge on L2 performance, and whether this transfer might be positive or negative. L2 research oftentimes takes into account the role of L1 reading skills, metacognition and underlying cognitive universals when explaining L2 reading development – in essence, L2 reading researchers view L2 readers as learning to read *with* two languages. Moreover, L2 research frequently examines the issue of a second language threshold, a unique L2 issue. Finally, L2 research investigates

cultural factors and unique instructional resources that might influence reading development (e.g. bilingual dictionaries, translation, glossing).

In the previous chapter, we examined a number of studies that have strongly influenced the field of L1 reading research. These research efforts have, to some extent, influenced instruction as well, although the large gap between research and relevant implications for instructional practices is real. Many major research studies have a strong impact on instruction only years after their completion, and often not quite in ways initially proposed by the researchers. One goal of this chapter and the previous one (and of the book overall) is to show that the connection between research and instruction needs to be strengthened. Although it is true that some research should not be translated hastily into teaching techniques, it is also true that important ideas stemming from reading research – ideas that would benefit students' learning – are often lost for years. For example, 20 years after important research emerged describing the importance of students becoming strategic readers, most reading instruction, including L2 reading instruction, still does not focus on strategy instruction in ways that will develop more strategic readers.

We cannot predict ahead of time which research ideas and results ought to influence teaching relatively quickly, but all of us can explore research ideas, claims and interpretations within our own classrooms; we can, for instance, explore the extent to which an interesting idea developed through research makes good instructional sense when adapted in some way to our classroom settings. The goal is not so much to replicate or refute research claims, but rather to see if the claims can fit specific teaching contexts, if they can lead to improved teaching practices and better student learning, and if they can be readily adapted (and adopted) into an ongoing curriculum.

This chapter has two major goals along the lines of the comments above. First, it outlines and extends major topics that are commonly explored in L2 reading contexts. Second, the chapter presents a number of key L2 reading research studies. These studies, like those presented in Chapter 3, are introduced as interesting stories. They can be compared with the research studies introduced in the previous chapter to identify points of similarity that reinforce research findings across L1 and L2 contexts, or identify specific issues raised in L2 contexts, as well as identify the range of research methods being used in L2 reading research.

4.1 Topics to explore in L2 reading research

The previous chapters of this book have revealed many topics that are worthy of exploration in L2 reading research. To organise our discussion

of L2 reading research, and represent the range of issues that can be addressed, we have divided our discussion into six distinct, though sometimes overlapping, areas. These areas, listed in Table 4.1, provide us with a convenient way to talk about major issues and key research studies within a manageable framework. We make no claim to any special insights into reading by using this framework, and several areas of reading are not examined in the following discussion (but are in Chapters 1–3). However, we feel that these areas provide a useful guide for our discussions of L2 reading research that follow.

The first set of research topics noted below – word-level issues and vocabulary in reading development – includes word recognition skills, automaticity, morphological knowledge and vocabulary knowledge of various types. In the case of vocabulary, word repetition frequency in texts and size of students' vocabulary represent only two concerns in a much larger set of interesting issues associated with knowledge of words: (a) multiple meanings of a word, (b) parts-of-speech forms, (c) common collocations, (d) derivational forms and (e) the general semantic fields in which a word commonly appears. Other related topics that could be investigated centre on sight word reading (automatic word recognition) and the roles of cognates, translation, definitions, glosses and dictionary use (see Laufer and Girsai, 2008; Prichard, 2008; Rott, 1999, 2007).

The second grouping of research topics centres on main-idea comprehension practices as well as specific instructional routines, including techniques to promote comprehension such as post-reading questions, fill-in exercises, and writing and speaking tasks based on text information. It should come as no surprise that the topic of main-idea comprehension and corresponding instructional routines suggest a wide range of issues worthy of enquiry. These include, as a partial list, how to organise the classroom layout to promote meaningful discussions around text comprehension; how to structure class activities to maximise student engagement; how to respond to student questions about text information; how to determine appropriate amounts of reading practice, skill building and homework;

Table 4.1 Areas typical of L2 reading research

-
1. Word-level issues and vocabulary in reading development
 2. Main-idea comprehension and instructional routines
 3. Reading strategies and strategic reading
 4. Reading fluency and extensive reading
 5. Motivation in L2 reading
 6. Reading assessment options
-

how to select reading passages, if one has the freedom to select them, and decide on the most effective ways to use them in a reading class; how to plan effective student–student and teacher–student interactional patterns; and how to order comprehension tasks effectively. Other topics within this group centre on the use and development of materials and resources for instruction, for example, when and how to place activities in relation to reading texts, how to create appropriate exercises, how to adapt exercises and activities, how to select and build a class library and how to build reading resources for project-based learning.

The third important grouping of research topics relates to L2 reading strategies and the strategic reader. A considerable amount of research has been carried out on language learning strategies under the domain of second language acquisition. However, much less research has been conducted specifically in the area of L2 reading strategies, especially with respect to the role that reading strategies play in the development of reading comprehension abilities. A fair amount of research has been carried out analysing what types of strategies L2 readers use, as well as how they use strategies and how often they use specific strategies (see Anderson, 1991; Hudson, 2007; Mokhtari and Sheorey, 2008a). In almost all cases, L2 research on reading strategies assumes that more, or better, strategy use automatically results in improved reading abilities. However, such a relationship needs to be tested, not assumed. Research by Macaro and Erler (2008) and Taylor, Stevens and Asher (2006), introduced later in this chapter, provides evidence that strategy instruction can lead to improved reading comprehension performance.

The fourth major cluster of reading research topics examines reading fluency and extensive reading. A wide range of fluency research and fluency teaching activities have been explored in L1 contexts (Kuhn and Schwanenflugel, 2008; Rasinski, 2003; Rasinski, Blachowicz and Lems, 2006). Much more remains to be done in L2 contexts, although the importance of reading fluency and its instruction is growing in recognition (Grabe, 2009, 2010). As an issue directly related to fluency, extensive reading is a generally popular idea among reading researchers and teachers. However, it is often viewed as peripheral support rather than an essential instructional component in many L2 reading curricula. More research is needed to reinforce the benefits of extensive reading, in and out of class, for students (cf. Grabe, 2009, and studies in this chapter).

A fifth area of reading research that is becoming more important is the connection between reading motivation and reading improvement. Research to determine what does and does not motivate students often examines student interests, prior experiences, levels of self-esteem, and attitudes toward reading, the L2 and school. A considerable amount of research on reading motivation has been carried out in L1 contexts showing that motivation and reader engagement significantly improve reading

abilities (Guthrie, 2008; Wigfield and Guthrie, 2010; Wigfield *et al.*, 2008). Much research of a similar type is needed in L2 reading contexts as well.

The sixth set of research topics relates to reading assessment, which often brings up images of standardised tests, cloze passages, multiple-choice questions or summary writing. In fact, researchers can explore a much broader range of topics including so-called alternative methods of assessment such as reading portfolios, checklists, individual student observations, student interviews, group performances, charts of progress over time, extensive reading booklists, oral presentations and performances, and several other options. We should note, at this time, that we do not address issues related to reading assessment directly in the immediate discussion, or elsewhere in the volume, because we feel that the topic merits a separate volume or a much larger book (see Alderson, 2000; Grabe, 2009; Khalifa and Weir, 2009).

A number of other reading research areas are also important and need to be developed much further. These areas include reading resources specific to L2 reading (e.g. the use of word lists, translation, glosses, bilingual dictionaries, mental translations) (Laufer and Girsai, 2008; Prichard, 2008; Rott, 2007); the role of language proficiency and L2 language support in L2 reading; the development of more innovative reading assessment options; the role of socio-cultural influences on reading development; and the influence of teacher training on reading instruction (cf. Anderson, 2008b, 2009; Janzen, 2007).

In our presentation of key L2 research studies in the next section of this chapter, we use the organising framework presented above as a way to be sure that we cover a variety of topics, and also offer a reasonable representation of issues pertinent to L2 reading. Each of the ten L2 research studies presented (see Table 4.2) represents at least one of the first five main groupings of L2 research topics.

4.2 Ten good stories from L2 reading research

Research conducted in L2 settings contains the same storytelling elements as studies conducted in L1 settings. The ten studies to follow cover issues that are commonly addressed by L2 reading research and introduce a range of ways of conducting research. We need to emphasise that the studies discussed here are not necessarily ‘better’ than the many other studies that could have been selected, and we do not mean to slight other outstanding researchers by this set of studies. As anyone who has devoted time to L2 reading will understand, certain studies resonate strongly for individual readers. The following studies are simply those that have resonated with us and have influenced our thinking on L2 reading.

Table 4.2 Research studies associated with different L2 reading research areas

GENERAL L2 RESEARCH AREAS	SECTION	STUDIES ASSOCIATED WITH RESEARCH AREAS
Word-level issues in reading development	4.2.1	A study of L2 word recognition skills and the role of L1 transfer (Wang and Koda, 2007)
	4.2.2	A study on sight word recognition and its impact on reading and new vocabulary learning (Pulido and Hambrick, 2008)
	4.2.3	A study of vocabulary learning through extensive reading (Horst, 2009)
Main-idea comprehension and instructional routines	4.2.4	A study on pre-teaching vocabulary and its effects on reading comprehension (Webb, 2009)
Strategic reading and text comprehension	4.2.5	A study of the use of the L1 in L2 comprehension and mental translation as a reading comprehension strategy (Scott and de la Fuente, 2008)
	4.2.6	A study of strategic reading development through instruction (Macaro and Erler, 2008)
	4.2.7	A meta-analysis study of reading strategy instruction and its impact on L2 reading comprehension (Taylor, Stevens and Asher, 2006)
Reading fluency and extensive reading	4.2.8	A study of the impact of L2 fluency training on L2 reading comprehension (Gorsuch and Taguchi, 2008)
	4.2.9	A study of the benefits of L2 extensive reading on reading development (Al-Homoud and Schmitt, 2009)
Motivation in L2 reading	4.2.10	A study of reading motivation and reading performance (Takase, 2007)

4.2.1 A study of L2 word recognition abilities

In recent years, L2 reading researchers have become much more aware of the importance of rapid and automatic word recognition skills for fluent reading, which has prompted explorations of differences among L2 students in their word recognition abilities. As might be expected, there is strong evidence that low-proficiency L2 students are much slower in word

Quote 4.1

In this study . . . , we argue for an interactive view of L2 reading. The properties of both L1 and L2 interact with one another, jointly contributing to L2 reading processes.

Wang and Koda (2007, p. 202)

recognition than are more proficient L2 students. However, a number of other factors can influence L2 word recognition abilities, and these factors need to be explored to understand better how L2 reading processing might differ from L1 reading processes, and at what stages such differences might be most influential. In a 2007 study by Min Wang and Keiko Koda, the researchers asked three fundamental questions along the following lines. First, would Korean and Chinese groups of students recognise English L2 words in ways similar to English L1 readers, showing that both groups were influenced by features of English words? Second, would Korean students perform differently than Chinese students when recognising English L2 words by using their Korean L1 alphabetic knowledge (as opposed to Chinese students, whose L1 is a non-alphabetic language)? Third, would Korean students perform better in English L2 word recognition because of their alphabetic reading experience?

Quote 4.2

Word identification is one of the important early skills for learning to read. . . . Learning to recognize a word is essentially learning to map the spoken form onto the printed form of the word. In other words, word identification entails the association among phonological, orthographic, and meaning information about the word.

Wang and Koda (2007, p. 202)

To explore answers to these questions, Wang and Koda recruited two groups of college ESL students: 16 advanced Korean adult ESL students, whose L1 has an alphabetic orthography, and 18 advanced Chinese adult ESL students, whose L1 does not have an alphabetic orthography. The two groups of students did not differ in education, length of English studies, or length of stay in the US. Students' TOEFL (Test of English as a Foreign Language) and Michigan test scores showed that both groups

were equally matched in their general L2 proficiency. Two types of measures of word recognition were used. All students read five lists of words (i.e. four sets of real words and one set of non-words):

- Set I: 20 words that were high-frequency in English and pronounced regularly (*best, dark, did*)
- Set II: 20 words that were high-frequency in English but irregularly pronounced (*are, both, done*)
- Set III: 20 words that were low-frequency in English and regularly pronounced (*beam, deed, fade*)
- Set IV: 20 words that were low-frequency in English and irregularly pronounced (*broad, deaf, pear*)
- Set V: 40 non-words (*foth, bood, bant, clow*)

Students were asked to pronounce these words as quickly as possible when they appeared on a computer screen. Students were also scored for their accuracy of pronunciation for all words. The goal of this task was to see if L2 students would recognise high-frequency words faster and more accurately than low-frequency words and if they would recognise regularly pronounced English words faster and more accurately than irregularly pronounced words. Their pronunciation of non-words would show how well they could use word pronunciation patterns expected for real English words. All of these measures would tell the researchers how strongly students were influenced by their experiences learning L2 English (as opposed to their own L1 word reading skills). All of the students from both groups pronounced high-frequency words more accurately than low-frequency words and pronounced regular words more accurately than irregularly pronounced words. In addition, all students pronounced the high-frequency words and the regularly pronounced words faster than the low-frequency words and the irregularly pronounced words. In effect, they performed in the same way that English L1 students would perform on this type of task, thus demonstrating the impact of their L2 word knowledge on L2 reading abilities.

At the same time, there were clear differences between the Korean and Chinese groups. Overall, the Korean students responded faster and more accurately to all four types of real words than the Chinese students (in spite of the fact that both groups were equally matched in their ESL proficiency), indicating the influence of their L1 alphabetic background. Korean students were also more accurate in their non-word naming responses, indicating that they had a greater facility with alphabetic processing. One interesting aspect of the Korean students' use of their alphabetic knowledge is that they pronounced a higher percentage of low-frequency words with irregular pronunciation as if they should have regular pronunciations. The Chinese students showed no equivalent influence of regular pronunciation knowledge with their errors in pronouncing low-frequency

irregular words. All of these patterns of difference indicate that the Korean students were drawing on their L1 alphabetic experiences from Korean.

The results of this word recognition study showed that both groups of students were strongly influenced by their English L2 learning experiences because they performed in ways similar to native English readers in terms of accuracy and speed (distinguishing high–low frequency and regular–irregular words). Because these results were found with all groups of learners (including English L1 readers), we can say that students perform in similar ways on the basis of the amount of input they receive in learning a second language. As students know more English, they simply perform better on these tasks. So L2 learning and exposure are very important for becoming a good word recogniser in L2 English.

At the same time, there is clear evidence that students' L1 background influences L2 word recognition performance. Korean students, whose L1 is an alphabetic language, performed faster and more accurately on word recognition than the Chinese students, and when Korean learners made errors, the errors appeared to show the influence of regular rule-based pronunciation patterns that would reflect their L1 alphabetic knowledge.

The larger conclusion to draw from this important study is that L2 students make use of both their L2 reading experiences and their L1 background. This combination of L1 and L2 word recognition resources shows up even with advanced adult L2 students. A further strong implication to draw from this study is that L2 readers combine L1 and L2 processing as part of their L2 cognitive processing. For the L2 reader, the issue is never simply the use of the L2 instead of the L1; rather, for the L2 reader, two languages are combined as resources, even at advanced proficiency levels (see Chapter 2). Wang and Koda's story of discovery is an impressive one; the story's conclusion is one that should remain with L2 teachers for the long haul as they work to understand their students' needs and promote reading skills development.

Quote 4.3

The present study demonstrated a clear similarity between L1 and L2 word recognition processes. The power of word properties in the L2 writing system is evident among L2 learners with different L1 backgrounds. In learning to read an L2, the nature of the target [L2] writing system plays an important part in the learning process. . . . The differences among L1 language and writing system backgrounds also have an impact on L2 learning. . . . Although the interplay of the nature and properties of L1 and L2 is evident in the present study, it appears that L2 factors may exert a greater degree of influence in English L2 word recognition than L1 experience.

Wang and Koda (2007, p. 218)

4.2.2 A study of the role of automatic sight words on reading comprehension and new-word learning

In this study of word-level word knowledge, reading comprehension and vocabulary learning, Diana Pulido and David Hambrick (2008) wanted to gain insights into the impact of having better **sight word** knowledge (i.e. automatic recognition of known words) on how well students comprehend a text, and, as a result, how well they learn new words. This study follows up on the Wang and Koda 2007 study (4.2.1). As a starting point, it takes L2 readers' ability differences in automatic sight word recognition and asks how this specific word recognition ability impacts L2 reading comprehension and students' ability to learn new L2 vocabulary as it is encountered while reading.

Quote 4.4

Passage sight vocabulary has been largely ignored in [L2] reading research. The more knowledge that readers have of the vocabulary specific to a given passage (i.e. the higher the coverage), the more comprehensible the input becomes. And, with sufficient passage sight vocabulary and efficient decoding and word recognition skills, readers can then allocate attentional resources to engaging in other required text comprehension processes such as parsing sentences, constructing and integrating ideas from context, using information from long-term memory, and monitoring comprehension. That is, passage sight vocabulary fuels comprehension processes and results in greater likelihood of successful lexical inferencing and further lexical growth.

Pulido and Hambrick (2008, p. 168)

Pulido and Hambrick (2008) asked three questions related to the role of passage sight word knowledge on reading. Does L2 language processing experience (exposure and practice) contribute to L2 passage sight vocabulary knowledge? Does L2 passage sight vocabulary contribute to better comprehension of passages containing sight vocabulary? And does L2 reading comprehension contribute to further L2 vocabulary growth through reading? They recruited 99 university L2 Spanish students in the US, from beginning to advanced proficiency levels, and asked them to read four short reading passages in Spanish (their L2), two passages on familiar topics and two on unfamiliar topics. Each story included eight nonsense words that would be the target words for student vocabulary learning. They also asked students to complete a number of other tasks. Students were asked to (a) complete a survey estimating their exposure to Spanish in both speaking and reading contexts outside of class, (b) take a standardised Spanish

reading proficiency test, (c) identify familiar words (using a checklist **self-report** and translation activity) that were selected systematically by the researchers from the four short passages to be read and (d) provide a **free written recall** of each story in English (their L1) after they had read the story. Finally, students were all asked to take a translation test of all the nonsense words in the Spanish texts 2 days later, and again 28 days later.

Initial results showed strong correlations between sight word knowledge (as determined by the word checklist measure) and reading comprehension of the same passage. The researchers then used a powerful statistical procedure, structural equation modelling (SEM), to see if they could identify whether or not passage sight word knowledge strongly influenced reading performance, and whether or not reading comprehension performance, in turn, predicted new word learning growth. Without worrying about the statistical details here, the researchers provided strong evidence that passage sight vocabulary knowledge strongly predicted reading comprehension of the same texts, and that reading comprehension scores on each text strongly predicted new word learning on the same text. Furthermore, the effects of new word learning were retained 28 days later in a delayed post-test. This study strongly argues that the size of a reader's automatic receptive L2 word knowledge in a text will predict how well a student can understand that text, and also, indirectly, how well a student can learn new words from reading that text. The story that Pulido and Hambrick tell in their report of this study represents a powerful demonstration of the importance of passage sight word knowledge for L2 reading development. In effect, the percentage of words we know well strongly influences reading ability and vocabulary growth.

Quote 4.5

As a complex cognitive skill, reading entails the simultaneous use of various knowledge sources and abilities.... The strong readers of this study could efficiently carry out the requisite lower-level processes, which presumably freed up attentional resources to enable the construction and integration of ideas from context, and access to and use of background knowledge. These readers experienced greater success in inferencing and lexical gains through reading.

Pulido and Hambrick (2008, p. 180)

4.2.3 A study on vocabulary learning through extensive reading

A very important area of research in L2 reading focuses on the effects of extensive reading on reading abilities, and especially on vocabulary learning.

Several studies have not found persuasive evidence that extensive reading leads to significant amounts of new word learning (see Horst, 2005; Waring and Takaki, 2003). However, Horst (2005) points out that many studies with limited success have tested learners' knowledge with relatively few words as they occurred in short passages. These outcomes may suffer from unreliable gain scores. Horst (2005, 2009) has sought, instead, to examine vocabulary gains through extensive reading when large numbers of words are assessed and students read a large number of pages. In the study presented here, Horst (2009) carried out a 6-week extensive reading treatment study with 47 adult immigrant ESL students in Canada. The goal was to determine the extent to which students would be able to provide definitions for previously unknown words after engaging in extensive reading practice, and to what extent students would recognise frequently seen words more rapidly than less frequently appearing words.

Quote 4.6

Extensive reading is crucial to two important aspects of proficiency development: expanding learners' vocabulary size beyond that which is required for basic oral communication and acquiring the large automatic sight vocabulary that is needed for skilled reading. ... Extensive reading provides ongoing opportunities for learners to meet many new words they would otherwise be unlikely to encounter, with the syllabus bounded only by the amount of reading they can manage to accomplish.

Horst (2009, pp. 42–3)

Students were asked to read from 130 **graded readers** at various levels of simplification and were expected to read the books at home; extensive reading was not carried out during class time. At the end of 6 weeks, 29 students reported reading one or more books (average of three books per student); 18 students reported not reading any books (becoming a *de facto* control group). Vocabulary knowledge of the students was pre-tested with a 300-word checklist based on infrequent words appearing in 12 of the graded readers. Post-test vocabulary knowledge was tested with 'individualised' 300-word checklists; that is, for each student, infrequent words from the book(s) that the student had read were compiled for the post-treatment vocabulary checklist measure.¹ These revised checklists comprised infrequent words from the readers that were matched for word frequency with the infrequent words on the pre-test, providing greater comparability. For the 18 students who did not read any books, they were

tested with the same 300-word checklist that was used as a pre-test. (See Horst, 2005, for further explanation of this methodology.)

In addition to a vocabulary gain test, a test of word recognition speed was also created for a subset of students who read the graded readers. Horst used the *VocabProfile* program (www.lexutor.ca/vp/eng/) to identify words in the graded readers read by each individual that appeared 15 times or more, and she compared recognition speed for these words with recognition speed for similar types of words that only appeared 5 or fewer times. Students read 135 words on a computer screen (45 high-repetition, 45 low-repetition and 45 non-words). They were asked to decide if the word was a real word or not. The time that students took to press the right button was captured by the computer as the response time.

Results showed that students who read the graded readers learned 42 per cent of new words that they had not known previously (based on the percentage of words known on the post-test minus the percentage of words known on the pre-test). Moreover, this gain was significantly greater than the gains noted for the non-readers in the study. Six students who had read exactly three graded readers were also used to determine the impact of number of word occurrences on speed of word recognition. The six students as a group responded significantly faster to the frequently occurring unknown words in the graded readers than to the unknown words appearing less frequently. These reaction time differences were significant.

In conclusion, Horst was able to carry out a study to measure word knowledge gain from extensive reading; the study used large sets of infrequent, and potentially unknown, words and a large amount of reading input as part of the measurement design. She showed that students can learn the meanings of large numbers of unknown words from extensive reading at home with three graded readers on average (see also Al-Homoud and Schmitt, 2009). In addition, words that appeared more frequently from among these unknown words were recognised faster, pointing to the benefits of multiple exposures to new words. In short, students can learn a large amount of new vocabulary from extensive reading practice. From this story of carefully controlled research, we can infer the value of extensive reading for our students.

Quote 4.7

This chapter has argued that extensive reading plays a key role in moving learners beyond the basic levels of proficiency required for basic communication so that they are well positioned to achieve personal and professional goals.

Horst (2009, p. 63)

4.2.4 A study of pre-teaching vocabulary and its effects on reading comprehension

A number of research studies have demonstrated the effectiveness of various instructional activities to improve reading comprehension in both L1 and L2 contexts. These instructional activities are commonly integrated into lessons as pre-reading, during-reading or post-reading tasks. Among pre-reading ideas that have been supported by research are using reading guides (Chen and Graves, 1995), asking students to form questions before reading (Taglieber, Johnson and Yarbrough, 1988), and using semantic mapping activities (Carrell, Pharis and Liberto, 1989). Several other pre-reading activities make good candidates for further research (predicting; skimming; attending to pictures, graphics and headers; see also Table 9.2). One pre-reading activity that is widely recommended but that does not have consistently positive support for it in L2 contexts is the practice of pre-teaching key vocabulary before reading a text (see Hudson, 1982; Taglieber, Johnson and Yarbrough, 1988). A recent study reaffirmed the potential benefits of pre-teaching key vocabulary as a way to improve comprehension of the text being read.

Webb (2009) wanted to know if learning simple L2–L1 word pairs as a pre-reading and pre-writing activity would lead to improved reading comprehension and writing development. He recruited 71 Japanese university-level EFL students for a very basic learning task that required them to learn 15 L2 nonsense words paired with a meaningful Japanese L1 translation (e.g. [using English examples] ‘ancon’ = dagger; ‘mesut’ = faucet/tap). Students were divided into a receptive group (that sees the L2 word and tries to learn the Japanese L1 meaning) and a productive group (that sees the Japanese L1 meaning and tries to learn the new L2 word). Students practised learning L2 words and their L1 translations by covering one side of the list and trying to remember the translation equivalent. Students in both groups were told that they had 6 minutes to learn the words and then would be tested on their learning.

After the learning activity, all students were assessed receptively and productively. They were first shown 30 sentences so that each of the 15 ‘words’ occurred in two English sentences, and they were asked to say what each sentence meant (in Japanese). Then students were asked if each sentence was true or false, requiring an understanding of the key nonsense word (as a second receptive knowledge task). Students had to give the right answers to both sentences involving a specific nonsense word to receive a correct score (to reduce the effect of guessing). These tasks, in fact, were measures of reading comprehension of English sentences. As a productive measure of vocabulary learning, all students were also shown 15 pictures and asked to write a sentence in English using one of the new words (a productive knowledge task using writing).

Results showed that the receptive students, just learning L2 to L1 translation pairs, understood correctly 25 of the 30 sentences and were able to determine whether the words led to correct true or false statements for 11 of the 15 words. The results of the receptive group were significantly better than the students doing the translation-pair productive learning task (seeing the L1 Japanese word and trying to remember the new L2 word). The productive word learners also performed well on the receptive tasks, understanding correctly 23 of the 30 sentences and 9.5 of 15 words on the true-false test of the 30 sentences. Yet, the productive word learners significantly outperformed the receptive learners on the sentence writing task from pictures (approximately 6.5 sentences produced correctly to approximately 4.5 sentences produced correctly).

Two follow-up vocabulary measures required the student participants first to read the L2 nonsense words and supply the Japanese translation, then read the L1 word and supply the L2 word. In the first translation task (L2 to L1), the receptive students averaged 10 out of 15 new words correct while the productive learners averaged about 9.5 words correct. In the final measure (seeing the Japanese L1 word and supplying the new L2 word), the productive students performed better (about 9.5 words correct out of 15 versus about 7.5 words correct out of 15).

The results for the receptive group showed that, on the basis of 6 minutes of translation-pair learning, students could understand correctly more than 80 per cent of the sentences that used the new unknown words and could provide correct definitions for 11 out of the 15 words learned. The results for the more productive word-pair learning (trying to learn the new word when seeing the L1 translation) showed an advantage for tasks requiring production of the new word forms. Overall, however, both groups learned a high percentage of words from just 6 minutes of word-pair translation learning as a pre-reading comprehension activity.

Webb's study demonstrates persuasively that a task as simple as studying a set of word-pair translations can be an excellent keyword-learning pre-reading activity. Moreover, the more receptive word learning task showed significant gains in reading comprehension over a more productive word learning task. Perhaps more importantly, this study confirmed earlier research that word-list translation learning is an effective way to learn vocabulary, and, more specifically, it was effective as a pre-reading activity (see also Griffin and Harley, 1996; Laufer, 2009; Prince, 1996). The point of this study is not that reading instruction and vocabulary learning be reduced to memorisation and word translations, but that there is some role for decontextualised learning as a simple pre-reading activity, especially for new-word learning as part of reading development (see also flash-card discussion in Nation, 2001). To reach these conclusions, we have followed the events, which have unfolded somewhat like those in a good novel, of a carefully planned and carried-out study.

Quote 4.8

Teachers and learners should... be made aware that some decontextualized tasks may be useful and effective. The trend in language teaching seems to have moved away from decontextualized learning and towards contextualized learning... The results of this study suggest that learning word pairs may not only improve vocabulary learning but also facilitate reading comprehension and writing. Since learning word pairs is relatively fast, this task could easily be incorporated into a language learning program along with contextualized tasks.

Webb (2009, pp. 461–2)

4.2.5 A study of the use of the L1 in L2 comprehension and mental translation as a reading comprehension strategy

Quote 4.9

Cook (2001), basing his idea on the premise that the L1 and the L2 coexist collaboratively in the learner, set forward the notion that L2 learners should be viewed as multicompetent language users rather than as deficient L2 users.

Scott and de la Fuente (2008, p. 100)

A common injunction in L2 instruction is to not use the students' L1 in the L2 classroom, a view strongly endorsed since the mid-1970s by various teaching methods, especially the audiolingual method, but also with communicative language teaching. Over the past 20 years, however, the use of L1 resources in the L2 reading class has been gaining wider acceptance. Kern (1994) made a persuasive argument for the positive role of L1 mental translation by L2 students when reading more difficult texts. Similar findings were reported in Cohen (1998). More recently, Seng and Hashim (2006) confirmed the supportive role of the L1 in resolving word-related and idea-related difficulties during L2 reading. In the area of vocabulary learning and reading comprehension, Laufer and Girsai (2008) presented strong evidence that new vocabulary learning from reading is best supported by activities that engage students in translating and analysing key words. These studies support a theoretical view of L2 reading strongly argued by Koda (2005, 2007) and Cook (2001, 2009) that the L2 reader always makes use of the combined resources of the L1 and L2 while reading in the L2. That is, the L2 reader cognitively draws on the

combined resources of both the L1 and L2, allowing an appropriate use of the reader's L1 as an effective strategy for comprehension, especially with more difficult texts and tasks.

Another study that has presented persuasive evidence for this perspective is a recent study by Scott and de la Fuente (2008). Even though their qualitative study focused on explicit grammar problem-solving tasks, the conclusions have direct implications for reading comprehension instruction that involves collaborative group discussions to determine main ideas from a text. They asked two crucial questions. How do learners use the L1 while working on consciousness-raising tasks, and what effects emerge when students are prohibited from using their L1 while working on consciousness-raising tasks? They recruited 12 L2 students of French and 12 L2 students of Spanish in a US university. All students were considered intermediate-level in their L2s. Students worked in pairs and were given a text in which a targeted grammar structure appeared three times. The goal of the pair work was to produce an appropriate rule explaining how the grammatical structure was formed and used in the given text. One half of the groups were specifically told not to use their L1; the other group was not prohibited from using their L1. All student pairs were videotaped and all students participated in post-task simulated recall interviews. All tapes were transcribed and 13 excerpts were provided as evidence of student performance.

Quote 4.10

The most important similarity between the two groups was that the L1 played an important role in the students' performance of the task. The simulated recall sessions indicated that, regardless of the language of interaction, the students tried to complete the task by translating the enhanced structures into English (L1) in order to determine their meaning.

Scott and de la Fuente (2008, p. 104)

Allowing students to combine use of their L1 and L2 in this consciousness-raising task led to much more fluid and natural discussions of the issue at hand. These students also had a more balanced give-and-take in their discussions, collaborated more effectively, and used more metalinguistic terminology. Moreover, these students were more confident in their analyses and were not burdened with the secondary task of figuring out how to explain their ideas in the L2. The researchers point out, in their discussion of their research, that they do not recommend students' random use of the L1 in L2 lessons, but that tasks that require more complex

cognitive processing (e.g. tasks that involve challenging problem-solving discussions and that require metalinguistic analyses) should be structured to allow students to use their L1. Like a good mystery story, the resolution of the mystery-to-be-solved requires the integration of different parts of the story. In this study, that is exactly what Scott and de la Fuente did. And the conclusions drawn here are ones that L2 teachers can learn from.

Quote 4.11

The use of the L1 appears to be a natural and spontaneous cognitive strategy, which suggests that it may be futile to prevent learners from using the L1 during consciousness-raising tasks. This study offers evidence that learners' two languages function in tandem to complete a consciousness-raising form-focused task when they are permitted to use the L1.

Scott and de la Fuente (2008, p. 110)

4.2.6 A study of strategic reading development through instruction

Research on reading strategies in L2 contexts is surprisingly limited, despite many discussions of the importance of reading strategies to improve students' reading abilities. In the past quarter-century (up to 2006), there have been only ten reasonably well-controlled published studies that have examined the relationship between reading strategy training and reading comprehension development (Taylor, Stevens and Asher, 2006). In almost every teacher training volume that addresses reading research and/or reading instruction, authors emphasise the importance of reading strategies for improved reading and the value of explicit reading strategy instruction for L2 reading development. In L1 reading contexts, there are many more research studies demonstrating the critical role that reading strategy instruction has for reading comprehension skills (see Block and Parris, 2008; Block and Pressley, 2007; Israel and Duffy, 2009) and comprehension improvement. Longitudinal training studies that demonstrate the influence of reading strategy instruction on students' comprehension development are sorely needed in the L2 research arena. Ernesto Macaro and Lynn Erler (2008) provide one such study, a 14-month longitudinal study of strategy instruction.

In their recent study, Macaro and Erler (2008) provide a good example of an L2 strategy training experiment with the goal of assessing the impact of strategy instruction on L2 comprehension. The researchers wanted to know if training young 11–12-year-olds in England to use effective comprehension strategies while learning to read French texts

Quote 4.12

A sample of 62 11–12 year olds underwent a programme of reading strategy instruction lasting 14 months. Measures were taken of [L2] French reading comprehension, reading strategy use and attitudes toward French before and after the intervention and findings were compared with a group of 54 students not receiving the intervention. Results suggest that strategy instruction improved comprehension of both simple and more elaborate texts, brought about changes in strategy use, and improved attitudes toward reading.

Macaro and Erler (2008, p. 90)

would help these students in their L2 reading abilities. Macaro and Erler wanted to find out if teaching students combinations of reading strategies would lead to reading improvements and to changes in how they used strategies for comprehension. For the study, they recruited six classes of beginning French students. (The study began 4 months after French instruction had begun.) At both pre-training and post-training, all students (**experimental** and control **groups**) took two reading comprehension tests in French. They also completed a questionnaire on their strategy use when reading a text in French and another on their attitudes toward reading in French.

The 14-month longitudinal study focused on strategy training instruction, explained as ‘low input high scaffolding’ instruction. Teachers in the treatment classes were initially asked to devote approximately 10 minutes per week (thus, the ‘low input’ designation) to the strategy instruction programme. Typically, however, teachers clustered these 10-minute training segments into longer units (e.g. 30-minute blocks) every 2–3 weeks. Teachers taught reading strategies in a three-stage cycle: awareness raising and modelling, scaffolded practice and removal of scaffolding, and evaluation. In the first stage, students identified and discussed strategies that they were using; students were also introduced to new strategies (or refinements of already learned strategies) and the class modelled use of these strategies. In stage two, a list of new and old strategies was attached to readings (thus, the high scaffolding label) and was referred to by students who also discussed their use of these strategies in addition to which strategies worked well together to help with comprehension. During this second stage, students were encouraged to monitor their strategic processing and note changing uses of strategies. In the third stage, students evaluated their use of strategies, assessed their successes and difficulties, and reflected on what they would do in the future when reading a difficult text. Students were encouraged to engage in discussions about their reflections.

After 14 months of training in reading strategy use, post-test results showed that the treatment group significantly outperformed the control group on both a translation test and a text idea-**recall measure**. In addition, the experimental group significantly increased its use of two important reading strategies: (a) scanning for words that look familiar and guessing their meanings and (b) looking up many words in the dictionary or glossary. Overall, experimental students significantly increased their use of text-engagement strategies while the control group did not. Finally, students in the treatment group reported significantly more positive attitudes toward reading in French.

Quote 4.13

There was a clear shift in the reading strategies reported by the intervention cohort towards engagement with the text. . . . It is the constant juxtaposition of word/phrase recognition with prediction and search for contextual clues . . . , and this overlaid with the metacognitive strategy of monitoring the understanding so far against new information, that allows comprehension of a text which might otherwise provide obstacles and de-motivate the reader.

Macaro and Erler (2008, pp. 113–14)

There are several reasons why this study is particularly important for L2 reading research and reading instruction. First, the study was ecological: strategy training was a small but consistent component of the regular activities of six classes of students. Second, the study did not require teachers to adjust their teaching or class lessons in any major way over a period of 1.5 years, so it should be easily replicable in many classroom contexts. Third, it engaged students in their own awareness of how strategies can be combined and used effectively to build comprehension. It also used discussions among students to maintain engagement and learning. Fourth, it worked specifically toward the development of the strategic reader rather than instruction in single specific reading strategies. This development was observable in the many strategies nominated by students and discussed consistently, as well as by changes in strategy uses toward greater text engagement. Finally, the study is important because a fairly minimal intervention, consistently applied over time, led to significant improvements in the students' reading comprehension performance. Studies of this type need to be replicated in different contexts to develop a database of research on developing the strategic reader (see Grabe, 2009).

4.2.7 A meta-analysis study of reading strategy instruction and its impact on L2 reading comprehension

Quote 4.14

The degree of effectiveness of [strategy] training is still unclear, and the overall effectiveness when compared to no strategy training is currently ambiguous. . . . In light of such uncertainty, meta-analytic research can enable us to come to more concrete conclusions. The present study, a quantitative meta-analysis, is an exploratory attempt to synthesize the available literature and to shed more light on the effects of explicit reading strategy instruction . . . on L2 reading comprehension.

Taylor, Stevens and Asher (2006, p. 214)

In the previous longitudinal case study (4.2.6), it was noted at the outset that there were relatively few studies examining the influence of reading strategy instruction on reading comprehension abilities. A recent meta-analysis by Alan Taylor, John R. Stevens and J. William Asher (2006) has examined the important existing studies on reading strategy instruction and used this statistical approach to address a number of vital questions concerning L2 strategy instruction.

Before reviewing the study itself, it may prove helpful to explain how a meta-analysis works. Typically, researchers search exhaustively for any and every study that they can find that analyses the area of interest (in the case of the Taylor, Stevens and Asher study, it was the impact of strategy instruction on reading comprehension). The researchers decide on a set of criteria that will identify acceptable studies in terms of the statistics that are reported. These criteria are necessary because a meta-analysis requires the reporting of certain statistics (e.g. group means and standard deviations, reading comprehension scores for experimental and control groups) in order for the meta-analysis to work. Other criteria for inclusion establish the reliability and rigour of the studies that are included in the meta-analysis (e.g. reliability statistics for measures used, experimental or pseudo-experimental studies, inclusion of a control group). Based on the studies included, a meta-analysis can determine the effect size of all the studies in combination (e.g. an effect size, in Taylor, Stevens and Asher, shows the extent of the positive impact of strategy instruction on reading). A meta-analysis can address a number of questions depending on the information available from the studies collected and the coding of variables for analysis.

Taylor, Stevens and Asher (2006) carried out just such a meta-analysis to explore a number of research questions, the most central being the impact of explicit reading strategy training (ERST) on L2 comprehension improvement. They also asked if explicit metacognitive instruction (versus cognitive strategy instruction) made a difference or not, if certain types of reading comprehension measures led to better comprehension outcomes, if instructional context made a difference (e.g. EFL vs ESL), if the age of the L2 students made a difference, and a number of other truly interesting questions. The researchers set inclusion criteria to match those discussed above and identified 23 different acceptable study samples. (Ten of the studies were from published sources, twelve were from doctoral dissertations, and one was from another source.) After all the relevant variables were coded from the studies, the meta-analysis was able to determine effect sizes for each variable. (An effect size of .20 is considered small; an effect size of .50 is considered moderate; an effect size of .80 or higher is considered large.) The study also examined whether or not some other (mediating) factors might also be responsible for a given result.

Among the major results reported, Taylor, Stevens and Asher found that explicit reading strategy instruction, overall, had a moderate effect size of .54 on reading comprehension outcomes. This is a very positive result. They also determined that (a) explicit metacognitive strategy instruction made no difference in comparison with cognitive strategy instruction, (b) the type of reading comprehension measure used in the studies did not make a difference, (c) total hours of treatment did not make a difference and (d) the instructional context – ESL, EFL or FL – did not make a difference. Some specific factors did make a difference, however. Longer texts in the post-treatment comprehension testing led to higher effect sizes for the explicit strategy instruction group. Older students in the study led to higher effect sizes for the explicit strategy instruction group. Finally, L2 language proficiency of the student participants also led to higher effect sizes for the explicit strategy training group.

Quote 4.15

We can generalize . . . the magnitude of ERST [explicit reading strategy training] in a more practical interpretive context by converting the effect size of .54 into a percentage scale. If we do so, the prediction is that 68% of the average students in receiving ERST will exceed the average reading comprehension of students not receiving such training.

Taylor, Stevens and Asher (2006, p. 228)

This study makes a persuasive argument for explicit reading strategy instruction as a means to improve students' reading abilities. While the set of studies included in the meta-analysis was on the low side (compared to many meta-analyses), it represents the existing L2 reading strategy studies that the researchers were able to find. The study also reveals the need for more research on reading strategies instruction in a wider range of L2 contexts. The researchers conclude their story of discovery with a final very important point: the positive results of strategy instruction on L2 comprehension highlight the impact that teachers, and effective teaching, can have on students' reading improvement.

Quote 4.16

In...the present meta-analysis, we have offered empirical evidence that ERST can make a difference in the amount of L2 text understood. In general, these results shed light on the substantial influence L2 instructors can have on L2 reading. L2 instructors can provide effective ERST to students.

Taylor, Stevens and Asher (2006, p. 239)

4.2.8 A study of the impact of L2 fluency training on reading comprehension

One of the more recent issues emerging in L2 reading research has been the role of reading fluency training on reading comprehension abilities. The issue of reading fluency has been an important one in L1 reading research, which has shown that fluency development can improve reading comprehension, particularly with elementary-level students and with poor readers of all ages (Klauda and Guthrie, 2008; Kuhn and Rasinski, 2007; McCardle, Chhabra and Kapinus, 2008). In L2 contexts, much less research has been carried out on fluency training, especially training that involves passage rereading for various purposes. However, some L2 reading researchers have noted the importance of passage reading fluency and have explained these benefits in several publications (Anderson, 2008b; Grabe, 2009; Nation, 2008; see Grabe, 2010). In the past decade, a few L2 fluency training studies have emerged, some in the context of amount of reading (extensive reading) and some in the context of passage rereading practice (Jeon, 2009; Taguchi, Takayasu-Maass and Gorsuch, 2004). In the study described here, Greta Gorsuch and Etsuo Taguchi (2008) carried out a training study in which university-level EFL Vietnamese students practised rereading texts multiple times as fluency training, a practice commonly used in L1 reading instruction.

Quote 4.17

[Repeated reading] has been extensively studied in English L1 contexts and overall has been shown to be effective in developing reading fluency and comprehension of monolingual readers of English....Rereading passages has been found to increase students' oral reading rates and accuracy.... This appears to lead to better comprehension of passages.

Gorsuch and Taguchi (2008, p. 256)

Gorsuch and Taguchi (2008) recruited 50 Vietnamese university students for a training study involving repeated reading practice for the experimental treatment group ($n = 24$), with no equivalent training for the control group ($n = 26$). They asked three research questions. How much will the reading fluency of students in the experimental group increase? How will the fluency of the experimental group compare with the fluency of the control group at the end of training? How will the reading comprehension of students in the experimental group compare with the comprehension of students in the control group at the end of the study? Experimental students were asked to reread easy texts from three graded readers during 16 sessions over an 11-week period. In each session, students read an approximately 500-word section silently five times: once by themselves, then twice along with an audio tape, then two more times by themselves. They kept records of their times during the first, fourth and fifth reading of the text segment. Finally, they wrote a short report on the reading in either English or Vietnamese, whichever language the students chose, as a comprehension check.

Pre-tests and post-tests involved two identical sets of tasks for experimental and control groups. First, students read a passage, noting the time taken. Then the text was taken away and they answered 15 short-answer questions on the text. Students then read the passage four more times. On the fifth and final time, students again recorded the time taken and answered the same 15 short-answer questions. Second, all students read another passage and timed themselves. After the text was taken away, they completed a free written recall of the information from the text. They then read the passage four more times. On the fifth time, they recorded their time again and did the recall task again.

Results showed that the experimental students gained significantly in fluency from their first to fifth rereading (average gain of 105 wpm). Experimental students also gained significantly in fluency on their first reading of each day's texts from their first session to their 16th session (average gain of 55 wpm). Experimental students also gained significantly in fluency on their fifth reading of each day's texts from the first session

to the 16th session (average gain of 91 wpm). In the fluency comparison with the control group at pre-test time, neither group read significantly faster than the other group on either text used nor during either the first or fifth rereading. However, the outcome was different for the post-test reading comprehension measures using two types of information recall measures. Although the control group actually read faster on the post-tests, the experimental group demonstrated significantly better reading comprehension results for both measures.

This is one of the first studies to demonstrate that L2 repeated reading instruction can lead to both improved fluency and improved comprehension over an 11-week training period. Moreover comprehension gains were also greater for the experimental group than a comparable control group. While the control group reported reading faster on the post-test than the experimental group, they clearly did not read well enough to match the experimental group in passage comprehension. Given that the fluency measure in this study involved silent reading, it is likely that the control group did not read carefully enough to perform adequately on the comprehension tasks. Overall, then, it is very likely that the experimental students made strong gains in both fluency and comprehension as a combined outcome. Fluency gains from this relatively short training study also support the development of sight word reading, and as was demonstrated by Pulido and Hambrick (2008) earlier in this chapter, sight word reading skills are very important for reading comprehension improvement, a finding that appears to be confirmed in the present study. In addition, this study supports reading improvements predicted by automaticity theory and supports the recent arguments of DeKeyser (2007, 2009) that more opportunities for practice lead to better L2 acquisition outcomes.

Quote 4.18

In this study..., an eleven-week assisted repeated reading treatment was found to be effective in increasing reading fluency and comprehension.... In English in foreign language settings, where a paucity of acquisition-friendly L2 input is likely to be an issue in the decades to come, repeated reading offers an effective method to help [students] become independent [readers].

Gorsuch and Taguchi (2008, p. 269)

4.2.9 A study of the benefits of extensive reading for reading development

Research on the direct effectiveness of extensive reading for reading comprehension has had a somewhat controversial history in both L1 and

L2 settings. In both contexts, a number of experimental studies have supported the influence of extensive reading practices on comprehension improvements (e.g. Elley, 2000; Lightbown, 1992; Tanaka and Stapleton, 2007), although some studies have not reached these same conclusions (see Grabe, 2009; Nation, 2009). However, numerous other studies that are based on longitudinal non-experimental evidence provide very strong support in favour of extensive reading in terms of ‘exposure to print’ investigations (Stanovich, 2000). Overall, L1 reading research supports the idea that reading extensively will help improve reading comprehension abilities over time. There is credible evidence that extensive reading, as an instructional practice, also leads to better reading abilities over time. Still, these findings have not persuaded many L2 curriculum developers and programme administrators, as evidenced by a lack of commitment to extensive reading in many L2 instructional settings.

In this chapter, multiple studies have demonstrated the potential impact of extensive reading on vocabulary development and word recognition fluency, both of which, in their turn, impact reading comprehension. In the study that follows, Faisal Al-Homoud and Norbert Schmitt (2009) describe an experimental treatment study that provides direct evidence for the benefits of extensive reading in a reading curriculum.

Quote 4.19

If an argument is to be made for the effectiveness of extensive reading, it must be well researched in the type of environments in which it will actually be employed. Therefore, the main focus of the current study is to determine whether benefits accrue from an extensive reading approach as it is being deployed in a classroom teaching situation, with all its attendant problems. The teaching situation in this study will be difficult, covering only a relatively short period of time, in an EFL environment with students not used to reading.... If extensive reading can show positive results in this challenging environment, then this would provide solid evidence of the effectiveness of the approach.

Al-Homoud and Schmitt (2009, pp. 386–7)

Al-Homoud and Schmitt (2009) carried out an experiment in Saudi Arabia with 70 relatively weak EFL university students who were not accustomed to reading. The students were divided into a control group ($n = 23$) and two experimental groups: a vocabulary group ($n = 21$) and a fluency group ($n = 26$). The extensive reading experimental treatment lasted 10 weeks. Students met for reading class four times per week (50 minutes per class); each class session combined 25 minutes of modified strategy practice and

20–25 minutes of free reading time each day. The control group used a standard popular EFL reading text. Half of the treatment group (the vocabulary group) read more difficult graded readers with higher vocabulary demands, and the other half (the fluency group) read easier graded readers with lower vocabulary demands. All students were tested with the Vocabulary Levels Test for (a) word knowledge of the most frequent 2000 words, (b) knowledge of words from 2000–3000 word frequency and (c) words on the Academic Word List (Coxhead, 2000). They were also given a multiple-choice reading comprehension test, a reading speed test and a questionnaire of attitudes toward their reading instruction.

Interestingly, especially in light of the fact that the student participants live in an environment where pleasure reading is atypical and where students are not used to reading, results showed that all groups (experimental and control) gained in reading comprehension from pre-test to post-test (after 10 weeks of training), and the experimental groups' post-test gains were significantly better than their pre-test scores. There was no significant difference between experimental and control groups on the post-test comprehension measure. All groups also gained in reading speed from pre-test to post-test and sets of gains at post-testing were significantly better than scores on the pre-test. Experimental and control groups made large and significant vocabulary knowledge gains by the post-test, and there was no difference in vocabulary gains between the control and experimental groups. As a final comparison, experimental-group instruction was rated significantly more positively than control-group instruction by students at post-treatment by a wide margin, even though control-group students viewed their reading instruction positively. Within the experimental groups, there were no differences between the vocabulary group and the fluency group, indicating that it did not matter if students consistently read easier graded readers or more difficult graded readers. What seems to matter was simply that the students read a lot.

Quote 4.20

Saudi learners who self-selected and read graded readers for pleasure (although there was a mandatory [university] reading requirement at play) improved at least as much on every measure as similar students who received intense instruction in reading. In other words, the relatively stress-free and highly popular extensive reading approach was as good or better than the more formal and pressured traditional reading approach. There is little doubt that [extensive reading] can be a viable language teaching approach. Overall, this study adds to the growing evidence showing the benefits of extensive reading.

Al-Homoud and Schmitt (2009, p. 399)

This study provides further evidence for the effectiveness of extensive reading as an important component of L2 reading instruction. This conclusion appears to be especially true when extensive reading is combined with a direct reading component involving comprehension instruction and strategy-based instruction. Additional benefits from extensive reading include vocabulary recycling, sight word reading gains, reading speed gains, reading practice, and a habit of being a successful reader in the L2. These added benefits, in combination, would seem to make a strong case for extensive reading as a central component of L2 reading instruction.

4.2.10 A study on the role of motivation in L2 reading

Motivation has become a major topic for both language learning and L1 reading research (Dörnyei and Ushioda, 2010; Malloy and Gambrell, 2008; Pressley, 2006). However, it has just begun to draw greater attention in L2 reading contexts over the past 15 years. It is worthwhile pointing out the distinction between L2 reading motivation issues and L2 language learning motivation. Reading motivation issues are domain-specific; that is, reading motivation is unique to acts of reading and not strongly associated with L2 language learning more generally. Any review of motivation questionnaires or interview scripts will reveal immediately that the questions asked about reading are different from those about L2 learning more generally. And while it is now common to discuss language learning motivation as dynamic and constantly shifting, motivation in reading contexts is also seen as a malleable trait, but one that is much more stable over time. Even though a reader might not want to carry out a given task, that person is still likely to self-identify as liking to read or not liking to read. For this reason, L1 reading motivation research is a much more appropriate research foundation to begin from when developing research on L2 motivation.

Quote 4.21

Motivation is a necessary part of a comprehensive plan for reading instruction that ensures growth in reading comprehension. . . . When students are deeply engaged in text interaction and motivated to understand over lengthy periods of time, their achievement in reading comprehension increases.

Guthrie and Humenick (2004, pp. 351–2)

Findings from L1 reading motivation research over the past 15 years have strongly established that intrinsic motivation, self-efficacy and expectations

for success predict both amount of reading and reading comprehension development (Taboada, Tonks, Wigfield and Guthrie, 2009; Wigfield *et al.*, 2008). Because L2 reading contexts can be so different from L1 contexts, it is very likely that L2 motivations for learning to read (and enjoying reading) will be distinct from those in L1 contexts. For example, it is probable that some level of extrinsic motivation created by needs to perform well on exams and tests will influence L2 students differently from L1 students, and perhaps somewhat more positively (Komiya, 2009b). From the perspective of L2 reading, L2 motivation research needs to establish ways to measure motivation that are appropriate and sensitive to L2 instructional contexts. From such a foundation, further research can establish conditions and contexts in which students build positive motivation that helps to improve reading abilities. In the study that follows, Atsuko Takase (2007) provides one such foundation.

In a study involving 219 high school EFL students in Japan, Takase (2007) taught a reading class that included an extensive reading component (primarily out of class) for a full year. She asked students to write a brief summary (in Japanese) of every book they completed. Students also completed a record of book pages read throughout the year. This component of her course counted for 10 per cent of students' grades. She also asked students to report on their L1 Japanese reading amounts and preferences. Finally, she created a reading motivation questionnaire based on existing L1 and L2 motivation questionnaires. The questionnaire had two parts: a section with L2 motivation statements and a section with L1 motivation statements. Students responded to the statements using a 1–5 Likert scale.

Two interesting results emerged from her study. First, she established stable and interpretable dimensions of L2 reading motivation based on a factor analysis. She identified four major types of motivation: intrinsic L2 motivation, intrinsic L1 motivation, parental and family attitudes to reading, and test performance motivation. These dimensions of reading motivation are important because they fit well with other research (both L1 and L2) that has developed dimensions of motivation. In particular, the role of intrinsic motivation (i.e. doing something for its own enjoyment) is a major factor in L1 reading motivation research. And, therefore, it is no surprise that intrinsic L1 motivation should be a strong outcome of Takase's data. Social influences of family experiences is also not unexpected based on L1 reading research, and the test performance factor (as extrinsic motivation) is not unanticipated in light of parallel findings by Komiya (2009b).

Second, she generated dimensions of motivation scores (a separate score for each of the four motivation factors described above) and wanted to see if they predicted amount of reading, an important and fairly common finding in L1 motivation research. In the case of the number of pages read

Quote 4.22

The 2 most influential factors [in reading motivation] were students' intrinsic motivation for first language (L1) reading and second language (L2) reading.

Takase (2007, p. 1)

in English (the L2) through extensive reading, L2 intrinsic motivation significantly predicted amount of reading. Equally interesting, L1 intrinsic motivation (i.e. Japanese reading motivation) also predicted amount of English reading. Although the strength of the influence was not strong, it nonetheless indicated that motivation for reading can explain students' willingness, and persistence, to read on their own in the L2. We know, also, that amount of reading, in turn, influences reading comprehension abilities in L1 settings. So, there are many aspects of this study that should promote further L2 reading motivation research. As Takase (2007) concludes, 'This study contributes to an understanding of what motivates students to engage in extensive reading' (p. 13).

This study by Takase is one of the first L2 reading motivation studies to demonstrate strongly that intrinsic motivation is a powerful influence on students' reading choices and also that it can lead to increased reading productivity. A key implication can be drawn from this study: If we can improve students' motivation for L2 reading through instruction, we should also witness improved comprehension over time. In L1 reading contexts, there is strong evidence that students can build intrinsic motivation to read, or reading engagement, through instruction (Guthrie, 2008; Pressley, 2006; Wigfield and Guthrie, 2010). A good goal for future L2 reading motivation research would be to demonstrate that student motivation can be developed through certain L2 instructional practices. In this way, we could develop classroom instruction that would lead students toward a greater willingness to read extensively in English. This greater interest in reading in English would then lead to more reading and improved comprehension. What an epic narrative that would be!

4.3 Conclusion

The ten studies presented in this chapter showcase a range of research topics pertinent to L2 settings and illustrate a number of different methods for conducting meaningful research. Multiple studies measured student participants' reaction times, several studies used advanced statistical methods

such as structural equation modelling and meta-analysis techniques. Most of the studies used experimental and comparison groups, and most used pre- and post-testing differences to determine study effectiveness. In many of the studies, the research involved a training effort with one or more experimental groups. There was also a purely qualitative study that provided important supporting evidence. This list of research methods only begins to highlight the range of options that researchers have open to them.

This inventory of research options might lead us to believe that the ten studies introduced here are quite different from one another. And indeed, at one level, the studies are quite distinct. At a second level, however, several studies connect in interesting ways to show that multiple components of reading abilities all seem to be important in their own right, but also work collaboratively to support L2 reading comprehension abilities. Indeed, some of the studies in this chapter provide evidence for assumptions made in other studies in the chapter. At yet another level, the ten studies are quite similar to one another in that they all follow a similar story line. All the researchers started out with good manageable questions; they found participants (students and oftentimes their teachers) and then decided on useful and appropriate ways to collect controlled information. This step was followed by an analysis of data to find evidence about the question posed; and finally, the researchers inferred a fair and reasonable answer to their questions based on the evidence and decided on the usefulness of the answer (and the research). In each case, the story has multiple episodes, with many challenges along the way, and the concluding episode takes us back to the main guiding theme. Each research study, then, is a story that adds to the evidence-based information that should influence the ways in which we teach reading, design our reading curricula and write our instructional materials.

Most of the studies reported in this chapter (and the previous one) were conducted with students of other teachers. But this is not the only way to conduct research. For enquiring teachers who want to improve classroom instruction, doing a small-scale research study – with their own students and in their own classrooms – by asking manageable questions is a reasonable strategy. By understanding that a research study is much like a story, the steps to be followed are relatively simple. Any effort to carry out a small-scale research study, when following these basic steps, will evolve, much as a story will unfold through a series of episodes leading to a final resolution. Such an exploration of teacher-initiated small-scale research is the primary emphasis of Chapters 6–9. But before we move on to teacher-initiated research (i.e. action research), we would first like to consider how the research studies in both Chapters 3 and 4 combine to suggest specific instructional ideas that can inform our reading curricula and teaching practices. That is the focus of Chapter 5.

Further reading

Citations that appear in the chapter represent key references for further details about the studies showcased here. For additional information on L2 reading research, refer to Chapter 10 (10.1–10.3). For more specific readings on the L2 areas introduced in this chapter, see the following:

- On *word-level issues in reading development*, see Koda (2005, 2007), Nation (2009), Schmitt (2008, 2010), Stahl and Nagy (2006)
- On *discourse organisation and text comprehension*, see Grabe (2009), Jiang and Grabe (2007, 2009)
- On *main-idea comprehension and instructional routines*, see Anderson (2008b), Hedgcock and Ferris (2009), Nation (2009)
- On *extensive reading and motivation*, see Guthrie and Wigfield (2000), Komiyama (2009a)
- On *topics unique to L2 reading settings*, see Bernhardt (2000, 2011), Laufer and Girsai (2008), Prichard (2008), Rott (2007)
- On *social and cultural context influences on reading*, see Goldenburg, Rueda and August (2006), Grabe (2009), Rueda, Velasco and Lim (2008), Snow, Griffin and Burns (2005)
- On *assessment of reading*, see Alderson (2000), Khalifa and Weir (2009)

¹ Technically, a problem can be noted here that the two checklist tests assessed a different set of 300 uncommon words. So vocabulary knowledge is being compared with two different tests. However, a 300-word checklist test, even involving a number of different words, can still be viewed as a general measure of less common vocabulary knowledge (M. Horst, personal communication, July 2010). It is highly unlikely that many of the uncommon words in the second list were known to the students prior to their extensive reading exposure.

Section



Teaching reading using evidence-based practices

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Teaching reading: Sound foundations and effective practices

This chapter builds connections between reading research, introduced in Chapters 1–4, and effective teaching practices for L2 reading development. The chapter also serves as a bridge between the research introduced in the early parts of the book and the teacher-initiated action research projects suggested in Chapters 6–9. Of particular interest are the following:

- a review of implications from reading research
- curricular principles for L2 reading instruction
- instructional applications that integrate goals for the development of L2 reading abilities
- sample classroom activities that can be adapted for a range of L2 reading classes

The ability to read well may be the most important L2 academic skill needed by English for Academic Purposes (EAP) students. In academic contexts, reading provides a major source of input for further student learning of both language and content information. Furthermore, reading can generate increased interest and motivate students to explore topics further through additional reading. Yet, the mastery of reading requires not only the integration of comprehension abilities but also the development of a very large vocabulary and a reasonably good command of grammar resources. Fortunately, explicit instruction in reading skills development can make a difference (Grabe, 2009). Moreover, reading is a skill that can be practised effectively and extensively, with some student control of passage selection, by students on their own, after they have finished their EAP course work.

For these reasons (though we could list many others), it is important to have a framework that can guide teachers, materials writers and curriculum

developers in designing effective reading instruction. Such a framework is best created by identifying the critical component skills necessary for reading development, exploring major implications from research that support an effective curricular design, and developing a coherent set of instructional practices. Following this line of reasoning, the purpose of this chapter is to build connections between research implications and effective teaching practices for L2 reading development. These practices may be incorporated into existing reading instruction or they may form the foundation for a new reading curriculum. The ideas presented in the chapter not only connect with L2 (and L1) reading research (presented in Chapters 1–4) but they also provide linkages with possible action research projects that teachers can engage in to understand their reading classrooms better. At various points in the chapter, we refer to action research projects and corresponding resources, in Chapters 6–9, that extend directly from and support the teaching practices introduced in this chapter.

5.1 Implications from reading research

The implications for reading instruction listed in Table 5.1 represent a synthesis of extensive research on reading abilities that need to be considered when evaluating current reading instruction and planning new

Table 5.1 Implications from reading research for reading instruction

TO BECOME SKILLED READERS, STUDENTS NEED TO DEVELOP ABILITIES TO:
1. decode graphic forms for efficient word recognition
2. access the meanings of a large number of words automatically
3. draw meaning from phrase- and clause-level grammatical information
4. combine clause-level meanings into larger networks of text comprehension
5. recognise discourse structures that build and support comprehension
6. use reading strategies for a range of academic reading tasks
7. set goals for reading and adjust them as needed
8. use inferences of various types and monitor comprehension for reading goals
9. draw on prior knowledge as appropriate
10. evaluate, integrate and synthesise information for critical reading comprehension
11. maintain these processes fluently for an extended period of time
12. sustain motivation to persist in reading and use text information for reading goals

reading curricula. The 12 implications are well supported by reading research in both L1 and L2 contexts (see especially Grabe, 2009; Han and Anderson, 2009; Koda, 2005). They represent the foundation for (a) pursuing further instructional research that translates implications to applications and (b) examining curricular goals and instructional practices to establish more effective teaching and learning. There certainly is no guarantee that research implications can be converted directly into effective teaching practices. Some implications may be more appropriate for certain groups of students than for others because of differing institutional goals and expected student outcomes. Moreover, student outcomes are influenced by many factors beyond specific curricula and classroom instruction (e.g. student proficiency levels, access to resources, teacher abilities, cultural attitudes toward reading). Nonetheless, the implications presented here serve as important starting points for discussions centred on reading instruction.

The first three implications presented in Table 5.1 address the need for rapid and automatic word recognition and the need for fluent recognition processing of phrase and clause structures to support comprehension. These implications argue for fluency practice, extensive reading, and time spent on the development of a large recognition vocabulary in reading classrooms. Implications 4 and 5 point out the importance of developing main-idea comprehension using all levels of language knowledge, including discourse structure awareness. Implications 6 through 10 identify strategic processing as a means for improving comprehension of more difficult texts and carrying out various academic tasks that involve the application of text information. Implications 11 and 12 highlight the important roles of reading fluency development, reading practice for extended periods of time, and student motivation to persist in and achieve learning goals.

5.2 Curricular principles for reading instruction

An effective reading curriculum interprets the research implications in Table 5.1 from the perspectives of institutional and teacher goals, strengths and weaknesses of students, student proficiency levels as well as constraints imposed by time, costs, resources and teacher preparedness. Nonetheless, a general set of curriculum principles can be proposed to assist teachers, materials writers and curriculum developers in translating the implications for and applying them to reading instruction. Table 5.2 outlines nine principles for developing an effective reading curriculum. Note that Table 5.2 is not intended to map explicitly on to Table 5.1 because research findings represent only one contribution, among many, to curricular principles.

Table 5.2 Nine curricular principles for reading instruction

-
1. Integrate reading skill instruction with extensive practice and exposure to print
 2. Use reading resources that are interesting, varied, attractive, abundant and accessible
 3. Provide some degree of student choice
 4. Introduce and practise reading skills by first drawing on the passages in course textbooks
 5. Connect textbook readings to students' background knowledge
 6. Structure lessons around pre-reading, during-reading and post-reading tasks
 7. Provide opportunities for students to experience comprehension success
 8. Build expectations that reading occurs in class in every lesson
 9. Plan instruction around a curricular framework that integrates goals for the development of reading abilities. To do so, teachers should:
 - a. Promote word recognition efficiency
 - b. Assist students in building a large recognition vocabulary
 - c. Create opportunities for comprehension skills practice
 - d. Build students' text structure awareness
 - e. Develop the strategic reader
 - f. Build students' reading fluency
 - g. Provide consistent extensive reading opportunities
 - h. Motivate students to read
 - i. Integrate content and language learning goals
-

Additional principles could be proposed, and some of these nine may not apply to every context. But these nine provide a good foundation for building a principled framework for reading instruction.

Apart from the more preliminary (and general) goal to establish student learning outcomes through a needs analysis, these nine curricular goals suggest ways to frame reading instruction so that students can develop comprehension abilities. First, and perhaps most importantly, students need to build reading abilities through consistent practice and extensive exposure to print. Second, students are more likely to engage in reading instruction when text materials are interesting, varied, abundant, visually attractive and easily accessible. Third, allowing some level of student choice in reading material and reading activities is crucial; student choice most importantly encourages student engagement, motivation and autonomy, in addition to encouraging the use of many interesting text resources.

Fourth, instruction should build reading-skills development activities around the main texts being read in students' textbooks. If key skills, comprehension strategies and language features cannot be exemplified

initially with the texts being read in class, then either the textbook does not complement students' needs (and should be re-evaluated) or the skills, strategies and language features targeted for instruction may not be as important as assumed. Moreover, working initially from the passages in students' textbooks provides teachers with the opportunity to address additional reading skills development issues without diverting from the (often mandated) textbook.

Fifth, some attention needs to be given to students' background knowledge. Sixth, reading lessons should be structured consistently around a pre-, during- and post-reading framework that prepares students for new readings, helps them while reading, and then obliges them to reconsider texts (and text information) for a variety of purposes after reading (see Table 5.3; see also Table 9.2). Seventh, students need successful reading experiences, much like they have in their L1s. A steady diet of frustrating experiences with L2 reading only leads to student disengagement. Eighth, some actual reading of texts should be included in every class session; too often, this point is overlooked, neglected or forgotten.

And finally, students benefit from a reading curriculum that consistently integrates nine goals required for the development of skilled reading (9a–9i in Table 5.2). Thus, the curriculum should combine explicit comprehension instruction with the development of the strategic reader. It should also support student involvement and motivation for reading. The remainder of this chapter explores these nine features of an effective reading curriculum. While these nine features may not be granted equal time in all instructional contexts, a careful examination of these features and the selection of the most important ones for consistent instruction will improve students' comprehension abilities.

Table 5.3 Sample activities used in different stages of a reading lesson

READING LESSON STAGES	EXAMPLE ACTIVITIES
Pre-reading	Presenting key vocabulary, identifying main themes in the reading, predicting information in the text, tapping appropriate background knowledge, making connections between new and known information
During-reading	Examining a difficult paragraph, confirming predictions, clarifying comprehension, guessing new word meanings
Post-reading	Summarising, evaluating, confirming predictions, sorting, building vocabulary knowledge, highlighting key information

5.3 Moving from curricular principles to instructional applications

5.3.1 Promote word recognition efficiency

Reading teachers should devote time to helping students develop word and phrase recognition abilities. Students at beginning and low-intermediate levels need to be able to use letter–sound correspondences easily and recognise frequent words rapidly and accurately (i.e. sight word reading, see Concept 5.1). Most L2 students will have reasonable control over these basic skills, but checking how quickly and accurately students can read a word list provides a useful diagnostic tool, particularly if a teacher is concerned about a student’s reading progress (see Wang and Koda, 2005, for a sample word list). Students who have difficulties with letter–sound correspondences should be given training in more consistent associations between letters and sounds (see Birch, 2007). Most L2 students will not have significant problems at this level if they are in academic settings at secondary or tertiary levels.

Concept 5.1 Sight words

Sight words are core vocabulary items that are automatically recognised by readers within a fraction of a second without the need for strategies. Readers add words to their sight vocabulary as soon as they become part of long-term memory. For L2 readers, developing an initial set of 300–500 automatically recognised words represents an important foundation for the development of reading fluency. (See Laufer and Ravenhorst-Kalovski, 2010; Rasinki and Padak, 2001; Sinatra, 2003.)

Beyond the ability to read a basic word list reasonably well, students also practise word recognition skills when engaged in vocabulary development activities, fluency practice and extensive reading (see 5.3.2, 5.3.6 and 5.3.7 below). Word recognition practice can be provided more directly through oral paired rereading (see 5.3.6.3), timed word-list reading, word matching, word (and phrase) recognition exercises (see 5.3.1.1) and flash cards. Flash cards, while sometimes considered passé, can prove effective not only for vocabulary building and vocabulary collecting (we all want our students to be word collectors), but also for word recognition.

Three specific activities that promote word and phrase recognition speed and accuracy, and that support reading fluency, are described below.

Quote 5.1

Flashcards have a terrible reputation (McCullough, 1955). But it's undeserved. ... Flashcards can foster automaticity by helping children read words accurately and quickly. Critics argue that flashcards only teach children to 'bark' at print and do not contribute to the bottom line of reading, which is comprehension. But recent research suggests the opposite, that teaching children to read words faster can improve reading comprehension dramatically.

Nicholson (2000, p. 37)

5.3.1.1 *Word and phrase recognition exercises*

Most reading textbooks do not include word or phrase recognition exercises, though there are a few exceptions (e.g. Folse, 2004a; Jeffries and Mikulecky, 2009a, 2009b; Rosen and Stoller, 1994). Fortunately, teachers can create word recognition exercises, also called 'timed word selection exercises' (Folse, 2004a), easily with key vocabulary from the texts that students are assigned to read. A common format for word recognition exercises is shown in Chapter 7, Figure 7.3. Similarly, teachers can create phrase recognition exercises, like the one below, with 20–25 key phrases found in the text.

Key phrase

1. by the way	by the time	by the way	on the way	by the end
2. word list	wired list	weird list	word list	wild fist
3. on the other hand	on the one hand	on the other band	in the other hand	on the other hand

...

Number correct: ____/20

Time: ____ seconds

Students generally enjoy engaging in recognition exercises in a beat-the-clock fashion and keeping track of their progress on record-keeping charts. Moreover, students develop a heightened awareness that reading includes rapid word recognition. And relatively little class time is needed to incorporate, let's say, three recognition exercises per textbook chapter. (See Crawford, 2005, and Stoller, 1993, for suggestions on writing recognition exercises and using them in class.)

5.3.1.2 *Timed semantic connection exercises*

Another way to promote quick lexical access is to create exercises with key words that are already familiar to students. Under timed conditions,

students consider the key word (on the left) and multiple choices (to the right) with the aim of selecting the one word that (a) has something in common with the key word, (b) is similar in meaning or (c) is a common collocate of the key word, as shown below.

Key word

1. flower	ring	bank	blue	rose	flour
2. however	often	also	but	and	usually
3. solve	a problem	the bank	her home	the dinner	the bike
...					

Number correct: ____/20

Time: ____ seconds

5.3.1.3 Lexical access fluency exercise

More advanced students benefit from lexical access fluency exercises too. A variation on the timed semantic connection exercise introduced above involves the matching of key words (bolded) with their definitions or synonyms under timed conditions. Students progress through three sets of the same key words and definitions, though definitions are scrambled in each set (see below), with less time allowed for the completion of each set (e.g. 60 seconds, 50 seconds, 40 seconds). Again, these exercises take little class time and one three-part set could easily be created for each assigned reading.

Set 1

paramount	dedication
impose	more important than anything else
inconceivable	unbelievable
devotion	oblige, force
...	

Set 2

paramount	oblige, force
impose	unbelievable
inconceivable	dedication
devotion	more important than anything else
...	

Set 3

paramount	more important than anything else
impose	dedication
inconceivable	oblige, force
devotion	unbelievable
...	

5.3.2 Build a large recognition vocabulary

Quote 5.2

There is a long history demonstrating a strong correlational relationship between vocabulary knowledge and reading comprehension... The instructional implication is that in order to build the kind of word knowledge that affects comprehension, learners need to actively work with new words.

Beck, McKeown and Kucan (2008, pp. 2, 4)

Substantial evidence suggests that vocabulary knowledge is closely related to reading abilities (Laufer, 1997; Pulido and Hambrick, 2008; Schoonen, Hulstijn and Bossers, 1998). Equally persuasive is the evidence that if students are to understand a wide range of texts with adequate comprehension, they need to recognise at least 95 per cent of the words they might encounter in these texts, and greater comprehension generally occurs when a reader recognises 98–99 per cent of the words in a given text (Laufer and Ravenhorst-Kalovski, 2010; Nation, 2006; Schmitt, Jiang and Grabe, 2011). The number of words needed for 95 per cent coverage of most texts seems to lie somewhere between 10,000 and 15,000 words; 98–99 per cent of word coverage of most texts probably requires a recognition vocabulary of about 36,000–40,000 words (Schmitt, 2008; Stahl and Nagy, 2006).

A realistic goal for more advanced L2 reading is an L2 recognition vocabulary above 10,000 words. Of course, the argument that students need to know the first 2000 most frequent word families still retains its force as a key incentive for vocabulary instruction. At the same time, direct vocabulary practice with large sets of words may be essential to increase L2 recognition vocabulary knowledge. To institute an active vocabulary-development framework in an L2 curriculum, one that guides classroom teachers, materials designers and curriculum developers, the following eight resources should be in place:

1. Systematic procedures for selecting words to focus on
2. A variety of techniques for *introducing* new words
3. A variety of techniques for encouraging students to *practise* using words in meaningful ways
4. Activities for building students' word-learning strategies
5. Approaches for creating a vocabulary-rich classroom environment to support learning
6. Activities to guide students in becoming independent collectors of words
7. Ways to build student motivation for word learning
8. Tasks that naturally recycle texts and vocabulary

Here we introduce three ideas for building a strong vocabulary-development framework. (Other practical ideas are listed in Figure 6.2.) These techniques, used alone or in combination, are more effective for building a framework for vocabulary instruction than simply asking students to memorise words, a technique mentioned all too frequently by teachers as their predominant vocabulary teaching tool.

5.3.2.1 *Systematic procedures for selecting words that merit explicit instruction*

For students to reach a minimum of 10,000 words, teachers need a systematic way to decide which words to focus on. Textbooks often pre-teach or gloss key vocabulary, but there are usually other words worthy of explicit attention. Words meriting attention should include the most important words for a text, the most useful for organising and working with other vocabulary, and the most likely to be helpful beyond the text being read. One systematic way to select vocabulary for explicit attention is by categorising words, those which are likely to be unfamiliar to most students in an assigned reading, into one of four types (Table 5.4). Words falling into the ++ category deserve direct instruction; words falling into the -- category are not worth instructional time. Teachers need to decide how much time to devote to words falling into the +- or -+ categories.

Table 5.4 Systematic way to identify words worthy of explicit attention. [Words placed in the ++ and +- categories (shaded rows) are usually the best candidates for explicit instruction in a reading classroom.]

TYPES	WORDS THAT ARE CRITICAL FOR TEXT COMPREHENSION	WORDS THAT ARE USEFUL BEYOND THE TEXT BEING READ
Plus-Plus (++)	+	+
Plus-Minus (+-)	+	-
Minus-Plus (-+)	-	+
Minus-Minus (--)	-	-

5.3.2.2 *Concept-of-definition map for introducing new vocabulary*

One way to introduce a new key word and connect it to what students already know is to ‘build’ a concept-of-definition map with the class (Figures 5.1 and 5.2). With this approach, students view a key word from

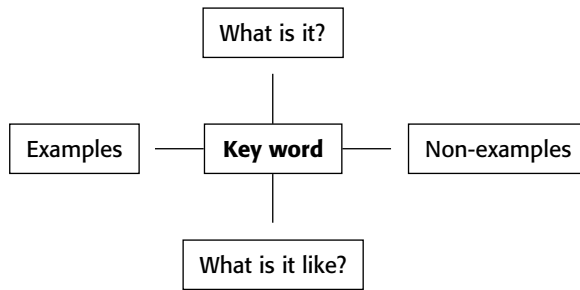


Figure 5.1 Concept-of-definition map (generic example)

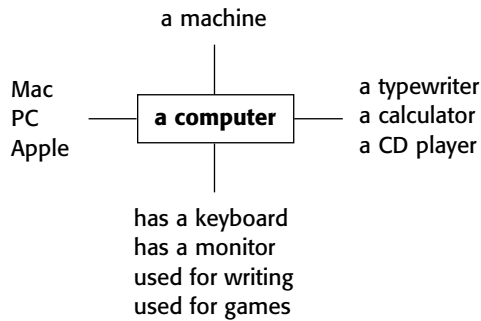


Figure 5.2 Sample concept-of-definition map

four vantage points, providing students with at least one perspective to help them remember the word and begin building their understanding of the word.

5.3.2.3 *Approach for creating a vocabulary-rich classroom environment to support learning*

Teachers can promote vocabulary learning by creating a vocabulary-rich environment in their classrooms (and school corridors) by placing students' written work, interesting newspaper and magazine articles, information from the Web that will catch students' attention, book covers from new school library acquisitions, song lyrics, etc. on walls and bulletin boards. Another way to create a vocabulary-rich classroom environment is to place key words and phrases from core readings on the classroom wall (or on a poster board or bulletin board). (See Concept 5.2.) Students can be asked to create meaningful clusters of words by moving words around on the word wall to assist them in remembering the words (e.g. groups of words that belong to a particular content area, synonyms and antonyms, words

from the same parts of speech, word families, words with positive or negative connotations, **collocations**). Activities can then be created that oblige students to use words from the word wall in meaningful ways, in, for instance, speed writes, crossword puzzles, ranking activities, spontaneous speaking tasks, dialogues and role plays (see Eyraud, Giles, Koenig and Stoller, 2000; Green, 2003).

Concept 5.2 Word wall approach

A word wall approach to vocabulary building involves the display of key words and phrases on a classroom wall for easy student reference. Words can be organised by part of speech, thematic unit, collocations, connotations, interesting word groupings (e.g. synonyms, antonyms) and so forth. Words or wall panels can be colour-coded to assist students with vocabulary learning. The simple display of words (selected by the teacher and/or students), however, does not guarantee vocabulary learning. The key is to return to the word wall and engage students in tasks that involve the meaningful use of words on the wall.

5.3.3 Create opportunities for comprehension skills practice

The ability to understand a text underlies the main impetus for reading. Yet, it is no simple task. Comprehension requires a reasonable knowledge of basic grammar, an ability to identify main ideas in the text, an awareness of discourse structure, and strategic processing with more difficult texts. Reading comprehension instruction – that involves helping students develop their comprehension abilities – should give some attention to directed grammar teaching, particularly at beginning and low-intermediate levels. In certain cases, teaching or reviewing a key grammar point will support the material that students are reading. However, most reading instruction occurs beyond the level of the beginning L2 student, and it is not necessary for a reading course to have an extensive grammar review. Certainly, a reading course is not the place in which to embed a grammatical syllabus. At the same time, it is important not to ignore grammatical knowledge as a resource for more advanced reading comprehension abilities (see Nation, 2009). (See action research project 8.3.3 for a project centred around building students' grammar awareness.)

Main-idea comprehension should be at the heart of reading instruction (see Concept 5.3). More commonly, teachers *assess* comprehension rather than *teach* comprehension through post-reading questions (Anderson, 2009). Post-reading comprehension questions *can* offer good instructional opportunities if teachers ask students to (a) explain why an answer is appropriate, (b) point out where the text supports their answers or

(c) engage in a discussion about how to understand the text better. Main-idea comprehension is effectively developed through class conversations identifying and exploring main ideas in the texts that students are reading, noting ways in which information connects across parts of the text, building linkages between two or more readings, and promoting connections between ideas in the text and student background knowledge. Class conversations centred on main-idea comprehension may start with post-reading comprehension questions, but students should be invited to follow up initial responses with further elaboration involving multiple students (Grabe, 2009).

Concept 5.3 Reading comprehension vs main-idea comprehension

The terms ‘reading comprehension’ and ‘main-idea comprehension’ are sometimes used synonymously, and we do this as well in this volume. Technically, however, reading comprehension is a broader term. Reading comprehension can include understanding and retrieval of details, facts and examples. Reading assessments often measure reading comprehension by including questions about details and fairly minor facts. In addition, reading comprehension may include expectations about connecting many facts and ideas, some of which are main ideas, but some of which may be relatively local or minor. Overall, however, the most important aspect of reading comprehension is main-idea comprehension.

Main-idea comprehension can also be developed through an explicit examination of the text to identify places where main ideas are stated, as well as the lexical signals that help identify these parts of the text. Asking students to summarise what they have read, or some segment of a longer text, also provides them with helpful practice in identifying main ideas, articulating these ideas clearly (whether orally or in writing) and establishing links across main ideas and supporting information. To assist students in summarising, if students have had little experience with the task, teachers can start out by asking students to fill in a partially completed summary (or outline) of a text while consulting the text. Finally, main-idea comprehension develops from instruction that emphasises discourse structure awareness through, in particular, the use of graphic organisers. (See action research projects 8.2.1–8.2.3 for projects centred around graphic organisers and signal words that raise students’ awareness of discourse organisation.)

Many other techniques can be used to promote main-idea comprehension. For example, the Questioning the Author (QtA) technique has proven effective for this purpose. Not only does the approach explore

text comprehension and comprehension monitoring, but it also leads to hypotheses about the author's purpose, identification of author bias and an exploration of the significance of the text, among other things. (See Table 8.4, in particular, and action research project 8.3.1, more generally, for details about the QtA technique.)

Consistently orchestrated teacher–class and student group conversations about the text can also promote main-idea comprehension. (See Table 8.5 and action research project 8.3.2 for more details and suggested questions to guide such conversations.) Below we provide some details about two other approaches to main-idea comprehension instruction, specifically Elaborative Interrogation and Comprehension Monitoring.

5.3.3.1 *Elaborative Interrogation*

Elaborative Interrogation (e.g. Ozgungor and Guthrie, 2004; Pressley, 2006) is a more 'gentle' approach to main-idea comprehension than its label might suggest. It is a type of comprehension questioning centring on follow-up *why* questions that oblige students to return to the text, reread, and then explain their answers. When done well, student responses generate class discussion and students learn to defend their answers and explain the strategies that they used to decide on an answer. *Why* questions can lead to an exploration of main ideas in addition to text recall, inference making and coherence building. For Elaborative Interrogation to work well, students need teacher guidance initially and lots of practice.

5.3.3.2 *Comprehension Monitoring*

Students' monitoring of their comprehension is often identified as a major reading strategy that improves main-idea comprehension (Grabe, 2009). Comprehension Monitoring involves much more than the recognition of main ideas and the identification of difficulties being experienced while reading a text. Strategies that have been identified as playing a major role in the monitoring of comprehension are listed in Table 5.5. Teachers can support reading comprehension development (and monitoring) by modelling these strategies, discussing them, and guiding students in using them and discussing them (when they used them and what prompted their use, what purpose they served, how they helped, etc.).

5.3.4 Build students' text structure awareness

Teaching students to become more aware of text structure is another critical aspect of reading instruction and curriculum planning. A teacher with some knowledge of text organisation and discourse signalling

Table 5.5 Comprehension Monitoring strategies (from Grabe, 2009)**WHEN MONITORING FOR COMPREHENSION, THE READER:**

1. has a reason for reading and is aware of it
2. recognises text structure
3. identifies important and main-idea information
4. relates text to background knowledge
5. recognises the relevance of the text to reading goal(s)
6. recognises and attends to reading difficulties
7. reads carefully
8. rereads as appropriate
9. clarifies misunderstandings

Quote 5.3

Direct instruction in text structure can facilitate the reading recall of second-language readers.

Hudson (2007, p. 294)

markers can help students build their knowledge of text structure and discourse organisation, which, in turn, will help students become better readers. Evidence reported decades ago (Carrell, 1985), which continues to be referenced today, suggested that explicit text-structure training enabled learners to recognise and use expository structures (e.g. comparison, problem-solution, causation). The effects of such instruction remained weeks after instruction.

Awareness of text organisation, or **text structure awareness** (see Concept 5.4) also provides a strategic approach to determining main ideas in the text. Writers' (not readers') goals determine basic discourse organisation; that is, the specific information that a writer presents has a major impact on how a text is organised. Patterns of organisation – such as those noted above – frame text information in certain ways. When students become aware of these patterns of organisation, it is easier for them to identify main ideas. Class discussions about how text information (whether a specific paragraph, a full section, or the whole text) is organised allow students to work collaboratively to build connections between main ideas and supporting information.

Concept 5.4 Text structure awareness

Good readers are aware of and make use of textual and language features. Good readers are attuned to the ways in which information is organised and the signals that provide cues to this organisation; they use this information (e.g. words that signal rhetorical patterns, transition phrases, headings, paragraphing, topic shifts) to achieve reading comprehension. In fact, it is well established that reading comprehension depends on a reader's awareness of text structure. Yet, few reading curricula focus on text structure awareness as a consistent component of instruction.

Much like other types of knowledge and skills to be learned, there are some key principles for text structure instruction. First and foremost, this type of instruction must be consistent and continual. Second, teachers should use the texts that students are already reading for other purposes so that students see the pervasiveness of discourse structure in all texts; students should not be provided with 'special texts' to showcase discourse structure. Finally, students should be given plentiful opportunities to be active participants in discussions of how texts are structured and how discourse structure is signalled (see Grabe, 2009; Jiang and Grabe, 2009).

Instruction that raises students' awareness of discourse organisation often involves the use of graphic organisers (Jiang and Grabe, 2007, 2009; see also action research projects 8.2.1. and 8.2.2, and Figure 8.4, for more details). Common tasks for exploring text structure, which can be incorporated into reading curricula easily, are explained in the following sections.

5.3.4.1 Building text structure awareness at the pre-reading stage of a reading lesson

Students can develop an awareness of text structure and discourse organisation during the pre-reading stages of a lesson. At that time, teachers can guide students in examining headings and subheadings in a text and hypothesising what each section is about. The goal, of course, is for students, over time, to take these steps on their own without being directed to do so. Students can also be asked to preview pre-selected sections of the text and highlight key words that signal text structure. Similarly, students can be asked to examine particular pre-determined paragraphs and decide their function in the text (e.g. to offer a counter-argument, propose a solution, introduce illustrative examples, provide an elaborated definition). When a text lends itself to such activities, these activities not only raise students'

discourse awareness but they also reinforce automatic behaviours of good readers.

5.3.4.2 *Building text structure awareness at the while-reading stage of a lesson*

Teachers can also raise students' awareness of text structure and discourse organisation at the while-reading lesson stage. Textbooks do not often include while-reading activities, so teachers can create them to guide students' reading while also bringing text organisation features to students' conscious attention. Depending on the nature of the text being read, teachers can ask students to do the following *while* reading:

1. Complete an outline of the text (at one or more points, depending on the length and nature of the text) that reveals main units of the text. As part of post-reading discussion, students can explain what makes each unit identifiable as a separate unit.
2. Fill in a table, chart, graph, timeline or Venn diagram. As part of post-reading discussion and a sharing of students' completed graphics, students can explain how the information placed in the graphic was signalled in the text so it fits in the given place in the graphic.
3. Underline clues that indicate major patterns of organisation (e.g. cause and effect, comparison and contrast, problem and solution).
4. Highlight transition phrases and signal words that indicate new sections. As part of post-reading discussion, students can describe what they think the phrases and words signal.
5. Assign a brief main-idea label to each paragraph (or sets of paragraphs) in the margin. As part of post-reading discussion, students can compare margin notes and explore the function of each paragraph or set of paragraphs.

5.3.4.3 *Building text awareness at the post-reading stage of a lesson*

Text structure awareness, as suggested above, can be developed further in post-reading discussions and rereading tasks. Many of the while-reading activities noted above can be converted into post-reading tasks. Students can also be asked to reread a text in order to match main ideas and supporting information across two columns. Also effective are tasks during which students reorganise scrambled paragraphs or sentences to reassemble a text, to create a good summary or to answer a guiding question. Students can also be given a teacher-generated summary of a text with an inappropriate sentence or paragraph included and asked to remove inappropriate parts, followed by a whole-class discussion that explores why the discarded parts do not belong.

5.3.5 Develop the strategic reader and promote strategic reading

When good readers read for careful comprehension, they typically employ multiple strategies to achieve their goals (Table 5.6), and they do so with a heightened level of metacognitive awareness. Strategies such as those listed in Table 5.6 are often applied in combinations that support each other to achieve comprehension. (See Concept 1.2 in Chapter 1 and Figure 8.2 for other lists of reading strategies.) Among good readers, these strategies are often applied initially without a lot of conscious thought. It is only when the initial set of strategies does not lead to successful comprehension that a much more conscious problem-solving mode of attention is activated.

L2 reading textbooks oftentimes introduce reading strategies, but they are rarely introduced in purposeful combinations or to achieve meaningful reading goals. A reading curriculum that focuses on ‘strategic reader’ training, as opposed to isolated strategy instruction, is likely to benefit the L2 reader the most.

Teaching for strategic reading involves a number of important steps. First, teachers should introduce a strategy and talk about how, when and why to use it. The strategy should then be added to a list that is visible for easy class consultation (see Figure 8.3). After it is introduced, the strategy must be practised and revisited multiple times during the course, with accompanying whole-class discussions. Second, teachers need to model combinations of strategy uses while reading aloud to the class so that

Table 5.6 Strategies employed by good readers while reading for careful comprehension (drawn from Pressley, 2002, pp. 294–6)

GOOD READERS:	
1. plan and form goals before reading	9. use text structure information to guide understanding
2. form predictions before reading	10. attempt to integrate ideas from different parts of the text
3. read selectively according to goals	11. build interpretations of the text as they read
4. reread as appropriate	12. build main-idea summaries
5. monitor their reading continuously	13. evaluate the text and the author, and form feelings about the text
6. identify important information	14. attempt to resolve difficulties
7. try to fill in gaps in the text through inferences and prior knowledge	15. reflect on the information in the text.
8. make guesses about unknown words to keep reading	

students can witness strategies being used. Over time, students should be encouraged to verbalise strategies that they are using and then discuss them as ways for understanding texts. (Consult action research project 8.1.3 for more on teacher modelling of reading strategies.) Third, teachers need to promote ways to monitor comprehension. Options for students include asking if the text is making sense, rethinking their goals for reading, and deciding at certain points what the main ideas of the text are.

Goals for the development of strategic reading should include (a) student use of multiple strategies in combination for better comprehension and (b) student familiarity with strategic responses to texts, which, with practice and teacher reinforcement, become more automatic. Teaching students to become more strategic readers is central to comprehension instruction and deserves greater instructional attention (see Pressley, 2006). (See action research project 8.1.1 for additional characteristics of reading classes that emphasise strategic reading behaviours.) Additional approaches to incorporating strategic reading into a reading curriculum are described in the following sections.

5.3.5.1 Directed Reading–Thinking Activity

With the Directed Reading–Thinking Activity (DR–TA), students relate background knowledge to the text, determine goals for reading, and then engage in a series of prediction tasks at set pause points, determined by the teacher ahead of time, throughout the text. The prediction stages are central to the approach; it is during prediction practice, and accompanying classroom discussion, that students develop monitoring strategies, text-evaluation abilities and main-idea comprehension (Blachowicz and Ogle, 2008; Kern, 2000). The prediction cycle involves asking students to (a) make predictions about what they think is coming next, (b) read to prove or disprove their predictions and (c) discuss predictions and reformulate them, using text information, before moving on to the next text segment. Questions that are commonly asked include the following:

1. What do you predict will happen?
2. What are your reasons for these predictions?
3. What do you think now? How were your predictions?
4. What made you change your mind?
5. Can you find information in the text to support or challenge your predictions?
6. Do you want to revise your predictions?
7. Why do you want to revise your predictions? What hints did the author give you?
8. What do you think will happen next?

When students experience difficulties adjusting their predictions as they proceed through the text (possibly because they are unable to make good inferences or connect segments of the text), the teacher can ask students to reread a particular section of the text to find text information that will inform an evaluation of their predictions.

One of the keys to successful DR–TA is linked to the teacher’s determination of *how much* text should be read between pauses, during which students revisit, evaluate and adjust, as needed, their predictions. The teacher needs to be sure that ‘there is enough information for the students to check likely predictions, and also enough new information for further predictions to be made’ (Blachowicz and Ogle, 2008, p. 140). One other key to successful DR–TA implementation is the realisation that prediction is only real when the entire class is actively engaged in the task. What this means is that no one should have read the material beforehand. Pausing at page breaks or at the end of a well-defined section might lessen students’ temptation to read ahead.

Quote 5.4

The DR–TA provides the teacher an opportunity to guide students to think like good readers do – anticipating, predicting, and then confirming or modifying their ideas with the story as it unfolds.

Blachowicz and Ogle (2008, p. 144)

5.3.5.2 KWHL chart

The simple **KWHL** chart (Figure 5.3) is a commonly used tool for promoting strategic reading and motivating students to read by having them discover what they have learned from reading. The approach combines activating background knowledge, goal setting, planning, monitoring for key points, evaluating text information, and relating learning outcomes to reading goals. With the KWHL chart on the board, the teacher, as part of the prereading segment of the lesson, asks students what they *know* (K)

K	W	H	L

Figure 5.3 KWHL Chart (K = Know; W = Want to know; H = How to learn; L = Learned)

about the topic of the reading, what they *want* to know (W) about the topic, and *how* (H) they will accomplish their goals. While discussing the *how* of reading, teacher and students can review reading strategies purposefully. During the while-reading segment of the lesson, students can look for the information they want to learn, using the stated strategies to do so. Toward the end of the post-reading segment of the lesson, the class can revisit the KWHL chart and report what they have *learned* (L) and which strategies (listed in the H column) were most effective. They can also connect newly learned information (listed in the L column) with already-known information (listed in the K column) to consolidate comprehension and long-term retention.

5.3.5.3 Identification of challenging parts of a text

Students pursuing further studies in their L2 are likely to encounter challenging texts or portions of texts on a fairly regular basis. Key to success in their studies is learning how to make sense of difficult texts. Teachers can ask students to identify a challenging text segment and then guide them in identifying the sources of the difficulty (see Figure 9.5) and strategies for overcoming the challenges. Instead of skipping over difficult segments, and focusing on what students understand, students benefit from working through difficult texts as a class, all the while discussing the process of making sense of the text, to master strategies that can carry over to other reading contexts.

5.3.6 Build students' reading fluency

Quote 5.5

Fluency development is often neglected in courses, partly because teachers and learners feel that they should always be learning something new. Fluency development involves making the best use of what is already known.

Nation (2008, p. 2)

Fluent reading – rapid, accurate and prosodically appropriate reading – is frequently ignored in most L2 reading curricula. In fact, fluency activities are seldom practised in most L2 reading curricula and are minimised in most L2 reading textbooks. However, as reading research has demonstrated in the past decade, reading fluency development is a critical component of effective and successful reading instruction (Grabe, 2009;

Schwanenflugel and Ruston, 2008). When fluency practice is incorporated as a key component of a reading curriculum, students make important gains in their reading comprehension.

Building word and passage reading fluency requires an extended commitment in the reading curriculum. One cannot build reading fluency by practising for a month or two. It is critical to explain to students why they are working on fluency and to ‘sell’ students fluency, rate and recognition activities. When students ‘buy into’ the need for fluency development, typically they enjoy fluency activities and look forward to them. Developing word recognition fluency can be carried out through repetition and ‘beat the clock’ practice with flash cards and timed readings of word lists (with words that have already been introduced). Students can also improve in word recognition fluency through practice in rereading texts, reading along in a text as the teacher reads aloud and engaging in extensive reading. Passage-level fluency can be developed with consistent practice in rereading texts, both silently and aloud. Passage fluency also is developed through extensive reading, recycling through previously read texts to carry out new tasks, **timed reading** activities, and **paced reading** activities. Other activities – including reading rate activities, oral supported reading and performance reading (Table 7.2) – provide additional opportunities for fluency development. Details on some of these fluency building activities are included below.

5.3.6.1 *Repeated reading*

In English L1 settings, repeated reading is becoming an important component of reading curricula, and many options exist for providing repeated reading practice (Rasinski, 2003; Rasinski, Blachowicz and Lems, 2006). Repeated reading can either be unassisted or assisted. Unassisted Repeated Reading involves students reading aloud short passages alone (either at school or at home) until they reach a set reading rate. Assisted Repeated Reading can involve students reading a passage silently along with an audiotope, reading a passage aloud with an audiotope, reading a passage with a teacher or aide, or first listening to a passage and then reading along (among other variations). The nine tips enumerated below can help teachers initiate a repeated reading routine:

1. Teachers should keep passages to between 70 and 200 words.
2. Teachers should only assign texts for rereading practice that students have *already* read or heard.
3. Teachers should limit reading of the same passage to three to four times per session.
4. Pronunciation should not be considered a key issue for repeated reading unless the word is pronounced so badly that it could be a different word.

5. Students should read with reasonable accuracy and an effort to pronounce intelligibly.
6. Students can read a whole passage timed or they can read for a set number of seconds (60, 90 or 120 seconds).
7. Students can work with a reading partner, with one student reading and the other listening (and helping out, when necessary).
8. When students read at an improved rate, or when they improve their rate three times in a row with a single passage, they should move to another text.
9. Students should chart their progress.

5.3.6.2 *Rereading (unlike repeated reading)*

Students are rarely asked to reread texts, despite the fact that the rereading of familiar texts represents one of the best ways to build reading fluency. Upon completion of a textbook chapter, the teacher usually directs student to turn to the next chapter, instead of giving students a new reason for reading the text one more time. And even when in the midst of a textbook unit, students are rarely given a reason to return to the text, even though there are so many types of tasks that could lead to a purposeful rereading. Each rereading of a text provides additional fluency practice as well as vocabulary recycling. Students can be asked to reread for a variety of well-defined purposes, including those listed here:

- confirm the main idea (skim)
- locate details (scan)
- prepare for a summary or synthesis task
- read between the lines (inferencing)
- fill in a graphic organiser that reflects text organisation
- prepare for a follow-up activity requiring the use of text information (e.g. radio report, essay, debate, play)
- confirm an answer to a comprehension question
- determine author stance, bias, position (and possibly take a position different from the author's)
- locate text structure signals, main-idea signals
- find points of agreement or disagreement with another information source (e.g. text, teacher mini-lecture, video, field trip)
- connect information with previously encountered information
- read a full text, after a jigsaw activity requiring the reading of only one part of the text

5.3.6.3 *Oral paired reading*

Oral **paired reading** is commonly used in L1 settings for fluency building, but it is rarely utilised in L2 classrooms in large part because of teachers' concerns about students' pronunciation and abilities to read aloud. Like the repeated reading tasks described above, students should be asked to work with a partner using a text that they are very familiar with. In this way, students can focus on reading more quickly each round, instead of focusing on meaning and unfamiliar words. After the initial oral paired reading session during which students learn general procedures and expectations, students typically look forward to these activities because they are fun, but, more importantly, they are very helpful for fluency building. Procedures for oral paired reading are spelled out in action research project 7.2.2.

5.3.7 Provide consistent extensive reading opportunities

Quote 5.6

If extensive reading is good for second language development, why isn't everybody doing it? ... Extensive reading represents much more than a teaching device. It represents a lifelong habit, a habit that brings with it the power and wealth that language offers in such large quantities. By encouraging our students to read extensively and showing them how to do so, we help them strengthen their grip on the efficacious tool of reading.

Renandya and Jacobs (2002, pp. 299, 300)

It should come as no surprise that students can only master reading abilities by reading. It sounds so simple, yet most reading programmes do not equate instructional time with actual reading time. One way to ensure that students actually read, and read a lot, is to integrate extensive reading as a regular component of the reading curriculum.

Extensive reading, to be reasonably successful, requires a commitment of time, resources and a significant effort in motivating students to read extensively at every reasonable opportunity. Because reading comprehension abilities develop incrementally, students should continuously be reading texts (e.g. graded readers and level-appropriate reading material) that are stimulating, involve student choice, are manageable for fluent reading practice, and are abundant in the classroom or school library. Students benefit from being reminded regularly of the importance of extensive reading. Building extensive reading habits requires a curriculum-wide

commitment if it is to have a major impact on fluency and reading comprehension development. Essentially, *there is no way to get around the fact that students only become good readers by reading a lot*. Ten principles for a successful extensive reading programme are listed in Table 9.6. (See also action research project 9.3.1 and 9.3.2) Additional tips that can enhance an extensive reading programme are presented below.

5.3.7.1 Classroom conversations about reading

Although conversations about reading are not viable substitutes for reading itself, classroom conversations about reading can motivate students to read. As part of these conversations:

1. teachers talk about what they like to read, what they are reading, and why the material is interesting;
2. the teacher finds out what students like to read and why;
3. the teacher encourages students to talk about the texts that they like to read, even when they are not the types of texts usually read in class (magazines, comic books, Web sites);
4. the teacher shares new library acquisitions with the class and encourages students to guess what the book might be about;
5. students share what they have read with the class and conclude with a simple one- or two-sentence recommendation (see Day and Bamford, 1998);
6. the teacher reads aloud an interesting text to the class and then guides a whole-class conversation about it (or asks students to discuss it in groups).

5.3.7.2 Sustained Silent Reading

Setting aside time for silent reading in class can assist students in developing reading abilities. The keys to effective **Sustained Silent Reading (SSR)**, sometimes called Drop Everything and Read (DEAR), are listed here:

1. The teacher should schedule SSR sessions regularly.
2. Students should read student-selected materials and be able to change reading materials when motivation lags or interest wanes.
3. The teacher too reads interesting materials silently during the SSR period (and does not grade papers or plan lessons).
4. The teacher does not incorporate explicit instruction or evaluation into the SSR period.
5. The teacher does not interrupt students while they are reading.

5.3.8 Motivate students to read

Quote 5.7

Frustrating reading experiences can result in decreased motivation to read in the L2 – a truly unfortunate consequence considering the importance of reading for most of our students. Nurturing students' motivation to read, therefore, should be an essential part of L2 reading instruction.

Komiyama (2009a, p. 32)

Teachers commonly think that they do not have a major role to play in student motivation for reading. This view could not be further from the truth. Most students take a dim view of becoming good, fluent L2 readers. Students know that reading development is a hard task, thus, they need effective motivational support from teachers and the curriculum itself. There are numerous ways in which classroom teachers can promote students' motivation for reading:

1. One important step that teachers can take is to share their love of reading with their students. As mentioned above, teachers ought to share what they are reading, why it is interesting, and what other types of reading they engage in. For students who come from homes or communities without much reading, the teacher role model can serve as a powerful motivator.
2. Similarly, students should be encouraged and praised for sharing what they are reading and why they find it interesting.
3. Teachers should find out what interests students have and then be on the lookout for related readings to share with those students.
4. Teachers should work toward promoting the development of group cohesiveness. A cohesive community of learners can support each other with challenging reading tasks.
5. Teachers should increase students' expectancy of success by devising reading tasks that will lead to success.
6. Teachers should devise good lead-ins for major texts and associated reading tasks to build initial interest.
7. Students become motivated when student skills are matched with appropriate challenge.
8. Teachers who build relevance into the curriculum, and by extension the assigned readings, will motivate students.
9. Teachers who encourage active participation among students will likely see more student engagement, motivation and enjoyment.

10. Teachers should give students some degree of choice in reading materials whenever possible (e.g. with extensive reading materials, in SSR sessions).
11. Teachers should help students discover what they have actually learned *from* reading so that students develop an appreciation for the value of reading.
12. Teachers, whenever possible, should guide students in building real levels of expertise in reading topics. (See 5.3.9 below for a discussion of this issue.)

5.3.9 Integrate content and language learning objectives

One approach to building a coherent and effective reading curriculum is to combine an emphasis on content learning as well as language learning, often labelled as **content-based instruction** (see Concept 5.5). Evidence from L1 reading contexts has empirically demonstrated the effectiveness of such an approach (Guthrie *et al.*, 2004). Sustained content and language learning, if developed appropriately, provides opportunities for the development of various language skills and resources (much as other curricular models would). However, combined content and language learning also provides many opportunities for extended reading, motivational learning experiences, strategic responses to increasingly complex tasks, greater choices in reading materials, and growing challenges to match growing skills. The combination of content and language learning objectives naturally leads to opportunities for project-based learning, the recycling of important skills on a regular basis, the rereading of many text resources, and more realistic tasks for interpreting, integrating and evaluating information from multiple texts. Such activities mirror the types of tasks that students encounter in academic settings (Grabe, 2009; Guthrie, Wigfield and Perencevich, 2004; Stoller, 2008; Stoller and Grabe, 1997).

Concept 5.5 Content-based instruction

Content-based instruction (CBI) is an umbrella term referring to instructional approaches that make a dual, though not necessarily equal, commitment to language- and content-learning objectives. Unlike other approaches to language instruction that define primary content in terms of grammatical structures, communicative language functions or language skills, in CBI, content refers to the use of non-language subject matter aligned with traditional school subjects, themes of interest to students, or vocational or occupational areas. What most content-based approaches share is the assumption that content and language create a symbiotic relationship whereby the learning of content contributes to the learning of language and a mastery of language gives learners easier access to content.

Teachers interested in integrating content and language learning objectives as a way to help students improve their reading skills might want to consider features of two empirically supported curricular frameworks, specifically Concept-Oriented Reading Instruction and Collaborative Strategic Reading, briefly described below.

5.3.9.1 *Concept-Oriented Reading Instruction*

Quote 5.8

Achievement in reading is a byproduct of students' engagement. As [students] encounter and digest books, their competence in reading grows. Engaged readers become facile in all the cognitive systems of word recognition, sentence processing, paragraph structuring, and integrating new information with prior knowledge. Achievements and engagements are reciprocal.

Guthrie (in Swan, 2003, p. vii)

Concept-Oriented Reading Instruction (CORI) is a curricular framework that has been used and researched extensively in L1 settings (e.g. Guthrie, Wigfield and Perencevich, 2004; Swan, 2003). CORI was initially guided by instructional principles for stimulating student interest and motivation to read. It has since evolved into a more elaborate, yet flexible, approach organised around four stages: (a) immersion into a main theme through students' personal engagement with the topic, (b) wide reading and information gathering on the theme across multiple information sources, (c) reading strategy instruction to assist with comprehension and (d) project work leading to a product that demonstrates what students have learned. A significant component of CORI is strategies instruction to support the extensive and varied input from text material required for thematic instruction; yet it also incorporates comprehension instruction activities that go beyond strategy training (e.g. vocabulary development, fluency practice, extensive reading). In the development of the four stages of CORI, students engage in content discussions and activities that require the purposeful use of multiple strategies such as forming questions, noting text structure and text characteristics, activating background knowledge, answering questions, taking notes, determining main ideas, synthesising information, paraphrasing, summarising, monitoring and repairing comprehension, integrating information through graphic organisers and carrying out a range of project tasks. These strategies, developed as part of explicit instruction while students are reading interesting texts to find

information related to their projects, are accompanied by consistent teacher modelling, teacher scaffolding and extensive practice.

5.3.9.2 *Collaborative Strategic Reading*

Collaborative Strategic Reading (CSR), designed for L2 learners, is an instructional framework that combines cooperative learning principles and reading comprehension strategy instruction to promote content learning, language mastery and reading comprehension (Klingner and Vaughn, 2000). During CSR, students work collaboratively to comprehend content-area texts, the belief being that cognitive development is stimulated by social interaction (the result of cooperative learning activities). While working in groups, students apply four strategies to their content reading: they preview (i.e. predict what the passage might be about); ‘click and clunk’ (i.e. identify difficult words and concepts and use fix-up strategies to make sense of difficult texts); get the gist (i.e. restate the most important ideas in portions of the text); and wrap up (i.e. summarise what has been learned). CSR teachers introduce the four strategies through modelling, role playing, thinking aloud and discussing why, when and how to use the strategies.

5.4 Conclusion

While there are a number of additional recommendations that can be made for building L2 reading instruction and planning appropriate reading curricula, this chapter describes important foundational concepts for developing reading instruction, and it then suggests ways to deliver effective instruction. It outlines an array of instructional practices that can be integrated into an innovative and effective framework, with and without adaptation, for teaching L2 reading. It is important to note that many of the instructional practices described in this chapter are supported by the specific research studies presented in Chapters 3 and 4 (see Table 5.7).

Before closing, we would like to comment briefly on **assessment for learning** as a central goal of reading instruction (usually involving informal and classroom-based assessment practices) (Davison and Leung, 2009; Grabe, 2009; Wiliam, 2007/2008). Assessment for learning involves the use of various feedback mechanisms from teacher-to-students and from students-to-teacher. With assessment for learning mechanisms, teachers support learning by providing feedback and giving students opportunities to improve their skills. The primary goal is not to evaluate learning as much as it is to provide useful feedback and raise students’ awareness of ways to improve learning. Such feedback and awareness-raising come about through

Table 5.7 Linking instruction to research

INSTRUCTIONAL EMPHASIS	STUDIES SUMMARISED IN CHAPTERS 3 AND 4
Automatic word recognition	3.2.3, 3.2.4, 4.2.1, 4.2.2, 4.2.8
Development of a large vocabulary	3.2.1, 3.2.2, 3.2.5, 4.2.2, 4.2.3, 4.2.9
Main-idea comprehension	4.2.4
Discourse structure awareness	3.2.6
Strategic processing	3.2.7–3.2.10, 4.2.5–4.2.7
Reading fluency development	3.2.3, 3.2.4, 4.2.8
Extensive reading	4.2.3, 4.2.9
Student motivation for reading	3.2.9, 4.2.10
Content and language instruction	3.2.9, 3.2.10

student engagement in follow-up discussions and two-way interactions to enhance learning. Assessment for learning has been shown to significantly improve learning when carried out systematically for purposes of student support and learning. As such, it is a critical aspect of effective instruction, including reading instruction, and should become a carefully considered part of every teacher’s repertoire (see Black and Wiliam, 1998; Black, Harrison, Lee, Marshall and Wiliam, 2004; Wiliam, Lee, Harrison and Black, 2004).

Overall, a single chapter on specific instructional practices for reading can only begin to identify the potential instructional options and variations that could help make a difference in reading success with L2 students. The key to these ongoing efforts is to continue exploring effective practices for reading instruction based on persuasive instructional research studies. The chapters that follow (Chapters 6–9) describe action research projects that teachers can engage in to investigate many of the instructional practices suggested in this chapter. These same chapters include abundant teaching ideas and resources throughout that can be adopted and/or adapted for reading classroom instruction. In sum, Chapters 6–9 not only provide springboards for meaningful action research projects but also offer many extensions of this chapter (Chapter 5) that teachers can use to enhance their reading instruction and reading curricula.

Further reading

Citations that appear frequently in the chapter represent key references for further details. Some additional resources, beyond those referred to in this

chapter and in Chapter 10 (see especially 10.3–10.5 and 10.7–10.8), are noted here.

- Research sources that we drew upon while writing this chapter, but that we did not cite, include August and Shanahan (2006), Block and Parris (2008), Koda and Zehler (2008), McCardle, Chhabra and Kapinus (2008) and Snowling and Hulme (2005)
- With regard to *vocabulary development*, good ideas from L1 contexts that can be adapted for L2 settings are outlined in Baumann and Kame'enui (2004), Beck and McKeown (2006), Graves (2009) and Stahl and Nagy (2006)
- Good *L2 vocabulary instruction* ideas can be found in Anderson (2007–2008, 2008b), Calderón (2007), Folse (2004b, 2008), Nation (2001, 2008) and Zimmerman (2009)
- See also, in this volume, 7.1 for practical ideas associated with dictionary use, glosses and word-collection strategies and 7.3 for ideas for building student motivation
- For more on *motivation instruction*, see Guthrie (2008), Malloy, Marinak and Gambrell (2010) and Pressley *et al.* (2003)
- For more on *fluency instruction*, see Blevins (2001), Kuhn and Schwanenflugel (2008), Opitz (2007) and Rasinski (2003, 2009)
- For discussions of *strategy instruction*, see Anderson (2008b), Block and Pressley (2002, 2007), Grabe (2009) and Hedgcock and Ferris (2009)
- For more on *CORI*, see Guthrie, McRae and Klauda (2007), Wigfield and Guthrie (2010), Wigfield *et al.* (2008)
- For discussions of *text structure instruction*, see Dymock and Nicholson (2007) and Jiang and Grabe (2009)
- For a discussion of *materials development* for the reading classroom, see Evans, Hartshorn and Anderson (2010)

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Section

IV Investigating reading through action research

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The reading teacher as action researcher

This chapter provides a rationale for teacher-initiated enquiry and introduces a flexible 12-step framework for conducting action research in classrooms with reading skills development goals. Of particular interest will be the following:

- a general introduction to action research that highlights its value and versatility
- a list of general reading-related topics that can be explored through action research
- a detailed, and easy-to-use, description of a 12-step action research process
- two sample action research projects that illustrate each step of the process
- good ideas and resources that can be used for teaching reading

Those of us who are responsible for teaching reading find ourselves in a range of instructional settings, including classrooms devoted solely to reading skills development, classrooms that emphasise integrated skills and classrooms with sheltered or other forms of content-based instruction. We teach young, adolescent and adult readers. Some of our students have already learned to read in their first languages; others are learning to read for the first time in their second languages. We have students who are motivated to read and others who are not (yet) motivated to read. What we have in common is the desire to guide students toward becoming more skilled, motivated and strategic readers. To be effective in our reading instruction, we need to go beyond superficial theories of reading, instructional fads, out-of-date perceptions of reading, loose intuitions based on our own experiences learning to read (as if one can really remember) and certain instructional procedures proposed by popular textbook series and

curriculum guidelines. A current understanding of reading – based on theory (as explained in Chapters 1–2), research (Chapters 3–4) and practice (Chapter 5) – helps us improve our teaching effectiveness and provides us with the tools to do the following:

1. Determine students' reading needs.
2. Adjust curricular priorities to meet students' reading-related needs.
3. Articulate relevant instructional goals and objectives.
4. Design (and redesign) courses.
5. Plan purposeful reading lessons.
6. Adopt, adapt and develop instructional materials and assessment instruments.
7. Provide meaningful feedback to students on various aspects of reading.
8. Adjust daily lessons in response to students' immediate needs, responses and attitudes.

To fulfil these varied responsibilities, we can build our understanding of reading in a number of ways. We can read the professional literature (books such as this one), subscribe to professional journals (see Chapter 10), participate in professional development seminars, attend conference sessions on reading-related topics and enrol in advanced degree programmes. We can also use our own classrooms, often-neglected resources, as windows to a more profound understanding of reading. Moreover, by means of systematic reflection on aspects of our reading instruction and our own students' learning (with action research), we can develop a keener understanding of reading, improve our use of instructional techniques that help students develop reading skills and build student–teacher roles that support effective learning.

The term *action research* is often used to describe this type of teacher reflection, or teacher-initiated enquiry, during which teachers look critically at their own classrooms to improve their teaching and enhance the quality of learning that takes place there. Action research helps teachers develop professionally through the systematic collection and analysis of relevant data and, then, the use of results for further professional actions. (See, e.g. Borg, 2006a; Burns, 1999, 2010; Edge, 2001; Farrell, 2007; and Wallace, 1998; for fuller descriptions of action research for language teachers, see also Bailey, 2001, and Burns, 2005, 2010, for comparisons of different types of research, e.g. basic, applied and action research.)

Action research provides practising teachers with non-threatening means for reflecting on reading from a variety of perspectives and for a variety of purposes, as specified in Concept 6.1. This list of possibilities is not meant to be comprehensive; rather, it simply illustrates the potential of

Quote 6.1

The term 'action research' refers to two dimensions: The word *research*... refers to a systematic approach to carrying out investigations and collecting information that is designed to illuminate an issue or problem and to improve classroom practice. The word *action* refers to taking practical action to resolve classroom problems.

Richards and Farrell (2005, p. 171)

action research in relation to reading. In essence, through action research, we can investigate almost any aspect of reading instruction (or assessment) that we want to understand better or improve. The real appeal of action research is that it permits us to examine reading in practical terms and explore realistic alternatives to reading instruction in our own classrooms, with our own students, at our own pace. The end result is not only an enhanced understanding of reading, but also improved instruction and more proficient student readers.

Concept 6.1 Purposes for reading-related action research

By means of action research, teachers can . . .

- Examine instructional practices that appear to work well and determine why they work well.
e.g. the teacher may want to determine why graphic organisers or a Sustained Silent Reading programme work so well.
- Analyse instructional practices that do not work as effectively as expected, so that such practices can be remedied, rather than immediately abandoned.
e.g. the teacher may be having difficulties with paced readings or jigsaw readings and want to determine the sources of those difficulties.
- Evaluate the impact of different instructional techniques to determine what works best for reading skills development.
e.g. the teacher may focus on different instructional techniques (paired oral rereading, strategy training, **Readers' Theatre**, etc.) to determine the extent to which they help students' reading skills development (fluency, word recognition, main-idea comprehension, etc.).
- Check the appropriateness of assigned reading passages.
e.g. the teacher could check passages for abstract concepts, age appropriateness, assumed background knowledge, cultural assumptions, grammatical complexity, length, text density and/or vocabulary.

- Evaluate student responsiveness to a range of text types, genres and topics.
e.g. the teacher might want to determine how students respond to descriptive or narrative passages, poetry, biographies or non-fiction essays, and/or texts about the environment, current events, animals or famous people.
- Assess the benefits derived by students when reading for different purposes.
e.g. the teacher might assess the benefits derived by students when reading (a) to search for simple information, (b) to learn new information, (c) to write and/or (d) for general comprehension.
- Determine the value of extensive reading.
e.g. the teacher may examine the impact of extensive reading on student attitudes toward reading or student reading abilities.
- Evaluate alternative means of achieving instructional goals.
e.g. the teacher, with reading fluency goals, may experiment with shadow reading, paced readings, reading aloud with taped versions of texts, paired oral rereading and/or computer pacing.

Quote 6.2

Action research generally involves inquiring into one's own practice through a process of self-monitoring that generally includes entering a cycle of planning, acting, observing and reflecting on an issue or problem in order to improve practice.

Farrell (2007, p. 94)

6.1 Teachers investigating their own classrooms: 'How to' guidelines

The benefits of action research suggest that such enquiry should become a routine part of a teacher's professional life (see Coombe and Barlow, 2007). Despite the fact that our options for action research are virtually limitless, the steps that we take to investigate our own classrooms typically follow a basic progression, though in an iterative and cyclic fashion (see Figure 6.1). What is particularly appealing about the process is that there is always room for simplicity, flexibility and practicality (see also Farrell,

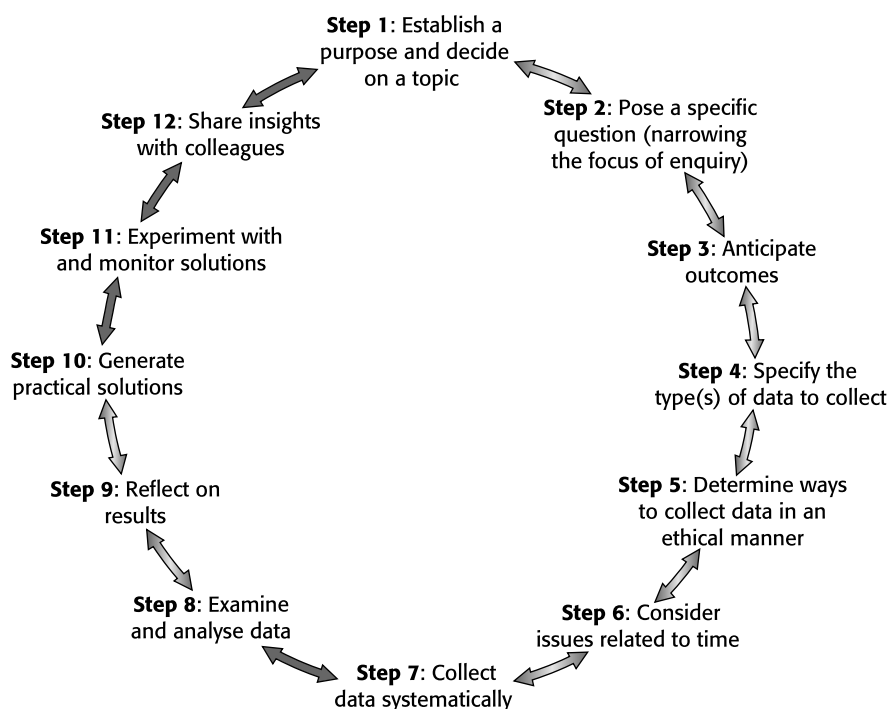


Figure 6.1 Basic steps in action research

Note: Even though this depiction of action research illustrates the cyclical nature of the process, it does not capture fully the ways in which the different steps constantly inform one another. For example, after arriving at Step 7 and collecting data systematically, the action researcher may find the need to return to Step 3 to adjust expected outcomes.

2007; Richards and Farrell, 2005; Wallace, 1998). And the potential usefulness of action research, for teachers and, by extension, their students, is ever present. (See Allwright and Hanks, 2009, for commentary on action research and their presentation of the Exploratory Practice model, which highlights the role of the learner as a co-practitioner in classroom investigations.)

Quote 6.3

Action research is generally well received as an effective form of professional development by teachers who conduct it.

Burns (2009, p. 293)

The 12 steps proposed here are flexible and can be adapted by the busiest of teachers (always a concern of busy teachers) in addition to new and experienced teachers, teachers with small or large classes, and teachers in settings that grant them a lot of freedom or very little freedom. In a simple, but meaningful, action research project, a teacher can observe herself for 1 or 2 days (or 1–2 weeks) to see, for example, how she responds to students' questions about new vocabulary, or how she builds upon questions provided at the end of a textbook chapter to meet reading lesson objectives. Or a teacher can devote every other Friday to a reading rate development routine that she wants to understand better. Or she can follow the progress of one student over the course of a week (or a month or a semester) to determine how one type of student (e.g. a motivated student, an unmotivated student, a fast reader, a slow reader) responds to a particular teaching technique, group activity or reading task. Because we are in control of our action research projects, we can design them to meet our own needs and conform to our own time constraints.

Although presented as separate steps, in reality the 12 steps are inter-related, with considerable overlap among them. In an effective action research project, a dynamic relationship exists between the research question, determined by the teacher in the early stages of the process, and the ways in which the project proceeds. Action research gives the teacher the flexibility (and authority) to reconsider guiding questions, data-collection techniques and methods of analysis. The bottom line is that the teacher should, and can, make the project as meaningful, and manageable, as possible.

Quote 6.4

As teachers gain confidence in their classroom practices, they tend to become keen observers of what does or does not work in their classrooms. Observations of their daily teaching environment become reflections that lead them to ask *why* and *how* questions related to their teaching. These kinds of questions readily lead to observing, comparing, analyzing, and valuing, which can move the teacher's practice closer to meeting unmet learner needs.

McGarrell (2007, p. 2)

In the sections that follow, each part of the 12-step process is introduced with general comments that highlight major goals; more specific details emerge in our brief description of two distinct, and what we believe to be realistic, reading-related action research projects. These two sample projects – one exploring vocabulary instruction in a reading class and the other exploring the amount of reading that students engage in – gradually unfold, like a story, as we move from step to step. (For the purposes of this illustration, we proceed forward, from step to step, instead of highlighting

the iterative nature of an action research project in real life.) We hope that the two examples, written in the first person to demonstrate their real-world applicability, illustrate how manageable and worthwhile the action research process can be. It should be noted that these two model action research projects, as well as the many sample projects that follow in Chapters 7–9, could easily be modified to complement the concerns and interests of teachers in a variety of second- and foreign-language settings, including those in K–12 (kindergarten to grade 12), adult education, general language, Language for Academic Purposes and Language for Specific Purposes programmes.

6.1.1 Establish a purpose for research and decide on a topic (Step 1)

When we identify some aspect of reading instruction or students' reading development that we would like to understand better or improve, we are, in essence, establishing a *purpose* for our research and defining a *topic*. Our purposes and topics can often be traced back to something that we have read in the professional literature, heard at a professional development seminar, or observed in our own or someone else's classroom. Consider the following real-world examples.

Example 6.1

Purpose: I want to understand the extent to which I am teaching vocabulary directly. There is a lot of evidence that explicit vocabulary instruction can assist L2 students in developing their vocabulary and, in turn, help them become better readers. The importance of explicit vocabulary instruction has been reinforced repeatedly in the professional literature (e.g. Folse, 2004b; Nation, 2008; Schmitt, 2008; Zimmerman, 2009) and by my students' never-ending requests for more vocabulary.

Topic: Explicit instructional techniques for vocabulary expansion.

Example 6.2

Purpose: It should not come as any surprise that students can only really learn to read by reading (e.g. Grabe, 2009), yet the amount of time that students actually spend reading in the typical classroom is limited, sometimes only a few minutes per day (see, e.g. Duke, 2000; Guthrie and Greaney, 1991). Although I spend a lot of class time on reading-related activities, I don't think that my students engage in enough silent reading to achieve the benefits reported in the literature (Stanovich, 2000). I want to

determine the amount of silent reading that goes on in my class. Then I can decide if I should restructure my lessons to incorporate more silent reading time. I could easily follow up this action research project by investigating how much time my students spend reading out of class to get a more accurate snapshot of their actual daily and weekly reading time. But I'll start small, paying attention, for now, to silent reading time in my class.

Topic: Amount of in-class silent reading.

6.1.2 Pose a specific question (Step 2)

To craft a manageable action research project, we need to limit the focus of our enquiry. To get started, we generally brainstorm possible questions related to the topic of interest. We can do so with our colleagues, if they have similar interests or concerns, and also with our students. Then, in an effort to narrow the scope of the project, we select one (or a limited number) of our questions to guide our research. The questions that we set aside, in addition to those that are likely to emerge during the action research project itself, can serve as stimuli for future action research projects.

Consider the process of narrowing the scope of an action research project by examining our two example action research projects.

Example 6.1a

Topic: Explicit instructional techniques for vocabulary expansion.

Possible questions related to the topic include the following:

1. What instructional approaches do I use to assist students in learning new vocabulary?
2. To what extent do I integrate the use of definitions into my instruction?
3. How often do I use word-family exercises and word-analysis activities to promote vocabulary learning?
4. To what extent might a classroom word wall (e.g. Eyraud, Giles, Koenig and Stoller, 2000) lead to meaningful vocabulary instruction tasks?
5. How often do I resort to translations in my reading classes?
6. In what ways might I use corpus tools for explicit vocabulary teaching?
7. Which explicit vocabulary-teaching techniques lead to better retention of vocabulary over time?
8. What works better: using explicit vocabulary-teaching techniques *before* or *after* students have encountered a new word in context?

Preferred question: What instructional approaches do I use to assist students in learning new vocabulary? (question 1, a common teacher concern)

Example 6.2a

Topic: Amount of in-class silent reading.

Possible questions related to the topic include the following:

1. How much silent reading do my students actually do in class?
2. What is the most beneficial amount of time to devote to Sustained Silent Reading, as a form of in-class reading?
3. How do students feel about the amount of reading that they are engaged in? More generally, what are students' attitudes toward reading?
4. Which reading materials (e.g. graded readers, magazines, non-fiction texts, textbooks) do students typically read in class? Do they have any choices?
5. What is the difference between the amount of reading completed by strong readers and weaker readers?
6. How often does silent reading occur on a daily basis? weekly basis?

Preferred question: How much silent reading do my students actually do in class? (question 1, a question that is often overlooked by teachers)

6.1.3 Anticipate outcomes of action research (Step 3)

After deciding on a focal point for our action research, it is a good idea to consider what we hope to gain from our efforts, for ourselves and our students. This early reflection will help us decide how much time to devote to the project, what data to collect and how to collect them. Consider the examples below.

Example 6.1b

Topic: Explicit instructional techniques for vocabulary expansion.

Preferred question: What instructional approaches do I use to assist students in learning new vocabulary?

Anticipated outcome(s): After becoming more aware of the explicit instructional techniques that I use (and don't use) in class, I may plan to expand my explicit vocabulary-teaching repertoire. In this way, I can add variety to my teaching, help my students expand their vocabulary in possibly more efficient ways, and, at the same time, expose my students to additional strategies for vocabulary building.

Example 6.2b

Topic: Amount of in-class silent reading.

Preferred question: How much silent reading do my students actually do in class?

Anticipated outcome(s): First, I will determine how much in-class silent reading my students engage in. If it turns out, as I imagine that it will, that students are actually involved in very little silent reading, I will rethink the emphases of my reading instruction so that I can fit in more silent reading time. I want to be certain that students are engaged in sufficient amounts of reading because silent reading time is so critical for reading skills development.

6.1.4 Specify the type(s) of data to collect (Step 4)

The next step in the process is to make an initial determination of the type(s) of data that we should collect to answer our guiding question. (Very possibly, teachers will identify other types of data to collect as the action project unfolds.) The research question itself is likely to reveal various options, including the collection of **quantitative data** (i.e. numerical data, data that can be counted), **qualitative data** (i.e. data that cannot be counted, but that can be reviewed for noticeable patterns and insights) or a combination of quantitative and qualitative data (i.e. a mixed-mode approach). For example, a teacher, who is motivated by the desire to determine which of the students need additional work on rate development, may want to find out how fast the students read when they are reading for general comprehension. With the assistance of a record-keeping sheet, the teacher can systematically collect students' reading rates – in minutes and seconds – and comprehension scores – as the number correct over total possible. These quantitative data will help the teacher answer the action research question. Or imagine a teacher who wants to explore ways of helping students develop an appreciation for how much they have learned through reading. That teacher might ask the students to write a series of brief reflective papers that require them to record the most interesting new information learned at the end of every week, based on a review of previously assigned readings. An analysis of those reflection papers is likely to reveal students' attitudes about their readings in addition to topics of particular interest (i.e. qualitative data), offering the teacher insights into students' perceptions of their reading experiences (and reading-to-learn activities). Many research questions will naturally lead to the collection of both quantitative and qualitative data.

Depending on the question guiding the enquiry, many specific types of data can be collected (e.g. students' reading rates, teacher lesson plans,

student or teacher journal entries, student homework, audiotaped student **read-alouds**, digital photos of a classroom word wall, an inventory of pre-reading tasks in a mandated textbook). What is key is that the data collected, when analysed, assist us in finding answers to our action research questions. Consider the following two examples, which showcase different types of data to be collected.

Example 6.1c

Topic: Explicit instructional techniques for vocabulary expansion.

Preferred question: What instructional approaches do I use to assist students in learning new vocabulary?

Type of data to collect: Inventory of explicit vocabulary instruction techniques used in class.

Example 6.2c

Topic: Amount of in-class silent reading.

Preferred question: How much silent reading do my students actually do in class?

Type of data to collect: A record of time (minutes) that students spend reading in class.

6.1.5 Determine ways to collect data in an ethical manner (Step 5)

Important considerations in action research revolve around the kinds of data to collect (Step 4) in addition to *how*, *where* and *from whom* to collect the data. Equally important, and closely connected, are considerations related to the ethical collection of data as well as ethical reporting of findings. Both sets of considerations are discussed here.

We can approach the data-collection task in many ways. We can choose individual approaches (which do not involve other teachers) or collaborative approaches (which involve others, often another teacher or team of teachers). (See Burns, 1999, 2010, for discussions of collaborative efforts.) We can devise data-collection procedures that complement normal classroom routines, thereby causing minimal disruption to class lessons, or we may use approaches that turn out to be somewhat intrusive because they are not part of the normal classroom routine (e.g. questionnaires

administered during class time). Or we might choose approaches that do not impact on classroom instruction at all by, for instance, gathering sets of documents that are relevant to the research question (e.g. lesson plans, student writing samples, completed homework assignments, textbooks). We have many data-collection options open to us; selecting one or more techniques that are a natural outgrowth of the guiding research question (Step 2) and desired outcomes (Step 3) is the goal. Concept 6.2 lists some commonly used data-collection techniques (see also Burns, 2010; Farrell, 2007; Richards and Farrell, 2005; Wallace, 1998). Although the data-collection techniques described in Concept 6.2 are listed separately, we can (and often do) use more than one data-collection technique as part of our action research; a multiple-technique, mixed-mode approach allows us to consider our question from various vantage points.

Quote 6.5

Whether [teacher research] is conducted collaboratively or individually, ... teacher research provides a way for teachers to integrate investigation, planning, teaching, and resource development into a holistic and systematic process.

Burns and Burton (2008, p. 8)

Concept 6.2 Data-collection techniques

Case studies: Investigation of an individual *case* (e.g. a learner, a student group, a teacher, a class).

Classroom observations: Attentive observation, supported by some form of record keeping (e.g. note taking, audiotaping, videotaping, checklists), of aspects of one's own classroom (by another person) or another teacher's classroom.

Document gathering: Collection of documents (interpreted broadly) that are relevant to the research question (e.g. in-class exams; teacher lesson plans; pre- and post-tests; software; student exercises, worksheets, writing assignments or projects; student records; textbooks).

Field notes: A written record of classroom events related to the research question (e.g. physical set-up of classroom, student groupings, pre-reading task progression, teacher–student interactions). Field notes are taken as the study proceeds, not after the fact. (Compare with *Journals* and *Teaching logs*.)

Interviews: Face-to-face interactions conducted by the teacher in a structured, semi-structured or unstructured format with teachers, administrators, librarians, aides and parents. (Compare with *Teacher–student conferences*.)

Journals: Written record of teacher's opinions and reactions to research questions and related issues. Dated journal entries are usually completed after class. (Compare with *Teaching logs* and *Field notes*.)

Questionnaires: A set of written questions related to research that the teacher asks participants (e.g. students, other teachers, administrators, librarians, parents) to answer.

Record-keeping forms: Standardised forms (e.g. charts, checklists, grids, matrices, tally sheets, worksheets) used for systematic data collection.

Self-observation: Attentive observation of some select aspect of one's own teaching, utilising some form of record keeping (e.g. audiotaping, videotaping, record-keeping form).

Simulated recall: Review of previously recorded data (e.g. an audiotape, videotape or transcription of a class or a teacher–student conference) to prompt responses from participants on events or activities being investigated.

Teacher–student conferences: Focused face-to-face interactions between teacher and student, often away from the rest of the class. (Compare with *Interviews*.)

Teaching logs: Written record of focal teaching events, usually completed after class. Dated log entries normally include factual information rather than more subjective reactions and opinions. (Compare with *Journals* and *Field notes*.)

Verbal reports: Verbal reflections on focus of research, often tape-recorded.

Quote 6.6

Data collection methods used are generally multidimensional, allowing for a variety of data collection tools and methods as well as the perspectives of different participants in the research context. This means that the data can be 'triangulated' or, in other words, come from various sources which can be tested out against each other.

Burns (1999, p. 10)

If we apply [triangulation] to data collection it means that a combination of angles on the data will help give us more objectivity. This usually means collecting more than one type of data. . . . Then you can compare, contrast, and cross-check to see whether what you are finding through one source is backed up by other evidence. In this way you can be more confident that your reflections and conclusions are supported by the data and not just by your own presuppositions or biases.

Burns (2010, p. 96)

When considering what data to collect (in addition to how, where and from whom), it is important to take into account fundamental ethical considerations (Burns, 2010). Whenever our action research involves human participants (as opposed to, for example, the examination of documents like textbooks or the videotaping of ourselves), we want to be sure that we treat our participants (typically our own students) fairly, respectfully and responsibly. This essentially means that our projects should not cause participants any risk, harm, distress or disadvantage. Many schools, school districts, universities and language programmes have their own **institutional review boards (IRBs)**; the main function of these boards is to ensure the ethical conduct of researchers and the fair treatment of participants. Teachers engaging in action research should find out what policies and procedures govern action research activities at their institutions.

Action research projects that are intended for use beyond teacher self-improvement may require IRB approval. For instance, a teacher researcher may plan to use findings for some purpose beyond the study situation itself (e.g. a newsletter article, a conference presentation). IRB approval may be needed if data involving student responses are to be included in the presentation. Typically this requires informing participants about the study, asking for their volunteer participation, and soliciting their **informed consent** (i.e. participants' explicitly stated willingness to participate in the study, knowing full well what is involved). When action research project findings are disseminated, participants are to be protected by not revealing their identities and by maintaining confidentiality.

Burns (2010, Chapter 2) considers these issues in greater depth and breadth. The questions that she explores are as follows. Whose permission do you need for your research? Who will be affected by your research? Who should be told about your research, and how should it be done, when the research cycle is completed? (For a discussion of the complexities associated with ethical principles and practices in action research, see Nolen and Vander Putten, 2007.)

Consider the examples below. Each makes use of one or more data-collection tools and the researchers consider the ethics of their proposed projects.

Example 6.1d

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Primary way(s) to collect data: Self-observation and a tally sheet (Figure 6.2).

Ethical considerations: Because I am essentially looking at myself, and not my students, and because I am collecting this information to gain an

understanding of my own teaching (for the eventual improvement of my teaching), I do not need to solicit informed consent from my students. If I ever report the results of my project to others, there will be no need to identify any of my students (except for, in the most general of terms, their proficiency levels and backgrounds to situate my study). To be fair and inclusive, however, I will probably tell my students about the project and my purposes for engaging in it.

Explicit vocabulary teaching technique	Week 1			Week 2			Week 3			Week 4		
	M	W	F	M	W	F	M	W	F	M	W	F
Analysis of word parts												
Anecdotes or stories highlighting word meaning												
Associations												
Categorisation												
Cognate consciousness raising												
Collocation awareness												
Computer-assisted vocabulary instruction												
Connections between new and known vocabulary												
Connotations												
Context clues												
Corpus analysis, including concordancing												
Definitions												
Dictionary consultation												
Discussion of word meaning(s)												
Examples and non-examples												
Games and puzzles												

Figure 6.2 Tally sheet to keep track of explicit vocabulary instruction techniques

Explicit vocabulary teaching technique	Week 1			Week 2			Week 3			Week 4		
	M	W	F	M	W	F	M	W	F	M	W	F
Glosses												
Illustrations, pictures												
Lexical sets												
Memory aids (e.g. vocabulary notebooks, flash cards, mnemonic devices)												
Pantomime and demonstrations												
Personalisation												
Practice with multiple meanings												
Ranking, sorting and matching												
Realia (i.e. concrete everyday objects, including pictures, pieces of fruit, household items)												
Recycling of vocabulary in varied contexts												
Discussion of register variation (both spoken and written)												
Semantic feature analysis												
Semantic mapping												
Synonyms/antonyms												
Thematic groupings												
Translation												
Word family activities												
Word learning strategies												
Other												

Figure 6.2 Continued

Example 6.2d

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Primary way(s) to collect data: A record-keeping sheet for the teacher to complete during or immediately after class (e.g. Figure 6.3).

Ethical considerations: Because I am not focusing on individual students in my project, there is no need to solicit students' informed consent to participate in my data collection. Because students are likely to see me with my stopwatch and record-keeping sheet, I'll explain to them the purpose of my data collection and why the results are so important for me (and for them). Because results of my research may be of interest to my colleagues, I'll likely share results with them informally. But there would be no reason to identify any of my students, thus, their identities will be protected.

Class: _____								
Date	Minutes of silent reading in class							
	0	< 1	1–5	6–10	11–15	16–20	21–25	26–30
7-5-12			✓					

Figure 6.3 Record of in-class silent reading time, in 5-minute increments

6.1.6 Consider issues related to time (Step 6)

Although action research need not occupy a lot of time, time is required for all action research projects (Farrell, 2007). When we decide to engage in action research, we must consider (and possibly calculate) the time demands of the project. In this way, before jumping into the project, we have a realistic sense about what we have committed ourselves to. The time demands of action research vary, depending on the nature of the task, data-collection procedures and analysis. In some projects, we devote time *before* actually starting our research, to prepare or locate appropriate materials (e.g. questionnaires, record-keeping sheets, worksheets, pre- and post-exams, comprehension questions, textbook reading passages, vocabulary items). In other cases, time may be needed *after* class meetings to

reflect on classroom events (e.g. in a journal, in a teaching log or on a checklist) or to transcribe an audiotape of a class observation. Some action research projects necessitate in-class instructional time; these types of projects usually require adjustments in our lesson plans so that data-collection activities can be accommodated. In all action research projects, time is needed to analyse data (Step 8), reflect on results (Step 9) and consider new ways of teaching in response to those results (Step 10). When we choose to share our insights with colleagues (Step 12), that requires time too.

Also related to time are issues of *when*, *how often* and *how long* to gather data. As noted earlier, we may choose to observe ourselves during just one week of class. Or we may collect data every Monday, Wednesday and Friday for an entire semester or academic year. Although action research can be shortened or lengthened at any point, deciding on an initial time frame is helpful. Let's now look at time-related issues in the examples below.

Example 6.1e

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Time needed: Before actually starting my research, I need to read up on explicit vocabulary-teaching techniques and then create a tally sheet (similar to Figure 6.2) for easy record keeping. Then I'll set aside time after class – for one month, every Monday, Wednesday and Friday – to fill out the tally sheet. At the end of one month, I'll analyse my records to determine if I have sufficient data to answer my guiding research question.

Example 6.2e

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Time needed: Initially, I need to create an easy-to-use record-keeping sheet (Figure 6.3). Very little time will be needed to fill in the sheet. I'll just need to remember to bring a stopwatch to class and time students while they are reading. During the analysis stage, my records should take little time to tabulate. How to reorganise my reading lessons to accommodate more reading time, however, will require more serious consideration.

6.1.7 Collect data systematically (Step 7)

It is during the data-collection stage when the preceding steps (Steps 1–6) are put into action. How data are collected and how often they are collected are variable; what should remain constant, however, is *careful*, *regular* and *systematic* data collection. (As suggested earlier, it may be at this point, just before data collection begins, that permissions need to be solicited from participants.) Consider the following examples.

Example 6.1f

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Data collection: During class, I'll self-monitor by paying careful attention to the planned (and unplanned) ways in which I assist students in learning new vocabulary. Immediately following each Monday, Wednesday and Friday class for a month, I'll fill out my tally sheet (Figure 6.2) by indicating the instructional techniques used in class. If I use a technique that is not listed, I'll add it to the tally sheet.

Example 6.2f

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Data collection: Over a 2-week period, I'll come to class with a stopwatch in hand (or use the classroom wall clock) to keep track of the time that students read silently in class. I'll record their reading time in 5-minute increments on the record-keeping chart (Figure 6.3). After 2 weeks of daily record keeping, I'll determine if I need more data.

6.1.8 Examine and analyse data (Step 8)

During this important step of the action research process, we are likely to engage in a range of activities, with the goal being to *describe*, *display*, *interpret* and *explain* data collected in light of the research question(s) driving the project. For example, if we were investigating students' reading strategy use, we would want to *describe* the strategies that they used, when they used them, and their purposes for using them, if we have collected such data. We'd likely document strategies that we expected, in

addition to others that surprise us. To facilitate an analysis of these data, we might *display* our findings in a chart, table or diagram. Such displays help us *interpret* the data – that is, find meaning in the data and then connect the data back to our guiding research questions. As we interpret the data, we should *explain* how the data help us (or do not help us) answer our research questions.

The ultimate aim of the action research, of course, is to use insights gained during this stage of the process to improve our own classroom teaching and the learning that takes place there. The analysis stage is likely to involve two or more of the tasks presented in Concept 6.3. The ultimate goal is ‘to build an interpretation’ that will lead to a ‘data-driven decision to take some action’ (Farrell, 2007, p. 102).

Concept 6.3 Data analysis tasks	
Sample analysis tasks	Examples
Assemble or transform data	Transcribe videotapes or audiotapes, tabulate numerical data, organise student reflection papers.
Examine data in search of recurring:	
(a) characteristics	Data reveal that slow readers use few, if any, pre-reading strategies on their own.
(b) hierarchies	Data indicate that students of all ability levels seem to value certain reading strategies more than others: more highly valued strategies – previewing the text, predicting the contents of the text, connecting text to background information; less valued strategies – specifying a purpose for reading, checking predictions, rereading.
(c) patterns	Data show that both strong and weak readers benefit from the use of graphic organisers during while-reading activities.
(d) relationships	Data suggest that students who use two or more vocabulary-collection techniques on their own are likely to have larger vocabularies than students who repeatedly use a single technique.
(e) sequences	Data reveal that the assignment of descriptive passages <i>before</i> cause-effect passages seems to be more manageable for lower-level students.

(f) trends	Data suggest that students who are given the opportunity to select their own reading materials tend to read increasing numbers of pages over the course of a semester; older students enjoy reading non-fiction themes more than fiction.
Categorise data	Divide vocabulary words – identified by students as unfamiliar – into groups of content and function words, or into content-obligatory and content-compatible words (Snow, Met and Genesee, 1989). Separate post-reading questions posed by the teacher (or textbook) into categories (e.g. questions that require recall, a summary, a detail, the expansion of an earlier response, an explanation, an evaluation, an application, a judgement, personalisation, an inference, an interpretation, a prediction, a restatement).
Compare data	Compare findings from one reading class with findings from another reading class. Compare results from highly motivated and less motivated readers. Compare students' receptiveness to one pre-reading activity and then another. Compare findings with other sources of data (e.g. from another teacher's classroom, from a published study).

It should be noted that at this stage, we oftentimes find it necessary to go back and gather additional data (Step 7), necessitating a rethinking of our time frame (Step 6). Being cognisant of and open to the iterative nature of action research will minimise possible frustrations and lead to a more fruitful endeavour, benefiting not only the teacher but also students.

Let's look at our two example action research projects to see how data are analysed.

Example 6.1g

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Data analysis: After a month of data collection, I'll tabulate my tally sheets to determine which explicit vocabulary-teaching techniques I use *and* the extent of their use (i.e. frequency of use). I will look for trends and, if appropriate, may categorise techniques into different types (e.g. student-centred, teacher-centred, passive, active). I'll work toward interpreting my data with the goal of discovering my current preferences as well as techniques that are under-used or not used at all.

Example 6.2g

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Data analysis: At the end of the data-collection period, I'll transform my data by calculating (a) the total amount of in-class silent reading time (in minutes), as documented on my record-keeping sheet (Figure 6.3), (b) the average amount of reading time per class session (total amount of time in minutes ÷ number of days of record keeping); and (c) the percentage of class time spent reading in relation to the total amount of time that students are in class with me (total number of minutes spent reading, per week, ÷ total number of class minutes, per week). I'll keep in mind that my numerical findings will be estimates because of my record keeping in 5-minute increments. Results should provide concrete evidence of time-on-task (i.e. time spent reading).

6.1.9 Reflect on results (Step 9)

This phase of the action research process is hard to separate from the examination and analysis stage (Step 8), revealing the truly cyclical nature of action research. As we analyse our data, we naturally reflect on the importance and usefulness of our observations for the ultimate purpose of answering our research question, drawing conclusions and resolving the dilemma (or satisfying the curiosity) that led to the question. During this critical step of the process, we reconsider our topic (Step 1) and guiding research questions (Step 2) to determine what we have learned. We try to generate interpretations that will guide future actions (Steps 10 and 11). It is at this critical juncture when teachers may want to engage students in deliberations about results and future actions. With an open mind, we (by ourselves, with colleagues and/or with our students) can consider important questions such as the following. What do these results mean? What have I learned about myself? About my students? About reading?

About reading instruction? About the reading curriculum? How can I use the insights gained to improve the teaching and learning that goes on in my classroom? Based on my findings, which aspects of my classroom instruction should remain the same and which should be modified? And how might I modify instruction to create a more effective learning environment? It is precisely questions like these that arise at this stage and that may cause adjustments to action research plans and sequences.

Quote 6.7

Gaining insights into one's own teaching or discovering something about oneself as a professional that one didn't know before is the very essence of action research.

Wallace (1998, p. 44)

At this stage, we can also reflect on the action research project itself, posing questions such as these:

1. What were the strengths and weaknesses of my action research?
2. What limitations should I take into account while reflecting on results?
3. Should I take this research one step further to learn even more about the topic?
4. What new questions do I have now?
5. Could these questions serve as springboards for future action research projects?
6. How might I structure future action research projects based on this experience?

To gain more insights into this stage of the process, consider our two sample action research projects.

Example 6.1h

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Reflection on results: I've thought about the patterns that have emerged from my data and tried to understand why I'm drawn to certain vocabulary-teaching techniques and why I shy away from others. I've noticed that I

regularly use definitions, synonyms and antonyms, illustrations and mime to teach new vocabulary items. Not even once, I'm embarrassed to admit, did I use computer-assisted vocabulary instruction, corpus analyses, collocation awareness activities, **lexical sets**, **semantic feature analysis**, **analysis of word parts** or cognate awareness with my students! Now that I think about it, I probably had opportunities to make use of some of these techniques, especially on the days my class meets in the computer lab. I'm probably disadvantaging my students by not exposing them to a broader range of vocabulary-learning techniques. My vocabulary-teaching repertoire may be especially narrow because of my own language-learning experience. When I was a language student, my teachers mainly used translation, but that won't work in my multilingual classroom.

Although I've learned a lot about my students' vocabulary-building experiences in my classes, I'm uncertain about their overall vocabulary-learning experience. I have no idea what techniques they are being exposed to in their other classes. It might be worthwhile to interview my students' other teachers to find out the extent to which students are exposed to other vocabulary teaching and learning techniques. Perhaps this could be the starting point for a future action research project.

Example 6.2h

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Reflection on results: As I might have predicted, the total amount of time that my students engage in actual reading is minimal, oftentimes less than five minutes per class meeting. There were days when students read less than one minute! It is actually disturbing to learn how little silent reading is going on in class, knowing that students need to be reading to improve their reading abilities! We spend most of our time discussing readings, going over vocabulary and reviewing exercises. I wonder what the principal would say if he were to walk by the room and it was totally silent, with everyone reading!

I'm convinced now that I need to reorganise my lessons to make time for more reading. As Grabe (2009) affirms, there are no short cuts! Students learn to read by reading!

6.1.10 Generate practical solutions (Step 10)

The goal of action research is to arrive at this point in the process. That is, we normally engage in action research not only to gain a better understanding of our classrooms (Steps 1–9) but also to take practical steps to improve classroom instruction (Steps 10–11). One way to enhance

classroom teaching and learning, after having reflected on the results of our research, is to generate practical solutions and an action plan to implement (and monitor) them. (It is likely that action researchers will be contemplating such issues throughout the entire project, not *just* at this point.) While ‘searching’ for solutions, we should not assume that there is a single solution waiting to be discovered; rather, there are probably many practical options from which we can choose. We may try out a brand new approach, technique or set of materials (that we have read about or heard about at a conference) on an experimental basis. Or we might restructure, in a small or grand way, a tried and true technique. The key is to use results (and insights from reading theory and other research) to take action, that is, to try out new classroom practices.

Let’s revisit our two examples to discover some of the practical solutions generated in response to the questions posed.

Example 6.1i

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Practical solutions: Based on the results of my action research, I am now determined to expand my repertoire of explicit vocabulary-teaching techniques. I want to start out by experimenting with three techniques (from Figure 6.2) that I have never used: computer-assisted vocabulary instruction (Chapelle and Jamieson, 2008; Horst, Cobb and Nicolae, 2005), collocation awareness activities and use of lexical sets (Zimmerman, 2009). In the future, I can experiment with other techniques. There seems to be plenty of support for ‘spreading my wings’. First, research (not my own, but research by others, e.g. Nation, 2008; Schmitt, 2008) has indicated the value of explicit vocabulary teaching for developing readers. Second, my students’ reading is likely to improve when they have a larger vocabulary and they will be appreciative of my commitment to their vocabulary growth. Third, when I broaden my teaching repertoire, I will simultaneously expose students to new strategies that they can use independently for vocabulary building.

To experiment with computer-assisted vocabulary instruction, I have some work ahead of me! I’ll have to familiarise myself with the vocabulary-building software available in our computer lab and with tips for computer-assisted vocabulary teaching (e.g. Chapelle and Jamieson, 2008). To prepare myself to integrate collocation awareness activities and lexical sets into my teaching, I’ll consult other teacher resource books (e.g. Folse, 2004b; Nation, 2008; Zimmerman, 2009) and Web sites for practical suggestions (see Chapter 10).

It will also be beneficial to spend time rereading core class readings, through my students’ eyes, to identify lexical items that students are likely to

have difficulties with and those that lend themselves best to the explicit vocabulary teaching techniques that I have targeted for experimentation. And then I'll work the words and techniques into my lesson plans.

In the future, I might try integrating corpus tools into my classes. To do so, I will start out by looking at Web sites that I've heard about and think about how I might use them for explicit vocabulary instruction (e.g. <http://corpus.byu.edu/time/> and www.americancorpus.org). This could be a future action research project.

Another future action research possibility could involve interviewing my colleagues (those who teach the same students) to find out how they teach new vocabulary. Before the actual interviews, I'll talk to my colleagues casually and explain my reasons for wanting to interview them. Hopefully, they'll become interested in the topic and cooperate. I'll use my list of techniques as a springboard for our conversations. I'll take notes at the interviews to keep a record of responses. When I've collected data from everyone, I'll analyse the results of my interviews to ascertain the vocabulary-learning experiences that my students are having across the curriculum.

Example 6.2i

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Practical solutions: The results of my action research project reveal that my students spend minimal time reading. From everything I know about reading skills development, it's imperative that I increase the time that students spend reading in class.

My action plan. First, to increase the amount of time that students spend reading silently in class, I'm going to experiment with a Sustained Silent Reading (SSR) routine 2 days per week, for an entire semester. Before doing so, I will schedule a meeting with the school principal to tell him about my proposed SSR programme so that he'll understand my rationale for integrating it into my instruction and be supportive of my efforts. Because he is a strong proponent of communicative language classrooms, I need him to appreciate the benefits of a quiet classroom, with students working on their own, at their own desks, silently engaged in reading. Second, instead of bringing in new reading passages for my students to read, I plan on asking students to reread texts, but for different purposes, as a way to increase silent reading time (see 5.3.6.2). An added benefit that accompanies rereading is the repeated exposure that students have to vocabulary.

6.1.11 Experiment with and monitor solutions (Step 11)

At this point in the process, we become eager to implement practical solutions to our action research questions, with the goal of enhancing the

effectiveness of classroom instruction. The insights gained from our research and the practical solutions generated through reflection usually represent a source of excitement and positive challenge because they are so closely tied to our realities: our classrooms, our students and their needs. When we try out our practical solutions, however, we are wise to view them as experimental. Because we cannot possibly know how effective proposed solutions will be, it is natural to consider initiating a follow-up action research project to determine their effectiveness. Of course, this entails going back to Steps 1 and 2 to begin the process again.

What we learn from the action research process is that it is never conclusive, nor is it static or self-contained. In fact, this is the very essence of the iterative process. In exploring a narrow area of a larger topic, we inevitably encounter new questions, leading to new action research projects. The cyclical nature of action research creates multiple opportunities for new and manageable action research projects.

Once again, let's return to our two examples to see how this step unfolds.

Example 6.1j

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Experimentation with practical solutions: When I am able to integrate these new vocabulary teaching techniques into my lesson plans (at points where they complement the texts and vocabulary under consideration), I'll be sure to observe students' responsiveness to the techniques and the adjustments that I make to my lesson plans to accommodate student needs. To evaluate the effectiveness of the techniques and the ways in which I integrate them into my classroom (as part of a follow-up action research project), I'll keep an after-class journal, noting my reactions and my students' reactions to the techniques. I'll also jot down notes on my lesson plans to reflect the changes made, if any.

Example 6.2j

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Experimentation with practical solutions: I'll start out with a meeting with my principal to explain my rationale for SSR and immediately thereafter, hopefully, the implementation of SSR on a regular basis. If need be, I'll request permission from the principal to engage in this project because it will entail a change in the way that I allot time for instruction. I'll also find out if there is any reason to consult with the school's IRB about the project

because I will be collecting data about students' responsiveness to SSR. At a later date, I'll get started with the rereading tasks.

During the semester in which I experiment with SSR, I'll subscribe to standard SSR procedures: student-selected reading materials, regularly scheduled SSR sessions, teacher participation by reading silently as well, and the absence of explicit instruction, evaluation and interruptions. I'll start with 5-minute sessions and gradually extend their length to no more than 15 minutes. I'll keep track of time allotments and make notes about student concentration, attitudes and restlessness to ascertain the best time allotment to sustain student interest (as a follow-up action research project). Initially, there may be some confusion and resistance, because of students' lack of experience with SSR, but I'll work through that.

When I meet the school principal to explain my reasons for implementing SSR, I'll be prepared to (a) clarify the importance of silent reading for developing readers, (b) describe the essential features of SSR and the role they can play in a curricular commitment to reading skills development and (c) report the support for SSR provided by many well-known reading researchers.

6.1.12 Share insights with colleagues (Step 12)

In the 'final' stages of an action research project (if, in fact, there is such a thing as a 'final' stage), we have the option of sharing what we have learned with interested colleagues. We can share findings, practical solutions and insights about the action research process with colleagues in our own institutions and with professionals outside our institutions at professional conferences (in informal discussions, formal presentations, workshops or poster sessions). We can also share insights by means of publications in school or district newsletters, in professional journals or as part of Internet chat groups. (See Burns, 1999, Chapter 7, and Burns, 2010, Chapter 5, for helpful guidelines for writing up reports of action research. See Wallace, 1998, Chapters 3 and 10, and Burns, 2010, Chapter 2, for comments on the ethics of reporting and issues of confidentiality.)

There are many benefits to disseminating action research findings. Although we often work alone in our classrooms, teachers experience similar challenges (and joys). The concerns of one teacher often reflect the concerns of her or his colleagues; the frustrations of one teacher often represent the frustrations of others. Because of common concerns and aspirations, we are often interested in the insights of colleagues who have been engaged in action research. Although it takes time to disseminate information, the effort is worthwhile because of the so-called **multiplier effect**. When we share what we have learned with others, increasing numbers of students become the beneficiaries of the research. When other teachers experiment with practical solutions introduced by teachers who have been engaged in action research, efforts to improve classroom instruction and

student learning are more far reaching. The potential for the multiplier effect extends the impact of a single action research project, enhancing teaching and learning in multiple classrooms, in multiple instructional contexts.

Let's consider the ways in which insights are disseminated in our two model projects.

Example 6.1k

Topic: Explicit instructional techniques for vocabulary expansion.

Question: What instructional approaches do I use to assist students in learning new vocabulary?

Sharing of insights with colleagues: My observations of students, annotated lesson plans and after-class journal entries should provide valuable insights into how my three targeted explicit vocabulary teaching techniques have worked (for me and my students). I am considering creating a poster, to be displayed at a local teachers' conference, that highlights the ways in which I integrate at least one of the vocabulary techniques into my lessons. On the poster, I'll provide a rationale for explicit vocabulary teaching, a brief description of my action research project, an explanation of the target technique and ways to implement it in class, and a list of problems and solutions. I'm assuming that many teachers will gravitate toward the poster because we all know how critical vocabulary is for our students' language learning. (Note: There will be no reason to identify any of my students by name on the poster; thus, their identities will be protected. If I want to include a photo of my students on the poster, I'll need to get their permission to do so.)

Example 6.2k

Topic: Amount of in-class silent reading.

Question: How much silent reading do my students actually do in class?

Sharing of insights with colleagues: I intend to share the insights that I gain from my experimentation with SSR with other teachers in my school. Sharing these insights is important because students at all levels of instruction can benefit from uninterrupted reading. I'll probably start out by talking informally with teachers in my own area because I know them well and know that they are concerned about their students' reading abilities. Then I'll write up a general set of teacher guidelines, outlining the general principles of SSR, its standard procedures and some of the pitfalls that I experienced, along with possible solutions. I plan to present the guidelines to my colleagues at a faculty meeting and then schedule a department-wide (or possibly school-wide) discussion that could lead to a broader commitment to SSR (or at least experimentation with it).

6.2 Conclusion

Quote 6.8

[Action research] seeks to redefine the role of the teacher by giving teachers the means to set their own agendas for improvement and by shifting the responsibility for changes or improvement from an outsider (a school board, a principal, a supervisor, a researcher) to teachers themselves.

Richards and Farrell (2005, pp. 172–3)

The 12-step action research process outlined in this chapter should be seen as a flexible framework for teacher-initiated research and reflection. Although we probably did not fully capture the truly iterative nature of the process in our presentation, the framework presented here, in our view, represents a manageable tool that we can use to understand the complexities of our own classrooms and to generate practical solutions to classroom-based issues. Those of us responsible for teaching reading can use action research to explore a wide range of reading-related topics.

In the three chapters that follow (Chapters 7–9), we focus on nine areas of critical importance to reading teachers that have been validated by reading research (see Chapters 1–4) and that could easily be explored through action research:

Chapter 7	Chapter 8	Chapter 9
• Vocabulary	• Strategic reading	• Reading-lesson stages
• Fluency	• Discourse organisation	• Reading materials
• Motivation	• Main-idea comprehension	• Extensive reading

In each chapter, we outline the key features of 9 manageable action research projects, for a total of 27 model projects. The projects showcase a variety of reading-related issues, purposes for action research, guiding questions, data collection and analysis techniques, and time frames. These sample projects should be seen as adaptable models that can be modified in any number of small or large ways for different instructional settings. We also list additional research questions in each chapter for teachers who want to use them as springboards for other reading-related action research projects. In actuality, these sample projects are meant to showcase the versatility, flexibility and manageability of action research. Yet, because action research projects should be defined and structured by teachers for their own classrooms and instructional contexts, the models presented

in the following chapters should be viewed as idea generation tools, not as ready-to-go templates. At the same time, teachers will find plentiful teaching ideas and resources throughout Chapters 7–9 that can be adapted for immediate use in their reading classrooms.

Further reading

Citations that appear frequently in the chapter represent key references for further details. Some additional resources, beyond those referred to in this chapter and in Chapter 10 (10.6 and 10.9), are noted here. For:

- a discussion of *steps involved in collaborative action research projects*, see Burns (1999, 2010)
- discussions of *steps involved in action research*, see Burns, 2010, Farrell (2007, Chapter 8), Richards and Farrell (2005, Chapter 12), Richards and Lockhart (1994, Appendix 7, Chapter 1)
- a discussion and description of *data-collection techniques*, see Wallace (1998, Chapters 3–8)
- descriptions of *action research initiatives and case studies*, see Edge (2001), Richards and Lockhart (1994, ends of Chapters 4–9), and TESOL's Language Teacher Research Series (Borg, 2006b; Burns and Burton, 2008; Coombe and Barlow, 2007; Farrell, 2006; Makalela, 2009; McGarrell, 2007)
- a broader discussion of *teacher conceptions of research* in 13 countries, see Borg (2009)

Vocabulary, fluency and motivation: Action research projects

This chapter showcases nine easy-to-adapt action research projects related to vocabulary, fluency and motivation. The particular focus of the chapter is on the following:

- action research projects that can be adapted for many classroom settings
- steps that teachers can take to engage in teacher-initiated enquiry
- different data collection and analysis techniques
- additional questions related to focal areas that can guide meaningful action research
- teaching ideas that can be adapted for immediate classroom use to promote reading skills development

Vocabulary, reading fluency and motivation are central to skilled reading and reading skills development. For that reason, they represent good topics for action research. Reflective teachers concerned about their students' progress in these areas often ask themselves questions such as the following. How well am I facilitating vocabulary learning? Do my students know enough vocabulary to understand classroom materials? Do my students read fast enough? How can I squeeze fluency development activities into an already packed reading curriculum? How can I motivate my reticent readers? What types of reading activities build motivation among students? Despite the value of such queries, they are typically too broad to guide manageable action research projects. Questions that target select aspects of these broad areas, thereby narrowing down the topic, typically prove to be more manageable and fruitful for busy teachers.

Quote 7.1

I would strongly recommend action research to all teachers. The process is rewarding because it validates classroom observation and encourages you to value your own judgements. . . . While traditional forms of professional development can be very stimulating, it is sometimes difficult to relate the theory with which teachers are presented to the reality of the classroom. Action research is refreshing as it is concerned with the classroom as it really is.

Linda Ross, cited in Burns (1999, p. 11)

In this chapter, we outline nine action research projects, three related to each broad area (see Table 7.1). For each model project, we (a) describe its purpose, (b) specify the key research question, (c) state anticipated outcomes, (d) identify primary ways to collect data, (e) enumerate methods for

Table 7.1 Model action research projects presented in Chapter 7

MODEL ACTION RESEARCH PROJECT	TOPIC	PRIMARY WAY(S) TO COLLECT DATA
Vocabulary		
7.1.1	Use of dictionaries	Pre- and post-tests, teacher–student conferences
7.1.2	Effectiveness of glosses	In-class readings with post-reading comprehension questions, used in control and experimental classes
7.1.3	Students as collectors of words	Questionnaire and ranking form
Reading fluency		
7.2.1	Student difficulties with word recognition	Word recognition exercises and student record keeping
7.2.2	Oral paired rereading	Teaching log
7.2.3	Fluency instruction procedures	Self-observation or classroom observation with videotaping
Motivation		
7.3.1	Topics of student interest	Ranking form
7.3.2	Students' self-images as readers	Student writing assignments, student portfolios, grade book annotations
7.3.3	Student attitudes toward reading	Student questionnaire

data collection, (f) describe techniques for data analysis, (g) consider the time required and (h) list necessary resources. These projects serve at least four primary purposes: they present ideas for manageable action research projects; they offer a possible starting point for readers interested in the sample questions or methodologies presented; they explore how important instructional ideas can be examined through data-driven enquiry; and they explain how results can lead to improved student learning. Note that we do not fully develop the projects here, nor do we offer possible solutions. Teachers who would like to pose similar questions and/or pursue similar methodologies can modify these 'plans', in small or grand ways, so that the resulting projects complement the settings in which they teach and their specific concerns.

7.1 Vocabulary action research projects

Quote 7.2

The close relationship between reading comprehension and vocabulary knowledge has long been recognized. Measures of lexical knowledge are among the best predictors of reading comprehension ability.

Hudson (2007, p. 227)

Vocabulary represents a viable area for teacher-initiated enquiry in part because of the significant role that vocabulary plays in reading abilities. Carver (2000, 2003) boldly asserts that the relationship between vocabulary knowledge and reading comprehension is so strong that they can produce perfect correlations in L1 contexts when measures are converted to grade-equivalent scores. Although perfect correlations are rare indeed, there is plentiful evidence that (a) vocabulary growth leads to improved reading comprehension and (b) amount of reading leads to vocabulary growth (e.g. Stanovich, 2000). In the classroom, both reading teachers and students are (sometimes painfully) aware of the symbiotic relationship between vocabulary and reading. Students have long realised the importance of vocabulary and their teachers strive to fit meaningful vocabulary instruction into their already full lessons. Reading teachers are typically curious about how to teach and recycle vocabulary, when to teach vocabulary, which vocabulary to teach and how to promote independent vocabulary learning. Teachers think about what it means to know a word and wonder how many words can be taught at a given time. In English for academic purposes settings,

teachers are trying to figure out how to integrate the Academic Word List (Coxhead, 2000; Nation, 2001, 2008; see also Hyland and Tse, 2007) into their instruction (e.g. Schmitt and Schmitt, 2005). In an effort to address students' pressing vocabulary needs, teachers are constantly on the lookout for techniques for (a) teaching phrasal verbs, word families, idioms, collocations, connotations, affixation, words with multiple meanings, lexical phrases and so forth and (b) promoting **incidental learning** of vocabulary. These areas represent just a sampling of issues related to vocabulary that can serve as springboards for relevant action research.

Below are three model action research projects related to vocabulary and reading. These projects showcase different research questions and data-collection techniques. A sampling of other vocabulary-related questions is listed at the end of the chapter, though possibilities are truly limitless.

7.1.1 Use of dictionaries

Purpose: We teachers all know that students spend a lot of time wading through dictionary entries when looking up definitions of unfamiliar words. Sometimes students look up words that are essential for comprehension, but other times they look up words that are neither essential nor useful. In either case, when consulting the dictionary, students' reading is interrupted, thinking disturbed and comprehension disrupted. Yet, numerous studies have shown that dictionary use *can* enable comprehension (Prichard, 2008); the issue then becomes one of effective dictionary use. Many of our second-language students could benefit from systematic in-class training that helps them be more selective in choosing the words that they look up and more efficient in their dictionary use (Folse, 2004a; Nation, 2008; Schmitt, 2008; Thornbury, 2002). For the purposes of this action research project, we focus on efficiency of dictionary use. In a future project, we could easily investigate word-selection issues (i.e. which words to look up and which words to let go).

Key question: **How can I help my students become more efficient using an English–English dictionary?**

Anticipated outcomes: After we familiarise students with the target dictionary (e.g. an English–English learner dictionary, a handheld or pocket electronic dictionary, an online dictionary) and introduce them to strategies for efficient dictionary use, our students may be able to use their dictionaries more efficiently, ultimately spending more time reading and less time plodding through dictionaries entries.

Primary way to collect data: Pre- and post-tests and teacher–student conferences.

Data collection: We can collect data at the beginning and end of a semester by means of pre- and post-tests. The tests, designed around two different 400-word passages, will evaluate students' use of the dictionary

before and after systematic dictionary training. Passages selected for the tests should satisfy three requirements: (a) the topics of the texts should be of potential interest to the class, (b) the texts should be *above* students' comfortable reading-comprehension level, and, by extension, include (c) at least eight vocabulary items crucial for comprehension that are unfamiliar to students. Equal numbers of words unknown to the majority of the class (approximately eight) should be underlined in the pre- and post-test passages.

It might be a good idea to divide each test into two parts. In the first part, students read one of the two passages (half of the students read one passage and half of the students read the other) with their dictionaries closed. In the second part, to be started upon completion of the passage, students are directed to look up all underlined words and write down the most appropriate dictionary definitions. Students time themselves from the beginning to the end of the dictionary-consultation component of the test as a way to measure their efficiency in using the dictionary. Pre-test accuracy and efficiency scores, determined by correct definition selections and time needed to complete part two of the test, respectively, can serve as baseline measures.

After the pre-test, the teacher conducts at least one 10-minute dictionary lesson per week, for the remainder of the semester, to familiarise students with:

1. the dictionary itself (e.g. pronunciation keys, part-of-speech indicators and other commonly used abbreviations, definitions, usage notes, synonyms, spelling options, collocations) and
2. strategies for using the dictionary efficiently (e.g. determining part of speech of the unfamiliar word, selecting correct definitions of words with multiple meanings, choosing correct headwords, finding idiomatic expressions).

Toward the end of the semester, when training is complete, we can administer the post-test following pre-test procedures (but with students reading the other of the two texts used in the pre-test phase). Afterwards, we can hold teacher-student conferences with a random sample of students, during which students can be asked to recall the strategies that they used to complete the post-test. We can audiotape the teacher-student conferences or document them by taking notes.

Data analysis: We can tabulate the results of pre- and post-tests to determine both the number of correct definitions selected (accuracy measure) and the time that students needed to complete the tests (efficiency measure). Then we can easily compare students' pre- and post-test results. Improved accuracy and efficiency scores may suggest that students have benefited from instruction on dictionary use. We might want to review teacher-student conference records for the students with the greatest gains in accuracy and efficiency scores to determine which strategies they reported

using. If students (or subsets of students) do not show any improvement, student attendance records, other performance measures and teacher–student conference records, if applicable, can be consulted to try to determine why there was no improvement.

Time needed: We'll need to develop two parallel tests (a pre- and a post-test) and plan a series of 10-minute lessons to familiarise students with various dictionary features and strategies (see above). For teaching ideas, we might want to review reading and study skills textbooks to see how dictionary skills are introduced and recycled.

Resources needed: Two 400-word passages that include at least eight words that students do not know; a class set of dictionaries (if students do not have their own) or a computer lab to access online dictionaries; an audio recorder for teacher–student conferences.

7.1.2 Effectiveness of glosses

Purpose: We teachers have seen time and time again that a limited vocabulary typically prevents students from achieving satisfactory reading comprehension. Numerous studies have shown the usefulness of glosses, with simple definitions of unknown words, for reading comprehension (e.g. Schmitt, 2008). Nation (2001), in fact, has advocated the use of glosses for several reasons. First, glosses make it easier for students to read difficult texts; second, glosses provide accurate meanings for words that might be incorrectly guessed; third, glosses minimise reading interruptions (e.g. dictionary consultation); and, fourth, glosses draw attention to words, thereby aiding in vocabulary learning. Thus, it would be interesting to find out if adding glosses to reading passages helps our students with their reading comprehension.

Key question: **How effective are vocabulary glosses in assisting students' text comprehension?**

Anticipated outcomes: The results of this small-scale action research project could help us determine the role that glosses play in assisting our student readers with the comprehension of texts that include unfamiliar words. The results could also help us decide if we want to take the time to add glosses to students' primary readings in the future.

Primary way to collect data: In-class readings with post-reading comprehension questions, designed by the teacher to assess the usefulness of glosses of unfamiliar vocabulary.

Data collection: During a semester (or school year) when we are teaching two sections of the same course, we can conduct an informal experiment. One of our sections can be designated as the control class and the other as the experimental class. The control class reads passages *without* glosses and the experimental class reads the same passages *with* glosses (written by the teacher) for words thought to be unfamiliar to students. Both sets of

students answer identical sets of comprehension questions that we will have written specifically to assess the usefulness of the glosses in assisting students with text comprehension. We can design five to six classes around such texts and accompanying post-reading questions. During the last cycle, during discussions of post-reading comprehension questions, the teacher can judge students' comprehension abilities in both classes to determine if, indeed, the glosses have helped students comprehend the text.

Data analysis: Immediately after the last classes taught in this cycle, we can reflect on control and experimental class post-reading discussions and students' answers to comprehension questions (written to test students' comprehension of text information related to glossed words). We should be able to judge, knowing our students as we do, if the glosses assisted students in text comprehension. The results of our reflections should suggest the usefulness of glosses and help us decide if we want to continue with glossing or not in the future.

Time needed: Two versions of five to six reading passages need to be created: one version with glosses of unfamiliar words and the other without glosses. If possible, we should place glosses in margins because previous studies have indicated that students prefer margin glosses (see Jacobs, Dufon and Fong, 1994). If it proves to be too complicated to place glosses in the margins, we should place glosses consistently at the bottom of text pages. For each passage, we also need to write comprehension questions that incorporate concepts indicated by glossed words and assess how well students understand the text.

Resources needed: Five to six reading passages, one set with glosses and the other without, in addition to comprehension questions that require some understanding of glossed words.

7.1.3 Students as collectors of words

Purpose: Although explicit vocabulary instruction has an important place in L2 classrooms (Grabe, 2009; Nation, 2009; Schmitt, 2000, 2010), we know that it is not possible to teach our students all the words that they need to know. Thus, students need to develop strategies for learning and reviewing words on their own. Some students are natural collectors of words, while others need to be introduced to different techniques for collecting words. As part of this action research project, we can introduce students to different ways of collecting words and then determine which techniques our students like the best. Hopefully, students discover and become comfortable with at least one technique that complements their own learning styles.

Key question: **What word-collection techniques can I introduce to students to encourage autonomous vocabulary learning? Which techniques do students like best?**

Anticipated outcomes: The results of this action research project are likely to lead to insights about our students' responsiveness to different word-collection techniques. This knowledge could influence the ways in which we introduce students to vocabulary-collection strategies. An added benefit, of course, may be our familiarisation with less traditional word-collection techniques – which students have devised on their own – that can be shared with other students.

Primary way to collect data: Questionnaire and ranking form.

Data collection: At the beginning of this project, we can ask our students to complete a questionnaire (see Figure 7.1 for sample items) on which they indicate the ways in which they collect vocabulary that they want to learn and review on their own. (Hopefully, only a handful of students, or fewer, will indicate that they do not engage in any form of vocabulary collection.) Then, over the course of the semester, we can 'formally' integrate the techniques listed on the questionnaire (except for the first item) into classroom instruction, one at a time. (If students list additional techniques on their questionnaires that might prove useful for their peers to try out, we can add them to the word-collection options introduced to and practised by students.) Students should be given the opportunity to experiment with each technique for approximately a 2-week period.

At the start of each 2-week period, 5–10 minutes of class time can be dedicated to a discussion of the targeted vocabulary-collection technique. During this introductory discussion, we ought to work with our students to assign 'a name' to the technique. During this time, we can review word-collection procedures, discuss benefits, and give students the opportunity to practise using the targeted technique. Students who have already had experience with the technique can be asked to share insights with classmates; such active student participation (and support for a given technique) is likely to have a more positive impact than a teacher-centred endorsement.

Over the 2-week period, in five 10-minute in-class increments (for a total of 50 minutes), we can guide the class in practising the technique as part of pre-, during- or post-reading activities (when most appropriate) to demonstrate its versatility. At some point during that 2-week period, students should be encouraged to *use* the vocabulary that they have collected in a purposeful task; for example, during a summary writing activity, we can ask students to use at least two vocabulary words from their flash card collection. Alternatively, students can be asked to work in groups, pick three words from among those recently collected, ask other group members if they know the word and how it is used, tell group members the definition(s) of the word, and explain why the word is interesting to them.

After covering all word-collection techniques in this way, let's give students the opportunity to rank-order the word-collection techniques

How do you collect words that you want to remember? Read the statements on the left. Place a check mark (✓) in the appropriate space to the right.

	I agree	I disagree	
1. I do not collect words.	☐	☐	
[If you disagree with (1) above, continue with statements below.]			
	Never	Always	Sometimes
2. I write new words and their translations on vocabulary cards.	☐	☐	☐
3. I keep a list of new vocabulary words in a notebook or in a computer file. Next to each word, I write a definition. I add to the list whenever I hear or read a new word that I want to remember. I stop at five new words per day. I usually write down where I first saw or read the word.	☐	☐	☐
4. I make flash cards for new words. On one side, I write the word and part of speech (and pronunciation). On the other side, I include a definition, an example sentence, and something special to help me remember the word.	☐	☐	☐
5. I keep a special vocabulary notebook, organised by word families and idioms. Next to each word, I indicate the part of speech, copy original example sentences, and write a sentence of my own. Next to the idioms, I jot down something to help me remember the meaning.	☐	☐	☐
6. I organise new words that are interesting to me by topic or theme. I have a separate page in my notebook for each topic and theme.	☐	☐	☐
7. Other _____	☐	☐	☐

Figure 7.1 Sample questionnaire items designed to ascertain the techniques students use to collect vocabulary items on their own

practised in class (see Figure 7.2). Students can also be asked to provide a rationale for their rankings (or perhaps just for their favourite technique, if time does not permit responses for all techniques).

Data analysis: As the first step, we collect and review initial student questionnaires to determine which vocabulary-collection techniques students are familiar with. We can use questionnaire results to make decisions about how to sequence the presentation of targeted techniques in class (e.g. from most familiar to least familiar, most commonly used to least commonly used). Early questionnaire responses can also be used to identify students who

Rank-order the vocabulary-collection techniques that we've practised in class (1 = my favourite; 6 = my least favourite). Which one do you like the best? Which one do you like the least? Provide a reason for your ranking decisions.		
Rank (1–6)	Vocabulary-collection techniques	Reason for ranking decision
	I write new words and their translations on vocabulary cards.	
	I keep a list of new vocabulary words in a notebook or in a computer file. Next to each word, I write a definition. I add to the list whenever I hear or read a new word that I want to remember. I stop at five new words per day. I usually write down where I first saw or read the word.	
	I make flash cards for new words. On one side, I write the word and part of speech (and pronunciation). On the other side, I include a definition, an example sentence, and something special to help me remember the word.	
	I keep a special vocabulary notebook, organised by word families and idioms. Next to each word, I indicate the part of speech, copy original example sentences, and write a sentence of my own. Next to the idioms, I jot down something to help me remember the meaning.	
	I organise new words that are interesting to me by topic or theme. I have a separate page in my notebook for each topic and theme.	
	Other:	

Figure 7.2 Sample ranking form that allows students to indicate preferences for different vocabulary-collection techniques

might be asked to share previous experiences with vocabulary-collection techniques during introductory activities. Toward the end of the project, we can tabulate students' rank-ordered responses to identify students' favourite and least favourite vocabulary-collection techniques. Reviewing students' written responses will give us valuable insights into students' preferences.

Time needed: We need to set aside time to devise a questionnaire and ranking form (like Figures 7.1 and 7.2) and to administer them. Introductions to each vocabulary-collection technique and hands-on sessions that permit meaningful practice need to be planned as well.

Resources needed: Questionnaire and ranking form.

7.2 Fluency action research projects

Quote 7.3

There is evidence that fluency is both a contributor to and a product of comprehension, a view currently espoused by practitioners as well as reading researchers.

Klauda and Guthrie (2008, p. 312)

Fluent reading (at word and passage levels) is essential for efficient reading-comprehension abilities (Grabe, 2009). Numerous L1 research studies have demonstrated the benefits of reading fluency training (e.g. Fuchs, Fuchs, Hosp and Jenkins, 2001; Klauda and Guthrie, 2008; Kuhn and Schwanenflugel, 2008). The few L2 researchers who consistently endorse a commitment to fluency practice (e.g. Anderson, 2009; Day and Bamford, 1998) agree that students can develop fluency first and foremost by reading a lot, by means of, for instance, extensive reading with level-appropriate texts and **book flood programmes**, the latter being programmes in which students are provided with large amounts of interesting reading materials that are read, discussed and shared in a variety of ways (Elley, 2000). Teachers can also engage students in a number of fluency-building activities (see Grabe, 2009; Opitz, 2007; see also Table 7.2). Although traditionally this is a somewhat neglected area in L2 classrooms (Nation, 2009), teachers are beginning to ask themselves how they can help their students develop the major components of *reading fluency* (e.g. automaticity, accuracy, reading rate and prosodic structuring; see Grabe, 2009). Insights into these various areas can be gained through action research.

Below are three model action research projects related to reading fluency. These projects showcase only a fraction of the issues (and research questions and data collection techniques) that could be explored in this area. A sampling of other fluency-related questions is listed at the end of the chapter.

7.2.1 Student difficulties with word recognition

Purpose: Fluent readers possess accurate and rapid word and phrase recognition abilities. In fact, for fluent reading to occur, word recognition skills must become automatised (Grabe, 2009). Automaticity in word recognition is seen ‘as a critical way for readers to engage in multiple reading processes more or less simultaneously (or in parallel)’ (Grabe, 2009, p. 28). Developing readers need to be able to recognise letters, letter groups, word parts, words and phrases very rapidly to become good readers. For those of us who are concerned about students’ fluency, one way to determine which students could benefit from individualised word recognition practice is by identifying students who have difficulties with word recognition.

Key question: Which of my students have difficulties with rapid word recognition?

Anticipated outcomes: After administering a set of word recognition tasks, like those described below, we will be able to identify students with weak word recognition abilities. Those students can be assigned additional word recognition practice. Sets of recognition exercises, which ideally include words that students will encounter in class reading assignments, can be created over time for future use.

Primary way to collect data: Word recognition exercises and student records.

Data collection: To get this action research project started, we need to create a set of eight 20-item recognition exercises with key words that students are likely to encounter in class readings. (See Figure 7.3 for a sample format; see also Folse, 2004a, and Jeffries and Mikulecky, 2009a and 2009b, for extended examples.) Before data collection *formally* begins, in one class session of about 15 minutes, we can familiarise students with procedures for completing recognition exercises (including timing, correction and record keeping). During that introductory lesson, students can practise with four (of the eight) exercises developed for the action research project. (There is no need to collect these four sheets as they are simply meant to familiarise students with procedures.)

We will actually collect data in our next class meeting. In that class session, requiring about 10 minutes or less, we can ask students to complete the remaining four recognition exercises, time themselves, correct their own work, and record their time and accuracy at the bottom of each sheet (see Figure 7.3). When students are done, we should collect their four exercise sheets, stacked in order of completion (with the first exercise completed on top).

Data analysis: Before we start analysing the data that we have collected, it is a good idea to set aside the first of the four exercises completed by students; that exercise ought to be viewed simply as a warm-up. The results of the second, third and fourth exercises will help us identify students with

Key word					
1. direct	distinct	donate	dir e ct	detect	desire
2. trial	entail	serial	trail	tr y al	frail
3. through	throug h	though	thorough	borough	thought
Number correct: ____/20					
Time: ____ seconds					

Figure 7.3 Sample word recognition exercise format (and response markings)

slow recognition rates and/or poor accuracy. These students will be the ones who might benefit from additional word recognition practice.

Time needed: To prepare for this action research project, two sets of four recognition exercises, one set for practice and one set for evaluation, need to be developed (see Folse, 2004a; Jeffries and Mikulecky, 2009a, 2009b; Rosen and Stoller, 1994). This action research project actually requires very little class time; only two 10–15-minute class segments need to be reserved for these word recognition activities. If a subset of students is identified as needing word recognition practice, sets of additional word recognition materials can be developed for independent student use in the future.

Resources needed: Two sets of 20-item word recognition exercises, with four exercises in each set. (See Stoller, 1993, for suggestions on writing recognition exercises and using them in class. See Crawford, 2005, for alternative types of word recognition practice.)

7.2.2 Oral paired rereading

Purpose: Many of us know that the myth that L2 learners should not be asked to read aloud has been debunked (Anderson, 2008b; Nation, 2009; see also Gibson, 2008). What we have to keep in mind is that a key to effective oral reading is to use passages that students have *already* read. Oral paired rereading tasks represent one viable instructional technique to promote reading fluency. One question that we reading teachers often ask ourselves when integrating oral paired rereading tasks into our classrooms relates to the pairing of students (e.g. students with similar reading abilities, dissimilar reading abilities). The purpose for this action research project is to gain insights into this issue.

Key question: **Which students should be paired for the most effective use of oral paired rereadings in class?**

Anticipated outcomes: As a result of this action research project, we are likely to gain insights into pair work, in general, and pair work for oral

rereading activities, more specifically. Experience has taught many of us that for some types of language learning activities, it is wise to have mixed-level ability groups; for others, it is effective to group students with similar abilities. This action research project will help us determine effective ways to pair students for oral rereading activities (of the type described here).

Primary way to collect data: Teaching log.

Data collection: To help us answer our action research question, we will follow standard procedures for oral paired rereadings: students work in pairs with passages that they have already read for other purposes. Student A reads the passage aloud for a designated period of time (e.g. 30–60 seconds) as quickly and as accurately as possible. While Student A reads aloud, Student B follows along and assists Student A if necessary. At the end of the designated time period, Student A marks the end point of his read-aloud. Then Students A and B switch roles. Student B reads the exact same passage as Student A, starting at the beginning. After the same designated time period, Student B marks the end point of his read-aloud. The students then repeat the procedure for a second round, rereading the exact same text from the beginning. The goal is to advance further in the text in the second round. The number of words gained on the second reading is then recorded.

Each time students engage in oral paired rereadings, we will follow the same procedures *but* experiment with different student pairings (e.g. students with similar reading abilities, different reading abilities, different motivational profiles, different attitudes toward reading even if they have similar reading abilities, the same L1s, different L1s). For the duration of this experimentation (which could span 5–10 class sessions, depending on the number of different pairing configurations that we try out), we will keep track of student pairing decisions in a teaching log. To assist us with later analyses, we will jot down notes about student enthusiasm for the exercise, students' fluency improvement (based on how far they get in the text), student cooperation with their partners including their willingness to help each other, and any other behaviours that are worth noting.

Data analysis: When we review our teaching log entries, we will do our best to determine which types of student pairings result in the most effective oral paired rereadings. The goal is to identify pairing configurations that lead to notable fluency improvement, greater cooperation between students and the most positive attitudes toward reading and the task.

Time needed: Initially, class time needs to be set aside to orient students to the activity and 'sell' them on the importance of fluency activities. After an introduction to basic procedures, just a few minutes of class time are needed for each oral paired rereading session. It is a good idea to allot a few additional minutes to each session to solicit student reactions, offer encouragement and get student self-reports on gains in fluency. Ideally, we need time immediately after class for teaching-log annotations.

Resources needed: Reading passages that students have already read for different purposes; teaching log.

7.2.3 Fluency instruction procedures

Purpose: Few L2 textbook writers incorporate fluency training into their materials as a standard feature of instruction (Anderson, 2008b, 2009). Similarly, few reading curricula make a systematic commitment to fluency training. Thus, in many L2 reading instructional contexts, little attention is paid to fluency development. Yet, because fluency is critical for reading development and reading success, classroom experimentation with one or more fluency activities is worth the effort. For the purposes of this action research project, we can focus our attention on procedural aspects of a designated fluency activity (chosen from among those listed in Table 7.2 or described elsewhere), thereby focusing mainly on the teacher's role in planning and implementation. A focus on the student – for instance, on students' responsiveness to the fluency activity or their improved fluency as a result of practice – can easily be the target of follow-up action research.

***Key question:* What classroom procedures work effectively for the teacher when implementing a particular fluency activity?**

Anticipated outcomes: If all goes well with this action research project, we should gain valuable insights into procedural aspects of the targeted fluency activity, including presentation, implementation, wrap-up, pacing, responses to student queries, feedback, etc. Adding the opportunity to watch ourselves implementing the activity on videotape is likely to lead to the continuation of effective practices and improvements where needed. The experience may give us the confidence to experiment with other fluency activities in the future, making a commitment to fluency practice in our classes more viable.

Primary way to collect data: Self-observation or classroom observation (by a colleague) by means of videotaping (or audiotaping).

Data collection: During at least two class sessions that include the target fluency activity, we can set up a video camera to capture *our* actions or we can invite a colleague to videotape us. (For the purposes of this action research, the videotape should focus on the teacher, not the students, for the duration of the activity.)

Data analysis: As soon after the videotaping as possible, we should watch ourselves on the videotape with the goal of identifying features of the lesson that worked effectively and those that could be improved. We can focus on different stages of the fluency activity (i.e. beginning, middle and end) and/or our use of the blackboard, instructions, timing, sequencing, feedback and responses to student questions. Through self-reflection, we can gain insights that will assist us in future fluency training.

Table 7.2 Sampling of reading fluency activities

SELECT INSTRUCTIONAL TECHNIQUES TO PROMOTE READING FLUENCY	GENERAL PROCEDURES	REFERENCES
Recognition exercises	• <i>Word recognition</i> – Students look at key words and then quickly glance at a set of 4–5 words that look similar to locate the exact match. Students time themselves and calculate accuracy. (See Figure 7.3.) • <i>Phrase recognition</i> – Students look at key phrases and then quickly glance at a set of 4–5 phrases that look similar to locate the exact match. Students time themselves and calculate accuracy. • <i>Word–synonym matching</i> – Students match key words with synonyms within a set time limit. Students follow the same procedures two more times, with a scrambled set of the same words and synonyms, and with more restrictive time limits.	Crawford, 2005; Jeffries and Mikulecky, 2009a, 2009b; Rasinski, 2003; Stoller, 1993
Reading rate activities	• <i>Shadow reading</i> – Sequence of tasks in which students listen to a passage on CD (or read aloud by the teacher); students discuss what they've heard; students read the same passage silently while they listen to the CD again; students read aloud quietly with the CD; students answer comprehension questions. • <i>Rate build-up</i> – Students read as much material as they can in 60 seconds; they read the same material three more times, for 60 seconds each round, with the goal of reading further in the text while comprehending the text. • <i>Repeated reading</i> – Students read a short passage repeatedly until they achieve a preset reading rate and comprehension goals. • <i>Class-paced reading</i> – Class reads at a predetermined pace maintained by the teacher. • <i>Self-paced reading</i> – Students read at a self-determined pace. Students calculate how much should be read in a 60-second period at this rate and then mark off 5–7 text segments that should be read, one each minute, at students' set wpm.	Anderson, 2008b, 2009; Moskal and Blachowicz, 2006; Rasinski, 2003; Rasinski, Blachowicz and Lems, 2006

Table 7.2 Continued		
SELECT INSTRUCTIONAL TECHNIQUES TO PROMOTE READING FLUENCY	GENERAL PROCEDURES	REFERENCES
Oral supported reading	• <i>Teacher read-aloud</i> – Students read silently while a teacher or tutor reads aloud. • <i>Student read-aloud</i> – Students read aloud (as a class or in choral groups) along with the teacher, tutor or a recording of the text. • <i>Echo reading</i> – Two readers – one more proficient than the other (e.g. student-teacher, student-tutor, student-student) – take turns reading together, one sentence or phrase at a time. The weaker reader (the second reader) echoes back the sentences or phrases read by the more proficient reader. • <i>Buddy reading</i> – Two readers at similar levels negotiate how they will orally read the text together (e.g. alternate pages, chorally, one page at a time in echo fashion). Readers stop periodically to talk about what they have read. • <i>Cooperative repeated reading</i> – Students work in pairs. Student reads passage aloud to partner three times; partner offers assistance when necessary. Then students reverse roles. • <i>Oral paired rereading</i> – See action research project 7.2.2.	Blevins, 2001; Moskal and Blachowicz, 2006; Rasinski, 2003; see also Nation, 2009, pp. 66–8; Samway, Whang and Pippitt, 1995
	• <i>Radio reading</i> – Students read aloud an assigned portion of a text (after sufficient practice) sounding as much like a professional radio announcer as possible. • <i>Readers' Theatre</i> – Students stand in front of classmates and read from scripts. Readers use their voices to bring the script alive. Readers practise scripts many times before performing for their peers. • <i>Reading and performing poetry</i> – Students read poetry aloud to others (after many practice efforts), communicating meaning in their oral interpretations.	
Performance reading		Blevins, 2001; Rasinski, 2003

Time needed: Because most of us are not accustomed to integrating fluency activities into our classes, we probably need to research our targeted fluency activity for implementation ideas (see Table 7.2). Then we will do our best to work out the details of implementation for our classroom contexts. Of course, time will be needed after class to view the videotapes and reflect upon them.

Resources needed: Videotaping equipment.

7.3 Motivation action research projects

Quote 7.4

Teachers can promote . . . intrinsic motivation, by creating a learning environment in which students have choices in reading, are involved in collaborative reading activities, and engage in challenging reading and learning situations.

McCardle, Chhabra and Kapinus (2008, p. 210)

It should come as no surprise that student motivation plays an important role in reading skills development. Research has demonstrated that positive motivation improves comprehension and leads to greater amounts of extended reading (e.g. Guthrie and Humenick, 2004; Guthrie *et al.*, 2004; Pressley, 2006). Students with high intrinsic motivation, for example, report more frequent uses of comprehension strategies and better comprehension. Teachers, instructional materials and educational contexts can have a large impact on student motivation. Observant teachers witness the effects of motivation in their classes on a regular basis. Numerous recommendations for promoting student motivation can be found in the literature (e.g. Grabe, 2009; Komiyama, 2009a; Pressley, 2006). They include giving students choices, tapping students' interests, promoting goal setting, building students' self-confidence, involving students in decision making related to reading tasks and increasing students' expectancy of success. These practices, in addition to many other motivation-building strategies (e.g. Dörnyei, 2001; Dörnyei and Ushioda, 2010), can easily lead to meaningful action research projects.

Below we include three model action research projects related to motivation and reading. These projects illustrate three different research questions, though many others could be posed (see end of the chapter).

7.3.1 Topics of student interest

Purpose: Everyone agrees that students are likely to read more if they are interested in the topics of their assigned readings. In many classroom settings, reading topics are determined largely by textbook chapters and mandated curricula. The identification of supplementary topics of interest, which might motivate students to read more, can be a worthwhile endeavour. Such information not only assists reading teachers but also school librarians when they order new books.

Key question: **What supplementary topics will motivate my students to read more?**

Anticipated outcomes: After determining supplementary topics that interest students, sets of readings on those topics can be compiled to motivate students to read more. Extra readings can be used in a variety of ways (e.g. for classroom use, homework assignments, individual student projects, Sustained Silent Reading, pleasure reading options). Students can be asked to help gather sets of supplementary readings during school-library visits.

Primary way to collect data: Ranking form.

Data collection: Little classroom time is actually needed to ask students to rank-order topics of potential interest (from most interesting to least interesting). Topics, placed on a form, can be organised by curricular and/or textbook theme. To create the form, we can work on our own, or collaboratively with colleagues, to brainstorm a list of age and culturally appropriate topics that are related to themes mandated by the curriculum and/or textbook. We can also consult books like Pearl (2007) that recommend titles ‘for every mood, moment, and interest’ (from subtitle of book) for readers of different age groups.

Data analysis: After students have filled out our ranking forms, we can merge students’ responses to identify the most popular topics for each curricular theme. It is equally important to pay attention to the topics that interest few if any students in class so that those topics can be avoided.

Time needed: An easy-to-comprehend form – with lists of supplementary topics that complement the curriculum – needs to be created. Students can be asked to complete the ranking activity out of class, but it is preferable to keep students focused on the task by asking them to complete it during class time. The most time-consuming aspect of this project most likely involves locating and assembling appropriate sets of supplementary readings *after* analysing students’ rankings.

Resources needed: Familiarity with curricular themes and related topics; rank-ordering form.

7.3.2 Students’ self-images as readers

Purpose: Students who self-identify as readers and who enjoy reading are more likely to develop into skilled readers (Guthrie and Wigfield, 2000;

McCardle, Chhabra and Kapinus, 2008). This is due, in part, to students' sense of self-efficacy, their willingness to read and their openness to reading instruction and related activities. Those of us who understand how our students feel about themselves as readers can use classroom time to build students' self-images as readers.

Key question: How can I build students' images of themselves as readers?

Anticipated outcomes: As a result of this action research, we teachers can develop a better sense of our students' attitudes about reading and their self-images as readers. Learning *what* students like to read, *where* they like to read and *when* they like to read in addition to *which* students really do not like to read at all can be useful when working with students individually and as a whole class. Equipped with such valuable information, we can then work toward building students' perceptions of themselves as readers and focus on relevant motivation-building activities (Dörnyei and Ushioda, 2010; Grabe, 2009; McCardle, Chhabra and Kapinus, 2008).

Primary way to collect data: Student writing assignments, student portfolios and grade book annotations.

Data collection: At the beginning of the school year, it is always a good idea to talk about ourselves-as-readers with our students. Information that reveals *what* we like to read, *when* we like to read and *where* we like to read may catch students' attention. We should encourage students to ask whatever questions they may have about our reading preferences and habits. After this interactive introduction to the teacher, students choose *one* of the following prompts and write a brief response: (a) What do you like to read and why? (b) When do you like to read and why? (c) Where do you like to read and why? Alternatively, students can choose one of these prompts: (a) Write about an enjoyable book you've read; (b) Write about a place where you enjoy reading; (c) Write about a time when you remember enjoying reading. We can ask students to reflect on the prompt of their choice, jot down a few notes, write up a response and then talk about their responses, either in groups or as a class (depending on the time available and the size of the class).

While students are speaking, we ought to make mental notes (or, better yet, annotations next to students' names in our grade books) of students' comments that reveal their positive, neutral or negative experiences with reading. Then, we can ask students to place their written (and dated) responses in their portfolios. The same (or similar) questions can be posed and the same (or similar) procedures can be followed once per month, over a 4-month period. When we collect student portfolios at the end of the 4-month period, we hopefully have a record of students' views about reading and themselves as readers.

Data analysis: A review of grade book annotations and student portfolios, with four samples of students' written work, may allow us to discover

insights into students' evolving views about themselves as readers. We can look for words, phrases and anecdotes that indicate a positive, negative or neutral orientation toward reading. Careful attention to information about the types of books that students like to read, where they like to read and when they like to read could prove useful. We can use the insights gained in this way to encourage reading and to devise in-class activities that build students' self-images as readers.

Time needed: Before data collection begins, class time needs to be set aside to share our own reading preferences and habits with students, followed by a question-and-answer period. Later, class time should be allotted for student writing. During the first class session in which students are asked to reflect on their own reading experiences, care should be taken to orient them to the task. As students become comfortable with the task, they may either need less time to explain their views or want additional time to express their evolving opinions about reading. After all data are collected, grade book annotations and student portfolios are ready to be reviewed.

Resources needed: None.

7.3.3 Student attitudes toward reading

Purpose: Students bring different attitudes about reading to the classroom; these attitudes influence students' motivation to involve themselves in reading lessons and related activities. Students' attitudes to reading are often linked to previous experiences with reading, their exposure to people who read and their perceptions about the usefulness of reading. An understanding of students' attitudes can help us structure our lessons and the feedback that we give to individual students. Because information on students' attitudes toward reading is rarely available in school records or revealed on reading tests, action research to gather such information can prove useful.

Key question: **What are students' attitudes toward reading?**

Anticipated outcomes: An action research project like this can lead to a better understanding of students' attitudes toward and experiences with reading. We reading teachers can use our new-found knowledge in many ways. We can individualise teacher–student conferences, structure reading lessons to reach more students, lead class discussions about reading more effectively, and be more strategic with feedback given to students. Insights gained from this project may help us understand why some students are excelling in reading and why others are not.

Primary way to collect data: Student questionnaire (see Figure 7.4 for sample items; adaptations are needed for different age groups).

Data collection: After a level of trust has developed between students and teacher, we can administer a questionnaire on attitudes toward reading.

	Yes/Always		No/Never	
	1	2	3	4
(a) Think about your <i>past experiences</i> with reading.				
I did well in reading last year.	1	2	3	4
I like to read books that make me think.	1	2	3	4
I like having the teacher say I read well.	1	2	3	4
I visit the library with my family.	1	2	3	4
I like to read on rainy Saturdays.	1	2	3	4
I remember family members reading to me.	1	2	3	4
(b) Think about <i>people</i> you know who read.				
Members of my family like to read.	1	2	3	4
I know people who can help me with my reading.	1	2	3	4
My brothers and sisters sometimes read to me.	1	2	3	4
My friends like to read.	1	2	3	4
My friends and I like to share books.	1	2	3	4
I talk to my friends about what I am reading.	1	2	3	4
(c) Think about <i>reading</i> . How useful is it?				
I can learn a lot from reading.	1	2	3	4
I have favourite subjects that I like to read about.	1	2	3	4
I read to learn new information about topics of interest.	1	2	3	4
I like to read about new things.	1	2	3	4
I can use my reading to help me with schoolwork.	1	2	3	4
I sometimes read to my parents.	1	2	3	4

Figure 7.4 Sample questionnaire to determine students' attitudes to reading

N.B.: Some questionnaire items included in Figure 7.4 have been adopted from Wigfield and Guthrie (1997).

Students should be encouraged to be as honest as possible; they need to know that there are no right or wrong answers. It is best if we model procedures on the blackboard so that students who are unfamiliar with the 1–2–3–4 rating scheme (see Figure 7.4) become comfortable with it before starting the questionnaire. After students have completed their questionnaires, we can collect the questionnaires and proceed to the analysis stage of the project.

Data analysis: Questionnaires of this type are best analysed section by section, to obtain three different scores for each student. Section a, b and c

scores suggest attitudes toward reading based on *previous experiences* with reading, *exposure to people who read* and *students' perceptions of the usefulness of reading*, respectively. To calculate scores, we can add up students' numerical responses to each item in the section and then divide by the total number of items in the section. Average scores will range from 1 to 4. Low numbers suggest more positive attitudes toward reading; higher scores suggest more negative attitudes. After all scores are calculated, we will have individual and whole-class profiles. Armed with this information, we can capitalise on positive attitudes and improve negative ones through whole-class and individualised reading instruction.

Time needed: A questionnaire needs to be designed to complement the classroom setting (e.g. student ages, students' reasons for studying the L2, educational circumstances). Figure 7.4 can be used as a starting point. Other validated questionnaire items can be consulted for possible adaptation (see Komiyama, 2009b; McKenna, Kear and Ellsworth, 1995; Wang and Guthrie, 2004). Little time is needed to administer the questionnaire. More time is needed for analyses.

Resources needed: Student questionnaire.

7.4 Additional action research questions

Each area addressed in this chapter has the potential for countless action research projects. We list a few additional questions here that might spark the interests of teachers in different settings. The questions are organised by our three targeted areas: vocabulary, fluency and motivation.

7.4.1 Questions related to vocabulary

Additional questions related to vocabulary include, but are not limited to, the following:

- How can I free students from over-dependence on the dictionary?
- How can I help students begin to understand multiple meanings of words?
- Which vocabulary learning strategies do students use? (See, e.g. Schmitt and Schmitt, 2005, Chapter 20, for questionnaire ideas. See also Coxhead, 2006.)
- Which glossing procedure leads to better vocabulary retention: glossing in the students' L1 or L2?
- Which words in the Academic Word List (Coxhead, 2000) should I focus on? And how?

- To what extent do mandated instructional materials focus on collocations? To what extent are collocations presented in authentic contexts?
- What is an effective way to teach high-frequency words? low-frequency words?
- How can the use of electronic corpora (like the Michigan Corpus of Academic Spoken English – MICASE) be incorporated into the teaching of vocabulary?

7.4.2 Questions related to reading fluency

Additional questions related to reading fluency include, but are not limited to, the following:

- To what extent do fluency activities implemented in class satisfy Nation's (2009) four conditions for fluency development: (a) learners are focused on the message, (b) material is easy, (c) there is pressure to perform at a faster-than-normal speed and (d) there is quantity of practice?
- How fast do my students read when they read for general comprehension?
- What rate should I set for initial paced-reading activities?
- Which performance reading activities (Table 7.2) work best in my class?
- When should I integrate recognition exercises, created with key words from an assigned passage, into a reading lesson: before or after students are asked to read a passage?
- Which students make greatest progress on fluency development, those who regularly engage in timed readings, word recognition exercises or timed flash card activities?

7.4.3 Questions related to motivation

Additional questions related to student motivation and issues concerning student interests and attitudes include, but are not limited to, the following:

- To what extent will reluctant student readers become more motivated to read by charting their progress on individual student record-keeping sheets?
- To what degree does student motivation increase when students are given the opportunity to select some of their own readings?
- What kinds of print displays in a print-rich classroom environment attract the largest numbers of students?

- How effective am I in creating a supportive, non-judgemental and constructive atmosphere in my reading lessons?
- Which instructional activities work best to motivate students in my class?

Questions such as these can guide further teacher enquiry in areas related to vocabulary, fluency and motivation. What is important is that we pose questions that are meaningful for our own teaching contexts. Whether we pose questions about our own teaching effectiveness, the appropriateness of mandated or supplementary materials, students' abilities, classroom procedures or specific instructional techniques, the key is to ask questions that can lead to a better understanding of our own classrooms and suggest solutions to specific classroom-related issues.

7.5 Conclusion

In this chapter, we have showcased nine action research projects related to vocabulary, reading fluency and motivation. These projects model steps that teachers can take to engage in teacher-initiated enquiry. We can pursue adapted versions of these projects – or use other questions, such as those posed at the end of the chapter – to guide our own action research. The end result will be a better understanding of our reading classrooms and the generation of practical solutions for real classrooms, real students and real teaching contexts.

Further reading

Citations that appear frequently in the chapter represent key sources for further details. Some other useful references, beyond those referred to in this chapter and in Chapter 10 (especially 10.4, 10.5 and 10.7), are noted here. For additional information on

- *vocabulary*, see Alessi and Dwyer (2008), Baumann and Kame'enui (2004), Beck, McKeown and Kucan (2002, 2008), Calderón (2007), Folse (2006), Hedgcock and Ferris (2009), Laufer (2009), Stahl and Nagy (2006), Webb (2007)
- *vocabulary notebooks*, see Fowle (2002), McCrostie (2007), Schmitt and Schmitt (1995)
- *glosses*, see Jacobs, Dufon and Fong (1994), Ko (2005), Leow (2009), Taylor (2006), Yoshii (2006)

- *dictionary use*, see Knight (1994), Luppescu and Day (1993), Peters (2007), Prichard (2008)
- *reading fluency*, see Blevins (2005), Iwahori (2008), Kuhn and Schwanenflugel (2008), Rasinski (2009), Samuels and Farstrup (2006), Taguchi, Gorsuch and Sasamoto (2006), Taguchi, Takayasu-Maass and Gorsuch (2004)
- *buddy reading*, see Samway, Whang and Pippitt (1995)
- *repeated reading*, see Dowhower (1987, 1994), Rasinski (2003), Rasinski, Padak, Linek and Sturtevant (1994)
- *Readers' Theatre*, see Martinez, Roser and Strecker (1998), Rasinski (2003), Worthy and Prater (2002) and also www.literacyconnections.com/rasinski-readers-theater.php and www.literacyconnections.com/ReadersTheater.php
- *motivation*, see Dörnyei and Ushioda (2010), Malloy and Gambrell (2008), Malloy, Marinak and Gambrell (2010), Pressley (2006), Pressley *et al.* (2003), Rueda, Velasco and Lim (2008)

For textbooks that systematically integrate *word and phrase recognition exercises* into instruction, see, for example, Folse (2004a), Jeffries and Mikulecky (2009a, 2009b) and Rosen and Stoller (1994). For textbooks that promote *fluency* in a consistent way, see Anderson (2007–2008), Folse (2004a), Mikulecky and Jeffries (2004, 2007), Nation and Malarcher (2007) and *On your mark* (n.d.).

Strategic reading, discourse organisation and main-idea comprehension: Action research projects

Like Chapter 7, this chapter introduces nine model action research projects. The projects included here focus on strategic reading, discourse organisation and main-idea comprehension. Of particular interest are the following:

- action research projects that can be adapted by interested teachers
- steps that teachers can follow to implement classroom-based research
- easy-to-use data-collection instruments that can be adapted for many instructional settings
- sets of additional research questions that can guide meaningful action research
- numerous teaching ideas that can be applied directly to the reading classroom

In Chapter 7, we proposed a set of action research projects that centre around issues related to vocabulary, reading fluency and motivation. In this chapter, we propose additional action research projects that focus on three different, but equally important, aspects of reading and reading instruction, specifically strategic reading, discourse organisation and main-idea comprehension. Reflective teachers often ask themselves questions about these topics as they strive to help their students become better readers. At one time or another, many of us have posed questions like the following. What is the difference between teaching reading strategies and training students to become strategic readers? Which reading strategies are most useful for beginning readers? Which reading strategies, if any, are best

reserved for more advanced courses? To what extent do my students use their knowledge of text structure to make sense of what they are reading? How can I help my students with their reading comprehension? Questions like these are provocative, but they may be too broad to be useful for busy teachers who want to engage in action research. By narrowing down the focus of our questions, we can plan more manageable action research projects.

Quote 8.1

Action research applies a systematic process of investigating practical issues or concerns which arise within a particular social context. . . . Action research is driven by practical actions from which theories about learning and teaching can be drawn.

Burns (1999, p. 31)

We approach the action research projects in this chapter in the same way that we approached those in Chapter 7. The projects described here (Table 8.1) should not be viewed as rigid templates; rather, they should be viewed as flexible models that can be adapted for different instructional settings. We hope that teachers who read over these model projects will be inspired to pursue action research on their own (or with colleagues), either about the topics showcased here or in response to other questions, such as those listed toward the end of the chapter.

8.1 Strategic reading action research projects

Quote 8.2

[S]killed readers don't get that way over night. They learn how to become strategic by engaging in reading over long periods of time, with lots of different texts, and with lots of opportunities to practice. They practice applying strategies, monitoring their processes and evaluating the effectiveness of different strategies for themselves in different reading situations, with teachers explaining and modeling the use of a wide variety of strategies.

Adapted from Mokhtari and Sheorey (2008b, p. 224)

Table 8.1 Model action research projects presented in Chapter 8

MODEL ACTION RESEARCH PROJECT	TOPIC	PRIMARY WAY(S) TO COLLECT DATA
Strategic reading		
8.1.1	Creating a supportive classroom environment for reading strategy instruction	Self-observation, teacher worksheets
8.1.2	Determining students' use of common reading strategies	Student questionnaires
8.1.3	Modelling strategic reading behaviours through teacher read-alouds	Lesson-plan scripts, lesson-plan annotations, wall poster
Discourse organisation		
8.2.1	Matching reading passages with common graphic organisers	Document gathering
8.2.2	Training students to use graphic organisers to improve comprehension	Journal/teaching log, case study
8.2.3	Focusing on the identification of signal words	Pre- and post-tests, teaching log
Main-idea comprehension		
8.3.1	Questioning the Author to promote main-idea comprehension	Self-observation through audiotaping, record-keeping sheet
8.3.2	Rethinking teacher–student interactions	Annotated lesson plans
8.3.3	Building grammar awareness with text materials	Document gathering

The strategic reader automatically and routinely applies combinations of strategies that depend on reader goals, reading tasks and readers' strategic processing abilities (Grabe, 2009; see also Chapter 1, Concept 1.2). That reading teachers should help students become strategic readers, rather than simply focusing on reading strategies in isolation (as we often see in textbooks), is now accepted as effective reading pedagogy (e.g. Klingner and Vaughn, 2000, 2004; Klingner, Vaughn, Arguelles, Hughes and Leftwich, 2004; Pressley, 2006). But teachers struggle with finding time to focus on strategic reading instruction because it requires a long-term commitment to whole-class discussions of strategies, teacher modelling,

and plentiful guided, and then independent, student practice (Block and Parris, 2008; McCardle, Chhabra and Kapinus, 2008; Pressley, 2006). Exacerbating the situation is the fact that many teachers are not trained to address strategic reading or teach reading strategies; thus, many teachers find it difficult to know when and how to help students learn to use appropriate strategies individually and in combination while students are reading (Pressley, 2002; Trabasso and Bouchard, 2002). It is for reasons such as these that teachers might benefit from engaging in action research related to reading strategies, strategic reading and strategies instruction. We describe three such action research projects in the sections that follow.

8.1.1 Creating a supportive classroom environment for reading strategy instruction

Purpose: Reading instruction that emphasises strategic reading behaviours frequently includes certain supportive characteristics (e.g. Bennett, 2003; Mokhtari and Sheorey, 2008b; Pressley and Gaskins, 2006; Swan, 2003). Determining the extent to which we incorporate these features (Figure 8.1) into our teaching can be quite helpful.

Key question: To what extent am I supporting the development of students' strategic reading behaviours?

Anticipated outcome(s): At the end of a project like this one, we will have a better sense of the degree to which our instruction supports the development of strategic reading behaviours. Based on this understanding, we should be able to enhance the ways in which we teach to create a classroom environment more conducive to effective strategy instruction.

Primary way to collect data: Self-observation and set of worksheets.

Data collection: At the end of every class session, for the duration of one entire thematic unit, we evaluate the extent to which the development of strategic reading behaviours is being supported in our classes. A worksheet (like the one in Figure 8.1) is used to record supportive practices that have occurred in class. Even in the midst of this action research project, we can modify our teaching practices when it becomes apparent that we are neglecting certain aspects of a strategic reading classroom.

Data analysis: At the end of the thematic unit, we review record-keeping worksheets to identify common practices that support strategic reading as well as neglected aspects of a strategic reading classroom. We can benefit from paying special attention to written comments (in the far right-hand column of our worksheets) because they may reveal how our attitudes toward and approaches to strategic reading have changed over time. We should scrutinise the results of our analyses with an eye toward determining which classroom practices should be continued and what types of modifications could be made to support strategic reading behaviours to a greater extent.

Teacher's Worksheet

Date: _____ Class: _____

Characteristics of courses that emphasise strategic reading behaviour	Presence of characteristic		Comments
1. The teacher takes time to find out whether students are aware of the reading strategies that they use when reading.	Yes	No	
2. The teacher explains what strategies are, why they are important, how they are used, and when they are used.	Yes	No	
3. Students discuss what strategies are, why they are important, how they are used, and when they are used.	Yes	No	
4. The teacher reads and thinks aloud, modelling expert reading behaviour.	Yes	No	
5. As part of guided practice, students are encouraged to use and practise specific strategies with authentic and purposeful tasks.	Yes	No	
6. Students are given opportunities for independent practice, after they have sufficient guided practice.	Yes	No	
7. Students receive feedback on their strategy use.	Yes	No	
8. Students are reminded of the benefits of strategy use and are asked to explain how they use strategies to process texts.	Yes	No	
9. The teacher lists strategies practised in a visible classroom location (e.g. on the board, on a poster, on a wall chart) for easy student consultation.	Yes	No	
10. The class has a content base; students use strategies while reading to learn interesting content.	Yes	No	

Figure 8.1 Characteristics of courses that emphasise strategic reading behaviour

Time needed: Not much time is needed to create a worksheet, similar to Figure 8.1, for data-collection purposes. Five to ten minutes can be set aside after class, as close to the end of each class as possible, to fill in the worksheet. At the conclusion of data collection (e.g. at the end of the thematic unit), time is needed to analyse our full set of worksheets and then, of course, plan for improved instruction.

Resources needed: A set of worksheets for teacher use.

8.1.2 Determining students' use of common reading strategies

Purpose: Expert readers are able to use a variety of strategies fluently, flexibly and in conjunction with one another (Grabe, 2009; Pressley and Harris, 2006). Determining the extent to which our students use certain common reading strategies can be useful for those of us who can devote time to helping our developing readers become more strategic.

Key question: **To what extent do my students use common reading strategies?**

Anticipated outcome(s): This action research project can reveal the strategies that students *think* that they are using while reading. The results of the questionnaire will expose under-used strategies that we can emphasise in future classes through teacher modelling, classroom discussion and opportunities for guided, and then independent, student practice.

Primary way to collect data: Student questionnaires.

Data collection: This action research project is best conducted during a semester when we can make a real commitment to strategy instruction. Then we will have the chance to introduce our students to a range of strategies (see Figure 8.2; see also Chapter 1, Concept 1.2) through explicit teacher modelling, whole-class discussions and student practice. Toward the end of the semester, we can administer a questionnaire (similar to Figure 8.2), ideally once per week for a period of 4–5 weeks, at the conclusion of class sessions with extended in-class reading. Students should know ahead of time that they are going to be filling out the questionnaire. In this way, they can pay closer attention to the strategies that they use. Before students are asked to complete the questionnaire the first time, we should make a point of asking similar questions (so that students are familiar with the questions and have had practice answering them) during teacher-guided discussions of how and when to use specific strategies.

Data analysis: By the end of the semester, we will have collected 4–5 questionnaires from each student. The questionnaires can be analysed from two vantage points: from the perspective of the individual student and from that of the class as a whole. For *individual* students, the goal is to determine each student's strategy use and changing perceptions about strategy use over a 4–6-week period. For the *class as a whole*, we hope to identify the strategies that merit more explicit classroom attention.

Student name _____ Title of reading _____

While reading, did you use any of these strategies? For the strategies that you did use, comment on the following questions: *When* did you use the strategy? *How* did you use the strategy? *How well* did the strategy work for you?

Global reading strategies

Identifying goals for reading (i.e. purposes)**	Yes	No	_____
Previewing*	Yes	No	_____
Predicting**	Yes	No	_____
Checking predictions	Yes	No	_____
Forming questions*	Yes	No	_____
Answering questions*	Yes	No	_____
Connecting text to background knowledge*	Yes	No	_____
Paying attention to text structure*	Yes	No	_____
Connecting one part of the text to another	Yes	No	_____
Making inferences	Yes	No	_____
Creating mental images*	Yes	No	_____
Recognising discourse organisation	Yes	No	_____
Using discourse markers to see discourse relationships	Yes	No	_____
Guessing meaning from context	Yes	No	_____
Critiquing the author, the text	Yes	No	_____

Monitoring reading strategies

Monitoring main-idea comprehension*	Yes	No	_____
Identifying difficulties	Yes	No	_____
Taking steps to repair faulty comprehension	Yes	No	_____
Judging how well objectives are met	Yes	No	_____
Rereading**	Yes	No	_____
Reflecting on what has been learned	Yes	No	_____

Support reading strategies

Using the dictionary	Yes	No	_____
Taking notes**	Yes	No	_____
Paraphrasing**	Yes	No	_____
Translating (mental translations)**	Yes	No	_____
Underlining or highlighting	Yes	No	_____
Using graphic organisers*	Yes	No	_____
Summarising*	Yes	No	_____
Synthesising**	Yes	No	_____

Figure 8.2 Student questionnaire on reading strategy use

*Empirically validated reading strategies (see Grabe, 2009; see also Block and Duffy, 2008, for another list of validated strategies).

**Indirectly supported reading strategies used in validated multiple-strategy instruction (see Grabe, 2009).

Note (1): The asterisks placed in this figure are directed to the teacher only. They should be removed from the student version. (2): Section headings, used as a descriptive organisational framework, are adapted from Mokhtari, Sheorey and Reichard (2008).

When analysing students' responses, we can divide strategies mentioned by students into two categories:

Category 1: Strategies that the majority of students seem to use appropriately.

Category 2: Strategies that the majority of students seem to under-utilise or use inappropriately.

The results of our analyses should assist us in planning lessons (with teacher modelling, classroom discussions and meaningful practice opportunities) so that we can *reinforce* strategies in Category 1 and *introduce* (or reintroduce) those in Category 2.

Time needed: We need to create a questionnaire (similar to Figure 8.2) that includes the strategies that have been introduced, modelled and practised in class. The terminology (and categories) used in class should be used in the questionnaire. Toward the end of the semester, for a 4–5-week period, class time needs to be set aside for administering student questionnaires.

Resources needed: Questionnaire, tailored to the class.

8.1.3 Modelling strategic reading behaviours through teacher read-alouds

Purpose: It has been suggested that teachers can raise students' awareness of reading strategies, and how they work together, by verbalising strategic behaviours while reading passages aloud to the class (Duffy, 2002; Janzen, 1996, 2001). The scripted example below (from Grabe, 2008) illustrates how a teacher verbalises (in italics and brackets) common reading strategies (e.g. activating background knowledge, forming questions, predicting, monitoring comprehension, clarifying information) while reading a text (from Anderson, 2008a, pp. 162–3) aloud to the class:

Trans Fats in Trouble. [*The title, Trans Fats in Trouble. I've heard about trans fats before. I know that they aren't good for us.*] There is a great deal of fuss revolving around trans fat these days. [*Fuss? Fuss, ah, it's a glossed word. Is this text about a problem with trans fats?*] Much of this can be attributed to a 2006 medical study [*Hmm. What does 'attributed' mean? It has something to do with a medical study*], validated by the medical community correlating [*'validated' and 'correlating'*]. I may need to check a dictionary for these words or ask someone for definitions. Let me start this sentence again. Maybe I'll be able to figure out the meanings on my own.] Much of this can be attributed to a 2006 medical study, validated by the medical community correlating a high intake of trans fats [*a high intake? trans fats are about food. Intake – take in. It might be about taking in, or eating, a lot of trans fats*]. . .

By means of this type of teacher modelling, the strategies used by fluent readers are made explicit for the class. Sadly, few of us have been trained

to *write* read-aloud **scripts** and then *read* them *aloud* effectively. This action research project is meant to help us develop these skills.

Key question: Can I improve my ability to raise students' awareness of reading strategies by explicitly verbalising strategic reading behaviours while reading aloud to the class?

Anticipated outcome(s): As a result of engaging in an action research project of this type, we will become more skilled in planning and implementing read-alouds to raise our students' consciousness about reading strategies. We hope, of course, that students who are exposed to reading strategies over time in this way begin to incorporate the same strategies into their own reading.

Primary way to collect data: Lesson-plan scripts, lesson-plan annotations, wall poster.

Data collection: A major part of this action research project involves teacher read-aloud preparation. To maintain control of the strategies that we introduce and then recycle (see Figure 8.2 for a partial list of strategies that can be integrated into read-alouds), we need to write out our verbalisations of reading strategies in detailed lesson-plan scripts. We can start out by modelling one or two strategies (that complement the short passage to be read aloud) and then gradually build up the number of strategies that we model.

Before we actually read our scripts aloud to the class, we should inform our students that they will be listening for our reading strategies. At the end of each read-aloud, students can report the strategies that they heard modelled. Over time, together with our students, we can list strategies on a wall poster or the blackboard (see Figure 8.3). The ever-evolving list can serve as a convenient reference tool for students in subsequent classes and a convenient record of modelled strategies for the teacher.

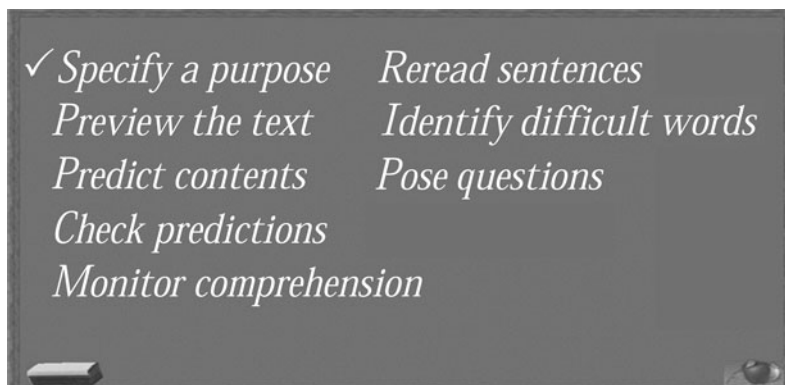


Figure 8.3 Sample blackboard display of strategies modelled in class

We are likely to benefit the most from this project if we reflect on each read-aloud session immediately after class. We can jot down reflections (another form of data) on our written scripts regarding our choice of strategies, our own read-aloud ‘performance’, as well as our students’ responses, comments and ability to notice target strategies.

Data analysis: After at least five read-aloud sessions, we will be ready to review our lesson-plan scripts and annotations to determine how our approach has changed and what has worked well, what has not worked so well, and how future read-alouds might be improved. Our lesson-plan scripts will bring to mind the specifics of read-aloud sessions, and our lesson-plan annotations will document more subjective information. In addition, a review of the list of strategies on the wall poster will reveal the number of strategies brought to students’ conscious attention through read-alouds. After an analysis of these various data sources, we will be in a good position to ascertain if we have improved our own abilities to use read-alouds in class and if we have raised our students’ awareness of reading strategies. We can use our insights to decide which strategies merit further teacher verbalisations and which new strategies could be introduced to broaden students’ awareness of the strategies used by skilled readers.

Time needed: The most time-intensive part of this project occurs *before* class. It is at that time when we need to decide which reading strategies complement the short passages that we will read aloud. And then, of course, we need to write out our verbalisations. Our review of lesson-plan scripts, annotations and wall poster will probably take less time.

Resources needed: Lesson-plan scripts and a ‘permanent’ space in the classroom, on the wall or blackboard, to list strategies that students notice in teacher read-alouds.

8.2 Discourse organisation action research projects

Quote 8.3

Good readers are tuned in to the ways that information is organized [in the text] and to the signaling mechanisms that provide the cues to this organization.

Grabe (2009, p. 243)

Reading comprehension depends in part on a reader’s awareness of how discourse is structured (Grabe, 2009; Meyer and Poon, 2001). Good readers pay attention to the organisational features of the texts that they are reading (e.g. headings, subheadings, text boxes, topic sentences) and to cues that signal new topics and topic shifts. Good readers are able to track pronoun and anaphoric cues as well as other lexical units that indicate relationships between and among parts of a text. Skilled readers also recognise common genre features in addition to organisational patterns (see Table 8.2), sometimes referred to as ‘rhetorical patterns’ or ‘knowledge structures’ (Mohan, 1986). Discourse-structure awareness of these types is often associated with reading strategies (e.g. identifying main ideas, inferring connections across parts of a text, recognising organisational patterns in texts). Because of the well-recognised importance of discourse-structure awareness, increasing numbers of reading teachers, the text-books that they use and the reading curricula that they draw from address (a) discourse-structure signals, (b) the use of **graphic organisers** to display organisational patterns and (c) strategies that help readers identify discourse structure. We can conduct meaningful action research in any of these areas.

Table 8.2 Common organisational patterns

Cause and effect	Description
Classification	Narrative timeline
Comparison and contrast	Problem and solution
Definition	Process or sequence

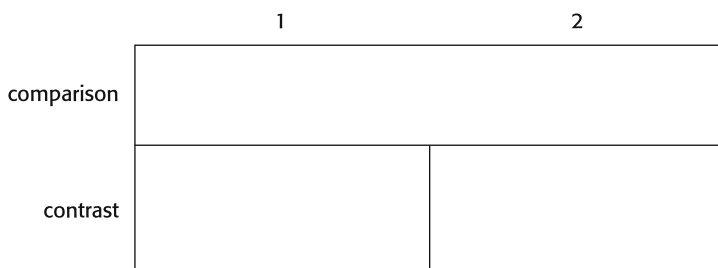
8.2.1 Matching reading passages with common graphic organisers

Purpose: A number of studies argue persuasively that student awareness of discourse organisation enhances reading comprehension (e.g. Jiang and Grabe, 2007, 2009; Meyer and Poon, 2001; Pearson, 2009; Williams, 2007). We can explore discourse organisation with our students in numerous ways, for example, by means of text **previewing**, critical reading, analyses of texts, model texts, graphic organisers, scrambled paragraphs, semantic mapping and the more explicit teaching of signal words (Grabe, 2009; see also Blachowicz and Ogle, 2008; Jiang and Grabe, 2007, 2009; Ogle and Blachowicz, 2002). This action research project explores steps that *precede* teaching, specifically the steps that we can take (a) to identify key discourse patterns in the texts that we will assign to our students and (b) to match these texts (or portions of the texts) with appropriate graphic organisers (see Figure 8.4).

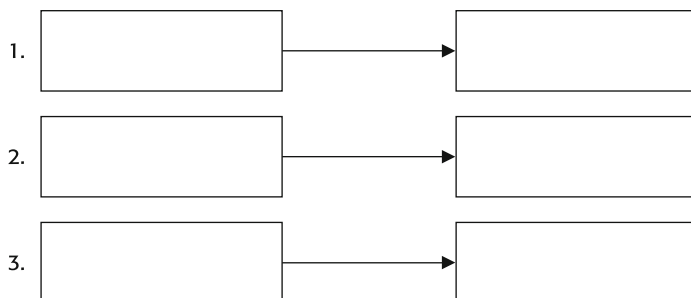
1) Definitions



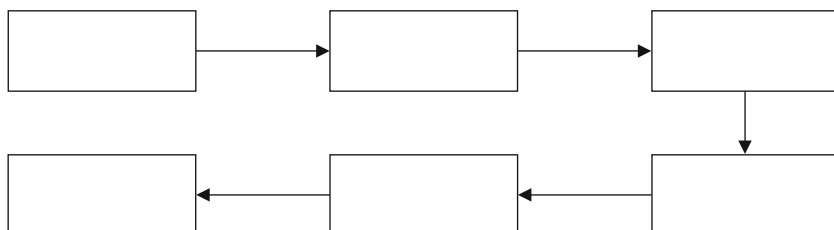
2) Comparison–contrast



3) Cause–effect (in any number as is needed)



4) Process/Sequence



5) Problem–solution (in any number as is needed)

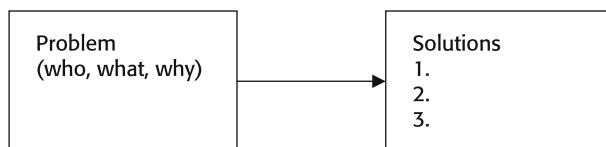
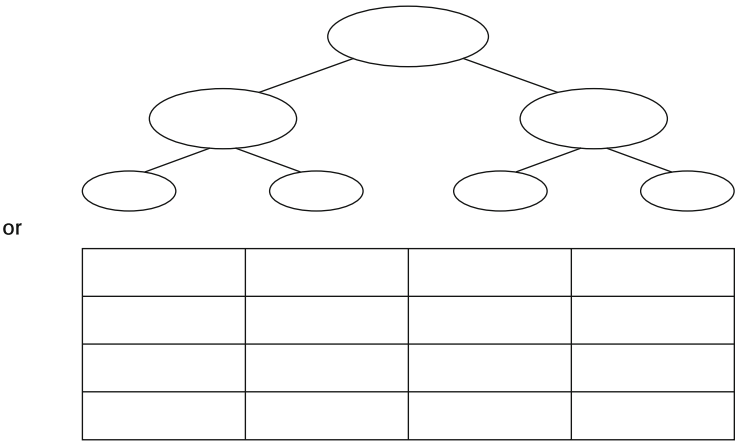
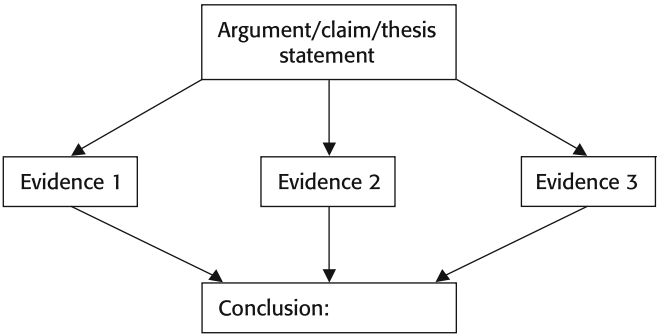


Figure 8.4 Examples of basic graphic organisers for commonly used text structures (from Jiang and Grabe, 2009, pp. 36–8)

6) Description/classification



7) Argument



8) For–against (cf. comparison–contrast)

	for	against
position 1		
position 2		

9) Timeline



Figure 8.4 Continued

Key question: Which graphic organisers best complement the reading passages (or parts of those passages) that are assigned to students?

Anticipated outcome(s): As a result of this action research project, we will fine-tune our abilities to match required readings (or sections of them) to graphic organisers that showcase prominent organisational features of the text. After the best matches have been determined, we will be in a better position to plan effective lessons that link graphic organisers and readings, thereby raising students' awareness of common textual patterns.

Primary way to collect data: Document gathering.

Data collection: This action project can be conducted as a solitary endeavour, by ourselves, or as a team effort, with colleagues. To collect our data, we simply want to gather the texts that our students will be assigned to read.

Data analysis: With texts in hand, the goal, then, is to identify the prominent organisational features in those texts and match the texts with common graphic organisers (Figure 8.4). We can start out by looking for features that reveal one or more of the following text structures: definitions, comparison–contrast, cause–effect, process or sequence, problem–solution, description or classification, argument, for–against and chronology. By keeping an 'inventory' of readings and corresponding graphic organisers, we then have a valuable resource for planning lessons during which we can raise students' awareness of discourse organisation.

Time needed: Data collection is the easy part of this action research project. What will take a more concentrated effort is the analysis of the reading passages that we gather (in their entirety and/or in parts) to determine their most notable discourse patterns. And then we need to pair the texts with either typical graphic organisers (e.g. Figure 8.4; see also 10.8 in Chapter 10) or with graphic organisers that we create on our own (if the texts assigned do not follow typical patterns). After these steps have been taken, we are then ready to integrate graphic organisers and discussions of discourse structure into our reading lessons.

Resources needed: Reading passages to be assigned to students; collection of graphic organisers to match with texts.

8.2.2 Training students to use graphic organisers to improve comprehension

Purpose: Graphic organisers, such as the ones in Figure 8.4, are versatile tools that can be used in many ways in our reading classes. They can help students develop text structure awareness, discover relationships among ideas in a text, note the significance of overt signal words, link new with known content, transition from reading to writing tasks and so forth. Students can use graphic organisers, initially with our guidance, to decide 'how different pieces of information in a text relate to each other as main ideas, supporting ideas, and informational details' (Jiang and Grabe, 2009,

p. 26). When instruction with graphic organisers is carried out effectively, students build a coherent representation of text meaning that can be discussed by the whole class because everyone has access to the same visual representation (Jiang and Grabe, 2009).

For the purposes of this action research project, we begin with just *one* of the graphic organisers in Figure 8.4. The graphic organiser that we select should match the text structure that most frequently occurs in the texts assigned to students. (Teachers interested in this area of enquiry might want to engage in action research project 8.2.1 *before* embarking on this one.)

Key question: How well can I guide my students in the use of graphic organisers to improve their comprehension?

Anticipated outcome(s): This action research project provides us, especially if we are unaccustomed to using graphic organisers, with opportunities to practise integrating them into our reading lessons. The insights that we gain are likely to improve the effectiveness of our reading instruction and give us the confidence to experiment with other graphic organisers in future classes. Of course, our students benefit from the project as well. What they gain is primarily the experience of using graphic organisers to improve their reading comprehension.

Primary way to collect data: Journal/teaching log, case study with a small number of students.

Data collection: This action research project is best implemented during a semester in which we can make a serious commitment to discourse organisation and the use of graphic organisers in our lessons. Before data collection begins, as suggested above, we need to select one graphic organiser (or two), from among those in Figure 8.4, to experiment with; the graphic organiser chosen should be one that depicts a pattern that will be frequently encountered by students. (We can really *only* make that decision after a careful review of the texts we will be assigning to students.) For example, if the comparison and contrast pattern occurs fairly frequently in textbook passages, we can look for opportunities to integrate the comparison–contrast graphic organiser (pattern 2 in Figure 8.4), and associated tasks, into our instruction.

While engaged in this action research project, we keep a journal (or teaching log) in which we document (a) steps taken to integrate the target graphic organiser into our lessons, (b) questions asked or comments made by students, (c) obstacles that we encounter as well as the obstacles encountered by our students and (d) any other issues deemed relevant (e.g. pacing, instructions, teacher modelling). We can choose to observe a subset of our students (e.g. a strong, moderate and weak reader; a motivated and less-than-motivated reader; a risk-taker and a non-risk-taker) to see how they respond to tasks involving graphic organisers. As a logical extension, we can comment on those cases in our journal or log as well.

Data analysis: An examination of our journal or log entries should reveal (a) the ways in which we fine-tuned steps to integrate graphic organisers into instruction over time and (b) issues that could influence future instruction and perhaps experimentation with other graphic organisers. Our case studies might divulge how students with different profiles handle graphic-organiser tasks and suggest ways in which instruction can be scaffolded or modified for similar students in the future.

Time needed: In the early stages of the project, we need to decide which graphic organiser to try out. Our journal or log entries should not require a lot of time if we complete them shortly after class, when details are clear in our minds. Of course, when we commit to a project like this, what will take some time is designing instructional tasks to accompany our use of the target graphic organiser in class.

Resources needed: A journal or log, reading tasks involving the target graphic organiser.

8.2.3 Focusing on the identification of signal words

Purpose: Good readers are able to identify text markers (i.e. signal words) that reveal text organisation and provide clues about what is important in a text. Text markers (Table 8.3) can signal cause and effect, comparison and contrast, problems and solutions, conclusion, continuation, emphasis, examples, hedging, sequence, time and so forth. Developing readers can benefit from instruction that focuses on the identification of these important text markers and their functions. To make this action research project both meaningful and manageable, only the most salient signal words, that is, those signal words that students are most likely to encounter in their texts, are explored.

Key question: **How can I help my students learn to identify salient signal words in the texts that they are reading?**

Anticipated outcome(s): Two important outcomes from this action research project are anticipated. Because of the extra attention paid to target signal words, students are likely to develop an ability that is critical for proficient reading, specifically the ability to identify clues that signal *how* information is organised and *what* is important in a text. But the main goal for this project is to learn how we reading teachers can bring signal words to the conscious attention of our students. Such knowledge will expand our repertoire of teaching techniques.

Primary way to collect data: Pre- and post-tests and teaching log.

Data collection: After deciding upon target signal-word categories (bolded in Table 8.3) and selecting a reading passage with several exemplars, we distribute copies of the reading passage to our students. (For the purposes of this discussion, sequence and contrast markers have been targeted for instruction.) We ask our students to read the text and *underline* sequence

Table 8.3 Signal words (adapted from Fry and Kress, 2006)

Cause, condition or result signals: as, because, but, consequently, due to, for, from, if, in that, resulting from, since, so, so that, that, then, therefore, thus, unless, until, whether, while, without, yet

Comparison–contrast signals: also, although, analogous to, and, best, better, but, conversely, despite, different from, either, even, even though, half, however, in contrast, in spite of, instead of, less, less than, like, more than, most, much as, nevertheless, on the contrary, on the other hand, opposite, or, otherwise, rather, same, similar to, still, then, the opposite, though, too, while, worse, worst, yet

Conclusion signals: as a result, consequently, finally, from this we see, hence, in closing, in conclusion, in sum, in summary, last of all, therefore

Continuation signals: a final reason, again, also, and, and finally, another, first of all, furthermore, in addition, last of all, likewise, more, moreover, next, one reason, other, secondly

Emphasis signals: above all, a central issue, a distinctive quality, a key feature, a major development, a major event, a primary concern, a significant factor, a vital force, by the way, especially important, especially relevant, especially valuable, important to note, it all boils down to, more than anything else, most noteworthy, most of all, of course, pay particular attention to, remember that, should be noted, the chief outcome, the crux of the matter, the most substantial issue, the principal item

Example signals: for example, for instance, in the same way as, much like, similar to, specifically, such as, to illustrate

Hedging signals: alleged, almost, could, except, if, looks like, maybe, might, nearly, probably, purported, reputed, seems like, should, some, sort of, was reported

Non-word emphasis signals: bold type, exclamation point, italics, graphic illustrations, numbered points (1, 2, 3), quotation marks, underlining

Sequence signals: A, B, C; after; always; before; during; earlier; first, second, third; in the first place; last; later; next; now; o'clock; on time; since; then; until; while

Spatial signals: about, above, across, adjacent, alongside, around, away, behind, below, beside, between, beyond, by, close to, east, far, here, in, in front of, inside, into, left, middle, near, next to, north, on, opposite, out, outside, over, right, side, south, there, toward, under, upon, west

Time signals: after, after a while, already, at the same time, during, final, following, immediately, lately, little by little, now, once, then, when

N.B.: The signal words listed here could be categorised differently. For more fine-tuned distinctions, see, for example, Biber, Johansson, Leech, Conrad and Finegan (1999).

markers (i.e. words or phrases that signal a particular order of ideas or events) and *circle* contrast markers (i.e. words that signal differences, differing points of view, changes in perspective). This activity serves as a pre-test and an indicator of student familiarity with sequence and contrast markers.

As the semester progresses, we focus students' attention on sequence and contrast markers as they appear in class readings. As part of our instruction, we guide students in identifying the markers, discussing them and exploring their textual functions as they are found. Students keep a running list of the markers that they encounter in their notebooks. Periodically, we can give students the opportunity to compare lists and adjust their own to create more complete lists. During this time, we keep a log of the signal words that are encountered by the class (identifying the dates of first and repeat encounters). In our logs, we can comment on the ways in which certain words are explained, as well as the questions and difficulties that students experience.

After a month or two, basically after students have encountered markers numerous times and in varied contexts, a post-test similar in format to the pre-test is administered, except that students are also asked to explain the function of each underlined or circled signal word.

Data analysis: To determine if students have developed a heightened familiarity with and understanding of target signal words, we compare students' pre- and post-test scores. The post-test should reveal signal words that need more explicit instruction. Our review of teaching log notations, with test results in mind, can assist us in determining which techniques worked and which techniques did not work so well.

Time needed: To identify which signal word categories are worthy of special attention, we need to read over passages that are to be assigned during the term. Then, two level-appropriate reading passages with numerous instances of the target signal words need to be found, one for the pre-test and one for the post-test. We need to allot time, between the pre- and post-tests, to keep track of signal words encountered, document how we have dealt with those words in class and record what difficulties, if any, our students have experienced with them.

Resources needed: Level-appropriate reading passages with target signal words, teaching log.

8.3 Main-idea comprehension action research projects

Quote 8.4

In many reading instruction programs, a greater amount of emphasis and time may be placed on *testing* reading comprehension rather than on *teaching* readers how to think about the meaning of what is read. The ultimate goal of reading is comprehension. Monitoring comprehension is essential to successful reading.

Anderson (2009, pp. 125–6)

What could be more important for the reader than main-idea comprehension? Yet, many teachers devote minimal class time to helping students develop comprehension abilities; rather, class time is spent on answering comprehension questions (and then moving on to the next chapter or text). In fact, 'increasing students' knowledge about how, when and why to regulate their own comprehension [should be] an important component of reading instruction' (Baker, 2002, p. 82).

Main-idea comprehension is no simple matter because text comprehension requires, at a minimum, knowledge of basic grammar, a large receptive vocabulary and discourse-structure awareness. And as students begin reading longer informational texts for academic purposes, the demand on readers' attentional processes and their need for strategies for dealing with complex texts become more pressing. One key to the development of comprehension abilities is a supportive instructional environment (Grabe, 2009). Action research that focuses on issues related to main-idea comprehension, such as the three model action research projects that follow, can be worthwhile endeavours for those of us who teach reading.

8.3.1 Questioning the Author to promote main-idea comprehension

Purpose: Instructional approaches that involve the teacher *and* students in forming and answering questions about the text can promote the development of main-idea comprehension. The Questioning the Author (QtA) approach (e.g. Beck and McKeown, 2001; see also Raphael, George, Weber and Nies, 2009) is unique in that questions are directed to the 'invisible author'. With this approach, questions not only address text comprehension and monitoring, but they may also lead to hypotheses about the author's purpose, critiques of the author's writing, identification of author bias and tone, an exploration of the significance of the text and student stance on the usefulness of text information. With this approach, 'authors are seen as fallible and intentional, and readers have the right to question them' (Underwood and Pearson, 2004, p. 143; see also Baker and Beall, 2009).

Key question: Which questions, typical of the Questioning the Author approach, evoke good student responses? Which lead to the best class discussions around text comprehension?

Anticipated outcome(s): It is expected that we teachers will gain practice in asking new types of questions that engage students in discussions of text comprehension, author purpose and bias, the significance of the text and so forth. Through systematic data collection, we will be able to identify the types of questions that evoke the best student responses and class discussions. At the same time, student involvement with the QtA approach will likely result in improved main-idea comprehension abilities, deeper engagement with the text, and, eventually, as the question-posing

Table 8.4 Sample questions following the Questioning the Author (QtA) approach (e.g. Beck, McKeown, Hamilton and Kucan, 1997)

1. What is the author trying to say?
2. What is the author’s message?
3. Why does the author choose to include this particular information?
4. Do you think the author’s message is clear? Why? Why not?
5. How could the author say this more clearly?
6. What types of examples could have been added to strengthen the author’s position?
7. Do the author’s examples help or create some confusion?
8. How does the author signal main ideas (and how well does the author do it)?
9. Are the author’s main ideas clearly stated and explained?
10. Did the author give us the answer to the issue that she or he has raised?
11. What biases or perspectives does the author reveal?
12. What is the significance of the author’s message?

responsibility transfers from teacher to students, the development of relevant question-posing abilities.

Primary way to collect data: Self-observation through audiorecording and a record-keeping sheet that allows for teacher commentary.

Data collection: Before data collection begins, we need to familiarise ourselves with the QtA approach (see above for references) and write out a set of QtA questions that are appropriate for the class (Table 8.4). We can then audiotape the QtA segments of our reading lessons. While reviewing the tapes after class, we will document the questions asked during QtA class segments on our record-keeping sheet (Figure 8.5). We can also comment on (a) students’ responsiveness to the questions, (b) the nature of the class discussion, (c) the extent to which the questions turned out to be relevant

Questioning the Author: record keeping		
Questions asked	Dates used in class	Comments
1. <i>What is the author trying to say?</i>		
2.		
3.		

Figure 8.5 Sample worksheet format

to text comprehension and (d) the degree to which the questions obliged students to explore the text.

If we engage in this research for a substantial amount of time, we can *also* record who poses the questions (i.e. teacher or student), because the ultimate goal of the QtA approach is for students to pose such questions on their own.

Data analysis: We can use our completed record-keeping sheet(s) to determine which question types evoke the best student responses and class discussions. The goal is to identify questions (or question types) that evoke active student involvement in exploring the text, the author's purposes for writing, the author's effectiveness and the significance of the text.

Time needed: For this action research project to be most fruitful, we should read further on the QtA approach. (The approach is not often discussed in L2 teacher preparation courses.) With a heightened understanding of the approach, we can then convert the more general questions listed in Table 8.4 into ones that are appropriate for our classes and the texts that our students are reading. Our review of audiotapes and concurrent documentation of questions and comments (on our record-keeping sheets) requires time commitments as well.

Resources needed: Tape recorder and record-keeping sheet.

8.3.2 Rethinking teacher–student interactions

Purpose: Main-idea comprehension is most directly supported by teacher and student interactions around a text (e.g. Baker, 2002; Fitzgerald and Graves, 2004; Snow, Griffin and Burns, 2005). In these scaffolded discussions, the teacher and students talk about the following:

- what the text means
- where and how important information can be found
- why the information is important
- how main-idea information can be used
- which difficulties arise in interpreting the text
- how difficulties can be resolved

One of the most valuable outcomes of such discussions includes students' use of reading strategies that support main-idea comprehension. Unfortunately, in large classes, teacher–student interactions often do not reach the most needy readers (i.e. our weaker and less motivated readers). In this action research project, we can experiment with two main-idea discussion formats to determine which one is most effective for our needy readers.

***Key question:* Can teacher-guided student-group discussions of main ideas be as effective as whole-class teacher–student discussions?**

Anticipated outcome(s): This action research will likely lead to teacher insights into (a) the plausibility of using student-group discussions of main-idea comprehension in large reading classes, (b) ways of guiding students in main-idea discussion groups and (c) techniques for reaching students with the greatest reading needs.

Primary way to collect data: Annotated lesson plans.

Data collection: During a semester when we have two reading classes, we lead whole-class main-idea discussions with one class. In the other class, we place students into small groups and direct them to engage in main-idea discussions themselves. Before the project begins, we will compile a list of 'key' main-idea comprehension questions, like those in Table 8.5, that will serve as the foundation for both whole-class and student-group discussions.

Table 8.5 Sample questions for whole-class and student-group discussions of main ideas

-
1. What is the text about?
 2. What are the most important ideas?
 3. Where did you find those important ideas?
 4. How did you find the most important ideas?
 5. Why is the information so important for this text?
 6. How can you use these important ideas?
 7. What difficulties did you experience reading the text?
 8. What difficulties did you experience interpreting the text?
 9. How did (can) you resolve those difficulties?
-

During our action research project time frame (whether it be a month, the duration of a thematic unit or a full semester), we will regularly use the key main-idea questions to guide main-idea discussions with our two classes. After each class session in which main ideas are discussed using key questions (in both the teacher-led and student-group formats), we annotate our lesson plans to indicate features of these discussions that are worth noting, including changes that we make to our key questions, students' requests for clarification, amount of student participation, student responsiveness to questions and discussion, and students' main-idea comprehension. Because one impetus for this action research is to explore ways to engage our weaker readers in main-idea comprehension discussions, we ought to note the responsiveness of our weaker and less-motivated readers in both class formats.

Data analysis: We can gain insights into the effectiveness of these two types of main-idea comprehension discussion formats (whole-class and student-group) by examining our lesson plan annotations. We should pay

special attention to annotations about the weaker readers in both classes to see if discussion format makes any difference in levels of student engagement and main-idea comprehension. Because the key questions guiding discussions should have been almost identical in both discussion formats, differences in student responsiveness may provide insights into the increased efficacy of one type of discussion format, especially for our weaker and less-motivated students.

Time needed: Time is needed to formalise key main-idea comprehension questions, annotate lesson plans and analyse results.

Resources needed: Key main-idea comprehension questions (see Table 8.5) and lesson plans.

8.3.3 Building grammar awareness with text materials

Purpose: Some amount of explicit grammar teaching may be helpful in assisting students in main-idea comprehension (Nation, 2009). The focus of such instruction, however, should derive *directly* from the text material that students are assigned to read (Grabe, 2005). Furthermore, explicit instruction should only target structures that occur multiple times in the text and are relevant for main-idea comprehension. Traditional decontextualised grammar practice should only be used, if at all, *after* tailor-made contextualised instruction that draws from assigned texts.

Key question: **Which grammatical structures in primary reading materials, if any, merit explicit instruction and grammar-awareness activities?**

Anticipated outcome(s): A review of primary texts may reveal grammatical structures that merit grammar-awareness activities and explicit instruction. The resulting contextualised instruction, drawing from the primary texts used in class, may contribute to students' main-idea comprehension and students' heightened grammar awareness.

Primary way to collect data: Document gathering.

Data collection: By ourselves or with another teacher assigned to teach the same class or level, we compile all primary reading passages and read them before they are assigned. The goal is to determine which texts have grammatical structures that are worthy of explicit grammar-awareness activities and instruction. While reading the texts, we can underline structures that occur multiple times and that are especially important for main-idea comprehension. Grammatical structures that often prove to be challenging for L2 students, at various proficiency levels, are listed in Figure 8.6.

Data analysis: To analyse our data, we look over the grammatical structures that we have underlined with the goal of identifying structures that occur multiple times, that are relevant to main-idea comprehension

- | | |
|---|--|
| <ul style="list-style-type: none"> • complex participle phrases • complex relative clauses • extended appositive phrases • clauses within complex clauses • complex noun phrases with multiple clauses • complex verb phrase constructions (e.g. object–complement clauses, causative structures) | <ul style="list-style-type: none"> • complex conditional clauses • clausal subjects • extraposition • clefted clauses • complex passives • inanimate subject noun phrases • vague antecedents |
|---|--|

Figure 8.6 Grammatical structures that might merit explicit attention

and that merit instructional time. Our aim is to select the most salient structures for explicit attention.

Time needed: No class time is needed. We need to set aside time to read primary texts before assigning them to students to identify target grammatical structures.

Resources needed: Students' primary reading texts.

8.4 Additional action research questions

The three areas explored in this chapter have the potential for many action research projects. We list a few additional questions here that might spark the interests of teachers in different settings.

8.4.1 Questions related to strategic reading

Additional questions related to strategic reading include, but are not limited to, the following:

- What strategies can I introduce to my students to help them make sense of densely written texts?
- How well do I incorporate student self-reflection into the end of reading lessons, as a way of promoting metacognitive strategy use?
- How helpful do my students think metacognitive strategies (e.g. planning, monitoring, repairing) are?
- How successful are students in identifying the strategies that they use when they read difficult texts?
- How can group tasks contribute to effective strategy instruction?
- How can L1 skills and strategies become positive support for L2 reading development?

8.4.2 Questions related to discourse organisation

Additional questions related to discourse organisation include, but are not limited to, the following:

- How can I help students learn to use prominent text features (e.g. titles, subtitles, captions, headings and illustrations) to orient themselves to the text? To locate important information? To predict the contents of the text?
- When is it most beneficial to focus on text organisation: as part of pre-reading, during-reading or post-reading activities?
- How can I help students see the hierarchical organisation of the texts that they are reading?
- How can I train myself to become more aware of text structure and discourse organisation so that I can integrate these important issues into my instruction?
- What are some previewing techniques to use in class that will guide students in identifying key words that signal text structure?
- To what extent does the use of scrambled sentences and paragraphs assist students in understanding discourse organisation conventions?
- To what extent do cloze passages, with signal words removed, assist students in learning the meaning and function of different signal words?

8.4.3 Questions related to main-idea comprehension

Additional questions related to main-idea comprehension include, but are not limited to, the following:

- What kinds of summary activities can I use to promote main-idea comprehension?
- How can I use follow-up *why* questions to promote main-idea comprehension (as advocated by the Elaborative Interrogation approach, e.g. Ozgungor and Guthrie, 2004)?
- What are the most effective ways to activate students' prior knowledge to improve their main-idea comprehension?
- What steps do I take when prior-knowledge activation activities backfire, that is, result in information that is incompatible with the text?
- Which comprehension monitoring strategies are students most amenable to? (See Grabe, 2009, p. 211, for a list of comprehension monitoring strategies.)
- It is often said that inferencing abilities represent a major difference between poor and strong readers (Grabe, 2009). Is this true in my class?

Questions such as these represent possible queries that can guide teacher-initiated action research. The best questions, of course, are those that help us understand the effectiveness of our own classroom instruction, the usefulness of certain teaching techniques, student responsiveness to different classroom procedures, student grasp of materials and so forth.

8.5 Conclusion

In this chapter, we have presented nine model action research projects that centre around issues related to strategic reading, discourse organisation and main-idea comprehension. The questions posed and the procedures for data collection and data analysis proposed can be used as springboards for action research that will satisfy individual teacher interests and needs.

Further reading

Citations that appear frequently in the chapter represent key sources for further details. Some other useful references, beyond those referred to in this chapter and in Chapter 10 (especially 10.4, 10.5, 10.7 and 10.8), are noted here. For more on

- *strategies*, see Anderson (1991), Block and Duffy (2008), Chamot and O'Malley (1994), Hedgcock and Ferris (2009), Li and Munby (1996), Mokhtari and Sheorey (2008a)
- *comprehension strategies recommended for instruction*, see Block and Duffy (2008)
- *47 strategies* that can be introduced and practised in class, see Anderson (1991, p. 463)
- *discourse organisation*, see Meyer and Poon (2001), Pearson (2009)
- *main-idea comprehension*, consult Blachowicz and Ogle (2008), Israel and Duffy (2009), Ogle and Blachowicz (2002), Snow, Griffin and Burns (2005), Trabasso and Bouchard (2002)

Reading-lesson stages, reading materials and extensive reading: Action research projects

As in the previous two chapters, here we introduce nine model action research projects. The projects in this chapter focus on select aspects of reading-lesson stages, reading materials and extensive reading. The projects and additional research questions included in the chapter contribute to the range of action research possibilities open to reading teachers. Of particular interest are the following:

- action research projects that can be adapted with ease
- detailed steps that teachers can follow (with or without modification) to carry out classroom-based action research
- helpful charts, tables and worksheets that can be used as data-collection instruments
- sets of additional questions that can guide meaningful teacher-initiated enquiry
- teaching suggestions with direct applications in reading lessons

Effective language instruction is dependent on a number of good teaching practices that we all recognise. They include appropriateness of lesson objectives, careful sequencing of classroom activities, clarity of instructions, suitability of materials and tasks, teacher flexibility and responsiveness to student needs, pacing and time allotments, attention to student motivation, and teacher and student preparedness. The reading classroom, in particular, places even more demands on the teacher. For example, we need to move seamlessly through pre-, during- and post-reading stages of our lessons, adapt mandated materials to meet the particular needs of

our students, create materials to enhance our lessons and make up for the deficiencies of our textbooks, provide students with opportunities to read for different purposes and balance intensive and extensive reading. The questions that we might ask ourselves about these reading classroom demands, and many others, can lead to a vast number of meaningful action research projects.

Quote 9.1

Action research...represents what I would call an 'inside out' approach to professional development. It represents a departure from the 'outside in' approach (i.e. one in which an outside 'expert' brings the 'good news' to the practitioner in the form of a...workshop or seminar). In contrast, the inside out approach begins with the concerns and interests of practitioners, placing them at the centre of the enquiry process. In addition to being centred in the needs and interests of practitioners, and in actively involving them in their own professional development, the inside out approach, as realised through action research, is longitudinal in that practitioners are involved in medium to long-term enquiry.

Nunan (1993, p. 41)

In this chapter, we outline nine action research projects that can easily be adapted to different instructional settings. Much as in Chapters 7 and 8, these projects should be viewed as flexible models that can be modified, in small or large ways, depending on the teacher's purpose for engaging in enquiry. Table 9.1 lists the topics of the action research projects highlighted in the remainder of the chapter. Unlike Chapters 7 and 8, where we have equal numbers of model projects for each focal area, in this chapter, extra attention is given to reading materials, a major concern of most practising teachers.

9.1 Reading-lesson stages action research projects

Reading teachers often structure their reading lessons, interpreted broadly, around three well-defined stages, specifically the pre-reading, during-reading (also referred to as while-reading or guided reading) and post-reading (or after-reading) stages (e.g. Hedgcock and Ferris, 2009; see also Laverick, 2002). The amount of class time devoted to each stage is highly

Table 9.1 Model action research projects developed in Chapter 9

MODEL ACTION RESEARCH PROJECT	TOPIC	PRIMARY WAY(S) TO COLLECT DATA
Reading-lesson stages		
9.1.1	Effectiveness of pre-reading activities	Annotated lesson plans and after-class reflection worksheet
9.1.2	During-reading tasks	Case study of student pairs, collection of during-reading tasks
9.1.3	Teacher-generated post-reading questions	Lesson plans, audiotaping of class, record-keeping sheet
Reading materials		
9.2.1	Levels of challenge in textbook comprehension activities	Document gathering and record-keeping sheet
9.2.2	Exposure to non-linear text in mandated reading materials	Document gathering and tally sheet
9.2.3	Goals of post-reading exercises	Document gathering and record-keeping form
9.2.4	Sources of difficulty in course readings	Document gathering and checklist
Extensive reading		
9.3.1	Inventory of available extensive reading materials	Document search
9.3.2	Top ten principles of extensive reading	Retrospective evaluation and comparison grid

variable, depending on instructional goals, student reading proficiencies, length of class meetings and the texts assigned. There are times when a single lesson might include pre-, during- and post-reading components (though the text would have to be quite short, or the class quite long, to accomplish such a feat). Probably more typical would be a span of numerous class meetings in which we would see pre-, during- and post-reading activities.

Each stage serves a distinct set of instructional purposes (Table 9.2), though attention to stage-specific strategies used by skilled readers is appropriate at each stage (Hedgcock and Ferris, 2009; Hudson, 2007). Action research on aspects of these important reading-lesson stages can be quite enlightening.

Table 9.2 Major goals at each stage of the pre–during–post framework

PRE-READING STAGE	DURING-READING STAGE	POST-READING STAGE
• Establish reading purpose • Tap prior knowledge • Provide information needed for comprehension (e.g. vocabulary, background) • Set up expectations • Stimulate interest • Build confidence and motivation • Explain or support text organisation • Model common strategies used at this stage	• Guide reading to facilitate comprehension • Help students construct meaning and monitor comprehension • Give students opportunities to connect what is read with what is known; to evaluate what is being read • Provide opportunities for fluency development • Support ongoing summarisation • Model common strategies used at this stage	• Check comprehension • Explore how text organisation supports comprehension • Consolidate learning • Provide opportunities for students to summarise, synthesise, evaluate, elaborate, integrate, extend and apply text information • Give students the chance to critique the author and aspects of the text (e.g. writing, content) • Establish and recognise comprehension successes • Model common strategies used at this stage

Quote 9.2

[M]ost teachers find it helpful to conceptualize an intensive reading lesson (which may be conducted over a period of days rather than in just one class meeting) in terms of what teacher and students should do *before*, *during*, and *after* reading.

Hedgcock and Ferris (2009, p. 162)

9.1.1 Effectiveness of pre-reading activities

Purpose: Many reading methodologists support the use of pre-reading activities to tap students' background knowledge, provide information that students are not likely to have but need to comprehend the text, build up student expectations, stimulate student interest in the topic, introduce students to pre-reading strategies commonly used by skilled readers and so forth (see Table 9.2; see also Taboada and Guthrie, 2006; Hedgcock and

Ferris, 2009; Hudson, 2007). Most L2 reading textbooks include pre-reading exercises, which are often assigned a 'Pre-reading' or 'Get Ready to Read' heading, without specifying their actual aims (e.g. tapping student background, building student motivation). Teachers sometimes supplement their textbooks with pre-reading tasks of their own design. This action research project guides the teacher in identifying the range of pre-reading activities being used and their effectiveness.

Key question: What kinds of pre-reading activities do I use? Which seem to work well? Which don't seem to work well?

Anticipated outcome(s): Engagement in this action research project could easily lead to a better understanding of the pre-reading segments of our reading lessons. We will most likely gain insights into the kinds of pre-reading activities that work well with our students and assigned readings. We might also begin to understand why certain pre-reading activities do not work as well as we would like them to. With the knowledge gained, we can (a) plan better lessons in the future, (b) minimise our over-reliance on textbook pre-reading activities and (c) with increased confidence, create our own pre-reading activities to serve a variety of purposes.

Primary way to collect data: Annotated lesson plans and after-class reflection worksheet.

Data collection: For a 4-week period, we write out lesson plans with detailed notes for the pre-reading portion of the lesson (including intended purpose, rationale, questions to be asked, instructions to be given and so forth). At the end of each class session, we annotate our lesson plans to indicate the ways in which original plans were altered and the reasons for modifications. We can also fill out a worksheet (similar to the one in Figure 9.1) that makes it easy for us to focus not only on pre-reading tasks but also on their purposes.

Data analysis: With our annotated lesson plans and worksheets side by side, we analyse each class session to determine which pre-reading tasks worked, which did not work (as well as we had intended), and why. And then we look for patterns in our data that might lead to useful insights about the effectiveness and value of particular pre-reading activities.

Time needed: Time is needed *before* each class to write detailed lesson plans (at least the pre-reading portions of our lessons). After each class, time needs to be set aside to annotate lesson plans and fill out our worksheets.

Resources needed: Set of worksheets for after-class reflection.

9.1.2 During-reading tasks

Purpose: Most textbooks include pre- and post-reading tasks, but few explicitly guide students in the during-reading stage (Hedgcock and Ferris, 2009; Hudson, 2007). It is not uncommon to see instructions, immediately

Date of class _____	Reading passage _____		
Purpose: What, if anything, did I do during pre-reading activities to ...	What worked? Why?	What didn't work? Why?	What should I do next time I try this?
... tap students' background knowledge?			
... provide necessary background information?			
... build up student expectations about the forthcoming reading?			
... stimulate student interest?			
... build student confidence and motivation?			
... introduce students to pre-reading strategies commonly used by skilled readers?			
... model strategy use?			
... prepare students for a difficult section of the text?			
... guide students in determining text organisation or identifying specific features of text structure?			
... (other)			

Figure 9.1 After-class reflection worksheet for the teacher

following pre-reading tasks, that simply direct students to ‘read the passage’ (cf. Anderson, 2007–2008; McEntire and Williams, 2009; Pakenham, 2004; Richards and Eckstut-Didier, 2003–2004). In this action research project, we experiment with developing and implementing during-reading tasks. For the purpose of this project, we focus on during-reading tasks that occur at about the halfway point in a reading passage (Table 9.3) and that require in-class reading of the text. We can experiment with alternative during-reading tasks in other action research projects.

Key question: How do students handle during-reading tasks implemented at about the halfway point in a reading passage?

Table 9.3 During-reading task options, to be used halfway through the text or at another convenient text break

After students have reached about the halfway point in a reading passage, or at another convenient juncture, the teacher asks students to do one or more of the following during-reading tasks:

- | | |
|--|---|
| 1. List the three most important points from the text. | 6. Complete a true/false task about the text. |
| 2. Consider whether predictions made during the pre-reading stage of the lesson have been met; make new predictions about the next part of text. | 7. Write a summary to that point in the text. |
| 3. Fill in a partially completed outline of the first part of the text. | 8. Write two questions that you hope and/or expect will be answered in the next part of the text. |
| 4. Complete a graphic organiser that is reflective of the first part of the text or some specific paragraph (e.g. a timeline for a chronological text, a Venn diagram for a compare and contrast passage). | 9. Identify five vocabulary items: two that you understand and perceive to be critical for text comprehension; three that you don't understand but that you perceive as important for text comprehension. |
| 5. Match statements that illustrate relationships introduced in the text (e.g. cause–effect, problem–solution, fact–opinion, pros–cons, stated–inferred). | 10. Distinguish between main ideas and supporting details. |
| | 11. Compare what has been read with what is known. |
| | 12. Evaluate the value of text information. |

Anticipated outcome(s): As a result of this action research project, we gain experience developing and implementing during-reading tasks, often absent in our textbooks. Observing one or two student pairs engaged in these tasks should provide interesting insights into our instructions, task procedures and student responsiveness. After experimenting with the during-reading options presented here, we can expand our repertoire to provide students with even richer and broader during-reading experiences. (See Hedgcock and Ferris, 2009, for other during-reading suggestions.)

Primary way to collect data: Case study of one or more student pairs; collection of during-reading tasks designed by the teacher.

Data collection: We assign a during-reading task (from among those listed in Table 9.3) at the appropriate point in the text (whether it be at the halfway point or at another convenient juncture in the text) while following these general steps:

1. Ask students to stop reading.
2. Assign a during-reading task that students complete individually.
3. Ask students to compare answers with a classmate.
4. Engage students in a full-class discussion of answers as well as clarification requests.
5. Direct students to continue reading for a well-defined purpose.

While students are working in pairs, we observe one or two focal pairs to determine how they interpret the task and how they proceed in comparing answers. We can jot down informal notes during our observations that might help us reconstruct what has occurred when we review our notes later.

Data analysis: With case study notes in hand, and a copy of the during-reading task to the side, we review our notes to look for insights that might lead to improvements in instructions, procedures and/or follow-up with students.

Time needed: For this action research project to be truly meaningful, we need to adopt (or adapt) a during-reading task that complements the text that is assigned. We can use one or more of the ideas in Table 9.3. If our students have not had any experience with the during-read task that we want to investigate, we may want to model the process (i.e. the task) before our action research actually begins. These preliminary steps may take more time than the analysis of data collected.

Resources needed: During-reading tasks, to be designed by the teacher.

9.1.3 Teacher-generated post-reading questions

Purpose: It will come as no surprise to teachers in the trenches that reading teachers often find it necessary to write their own post-reading questions. They do so if their textbooks do not include them and when the questions in their textbooks are inadequate. They also write post-reading questions for the supplementary reading passages that they bring into class to enrich the reading curriculum (e.g. from the Web, magazines, newspapers). For the sake of expediency, teachers often pose simple yes/no and short-response questions to check students' text comprehension. Unfortunately, this approach to checking reading comprehension robs the teacher of a realistic assessment of students' reading abilities and cheats students of developing their reading and critical thinking abilities and, possibly more importantly, the experience of having to be accountable for their reading and responses. As part of this action research project, teachers gain experience writing new types of post-reading questions, questions that fulfil a range of post-reading possibilities (see Table 9.4).

Table 9.4 Post-reading question emphases

LESSON PLAN CODE	EMPHASIS OF POST-READING QUESTIONS	SAMPLE QUESTIONS
A	Apply	How can the author’s solutions be used to solve our own community’s traffic problems?
B	Connect	How does this discussion of uranium mining connect to the video we saw on coal mining? and to the newspaper article we read on solar energy?
C	Critique author and/or text	Has the author persuaded you of her position? Do you agree or disagree with the author’s position? Why?
D	Evaluate/judge	In your opinion, what are the strengths and weaknesses of wind power?
E	Expand	What qualities do you want in a new president?
F	Explain	Why was the concert cancelled?
G	Identify a detail	Name two ways that you can recycle plastic bags.
H	Infer	What do you think the hitchhiker is carrying in his bag? Why?
I	Integrate	Based on what you’ve learned in Chapters 1 and 2, what is the ideal job?
J	Interpret	What is the worst thing about being a brain surgeon?
K	Personalise	What is the housing situation in <i>your</i> country?
L	Predict	What do you think is going to happen next?
M	Restate	What did the author say about flying on trans-Atlantic flights?
N	Revisit pre-reading expectations	Were our original predictions about this reading correct? Explain.
O	Summarise	What is the main idea of this passage?
P	Other	

Key question: What kinds of new post-reading questions can I write?
How are the questions interpreted by students?

Anticipated outcome(s): Probably the most valuable outcome of this action research project is the increased number of post-reading questioning techniques that we will learn to use with our students. With the goal of

posing questions that require more than yes/no and short-answer responses, we will write post-reading questions that encourage critical thinking and the development of various post-reading skills and strategies. Our analysis of concrete data, collected by means of audiotaping a small set of class sessions, makes the project even more valuable because we will reflect on authentic student–teacher interactions rather than simply a recollection of those interactions. With more carefully thought out post-reading questions, students too are likely to gain more from their reading lessons.

Primary way to collect data: Lesson plans with coded post-reading questions, audiotaped lessons.

Data collection: To collect data, we will audiotape the post-reading segment of one reading lesson per week for a month, for a total of four audiotaped lesson segments. The audiotaped lessons will be those that are expected to include teacher-generated post-reading questions. Before the audiotaping occurs, we will write out the post-reading questions that we plan to ask, incorporate them into our lesson plans, and code them by intended emphasis (see Table 9.4). Our lesson plans and taped lessons will serve as our primary data sources.

Data analysis: Our first step involves listening to audiotaped lessons with our lesson plans nearby. Having the coding scheme (Table 9.4) available will remind us of the intended emphases of our questions (e.g. to draw inferences, make predictions, restate the author's idea, critique the author). As we listen to each question asked, and to corresponding student responses, our goal is to determine if students interpreted our questions as originally intended. When there is a mismatch between our intentions and students' responses (i.e. students provide a summary in response to a question that was meant to prompt some sort of personalisation), we should try to determine why. Did we alter the wording of our original question in some way? Was there a particular lexical item that might have been misunderstood? Was our intonation misleading? How could we have modified the question to get the desired response? Our consideration of such questions will help us understand the impact that post-reading questions have on reading lessons, raise our consciousness about the post-reading questioning options that we have, and assist us with the writing of questions for future lessons. Students, of course, are the ultimate beneficiaries of this action research project.

Time needed: Before class, we want to write post-reading questions that oblige students to go beyond yes/no and short-answer responses. Each question should be coded in our lesson plans to indicate our original intentions (e.g. K – personalise; see Table 9.4). Time needs to be set aside to listen to audiotapes and analyse the effects of our questions.

Resources needed: Lesson plans, tape recorder and tapes.

9.2 Reading materials action research projects

Reading classes often centre around textbook passages and accompanying pre-, during- and post-reading activities. In more specialised settings (e.g. English for Academic Purposes and English for Specific Purposes classes), teachers sometimes compile sets of readings to accommodate student interests and needs. The most fortunate reading teachers have classroom or school libraries to draw from for additional reading materials. In other settings, newspaper and magazine subscriptions are used as classroom reading materials; these classroom subscriptions are sometimes accompanied by teacher resources (e.g. vocabulary glosses, comprehension questions, suggested activities, tests). In only rare circumstances are reading teachers responsible for supplying all reading materials for their classes.

Textbook reading materials rarely meet all our classroom needs (see Hedgcock and Ferris, 2009, for the drawbacks of relying on textbooks). Thus, practising teachers know that they will need to adapt and supplement textbook materials to meet their students' needs and, in many cases, fulfil curricular goals. Instructional materials – whether commercial, institutional or created by the teacher – often represent the focal point of teacher-initiated action research.

Quote 9.3

Teachers should be aware that a single classroom textbook will not meet the needs for both intensive and extensive instruction. Materials will need to be selected [and/or developed] that engage the learners in both types of reading.

Anderson (2008b, p. 9)

9.2.1 Levels of challenge in textbook comprehension activities

Purpose: Post-reading comprehension activities are typically used to check readers' text comprehension (Nation, 2009). Commonly seen in textbooks are comprehension checks of various types, including WH, yes/no and true/false questions; multiple-choice and sentence-completion tasks; and information-transfer activities. The emphases of such activities shift from literal comprehension, often the least challenging, to drawing inferences, using the text for other purposes, and critically evaluating the text, the latter often being the most challenging (Nation, 2009; see also Day and Park, 2005). It is important to note that these levels of challenge (as

depicted in Figure 9.2, adapted from Nation, 2009) should not be interpreted to mean that all inference questions are more complex and difficult than all literal comprehension questions, or that all application questions are more difficult than all inference questions. There is, however, an important point in this hierarchy: questions can be designed to be more complex as an overall question type; student reading abilities and the texts that they are being asked to read contribute greatly to the level of challenge experienced by students during comprehension checks. An examination of comprehension-check activities in mandated reading materials represents a good starting point for any number of action research projects. Knowing the variety of comprehension task types, and corresponding levels of challenge, that students may experience can be enlightening for reading teachers.

Key question: What levels of challenge do students experience with textbook comprehension activities?

Anticipated outcome(s): When reading teachers engage in a systematic evaluation of textbook comprehension activities, we become more aware of the range of experiences that our students are likely to have with the textbook. When gaps in experience are identified (e.g. at the more challenging end of the spectrum), we can fill those gaps with supplementary tasks that we create for our students.

Primary way to collect data: Document gathering and record-keeping sheet.

Data collection: After gathering course textbooks, we can work on our own or with a colleague who is using the same reading materials to analyse textbook comprehension activities. The categories and descriptors in Table 9.5 can help guide our analysis, though we must always remain aware of the fact that levels of challenge are influenced greatly by our students' reading proficiencies and the texts they are being assigned to read. Thus, we need to interpret the table openly and flexibly. The goal here is to identify the demands placed on students by creating an inventory of comprehension activities, from least to most challenging.

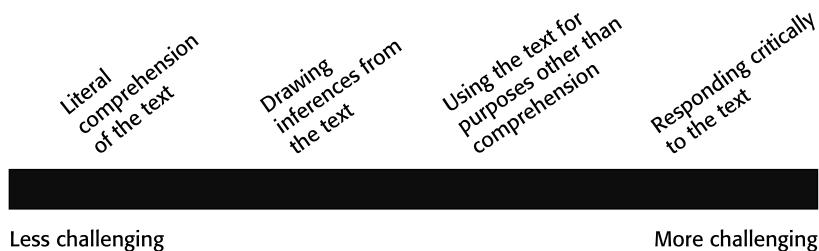


Figure 9.2 Shifting emphases of post-reading comprehension tasks
(Adapted from Nation, 2009)

Table 9.5 Brief descriptors of post-reading comprehension task types

Degrees of challenge* Least challenging Most challenging	EMPHASIS OF COMPREHENSION ACTIVITY	BRIEF DESCRIPTION
	Literal comprehension	Understanding what the text explicitly says
	Drawing inferences	Reading between the lines; using text information that is not explicitly stated but which can be justified by reference to the text
	Using the text for other purposes	Applying information in the text to some problems, reflect on personal experiences, compare with ideas from other sources, extend information beyond the text
	Responding critically	Evaluating adequacy of content, quality of evidence, author bias, quality of expression, agreement or disagreement with ideas in the text, satisfaction or dissatisfaction with the text

(Adapted from Nation, 2009)
*Actual degree of challenge is variable, depending on the question as it is written, student reading abilities and the text being assigned.

Data analysis: To determine the degrees of challenge that our students are likely to experience with the textbook, it is instructive to review our categorisations of textbook comprehension activities. If the mandated textbook lacks sufficiently challenging comprehension tasks, we can supplement mandated materials with teacher-designed comprehension tasks that fall on the more challenging end of the continuum. We would want to take this step because there is evidence that more demanding questions (a) involve deeper and more thoughtful processing and (b) lead to substantial language learning (Nation, 2009).

Time needed: Minimal time is required for document gathering and the creation of a simple record-keeping sheet. Whether we work alone or with a colleague, we will need out-of-class time to analyse comprehension activities and categorise them into the four categories indicated in Table 9.5.

Resources needed: Mandated reading materials and a simple record-keeping sheet.

9.2.2 Exposure to non-linear text in mandated reading materials

Purpose: Skilled readers are able to process linear texts as well as **non-linear texts**, the latter including ‘traditional’ forms like charts, diagrams,

figures, graphs, illustrations, maps and tables. A quick inventory of such non-linear texts in mandated textbooks and workbooks can help teachers assess the range and frequency of non-linear reading experiences that students are likely to encounter. If the textbook has an accompanying Web site, we might want to look at non-linear features there as well, including the drop-down menus, side bars and links that students might encounter.

It is important to note that the notion of non-linear textuality has taken on new (and extended) meanings, in large part because reading on the Web (through online hypertext systems) involves different paths, with the beginning and end of a 'text' not at all well delineated. Readers on the Web have to decide where to start as well as how and where to proceed, as they navigate the site. If students are being asked to read on the Web, teachers might want to explore this more contemporary notion of non-linearity in another action research project.

Key question: How often are students exposed to non-linear texts of the traditional sort (e.g. charts, diagrams, figures, graphs, illustrations, maps, tables) in mandated reading materials?

Anticipated outcome(s): After creating an inventory of the non-linear texts included in the mandated textbook and workbook (and possibly companion Web site), we will have a better sense of the range of reading experiences that our students are having. The inventory will reveal non-linear text types that are not represented, or that are under-represented, in the curriculum. Later, when compiling supplementary texts for class and individualised reading assignments, we can attempt to find (or create) non-linear text types that are poorly represented in the curriculum, thereby ensuring more varied reading experiences for the class.

Primary way to collect data: Document gathering, tally sheet.

Data collection: We can create an inventory of the non-linear texts included in our instructional materials by filling out a grid (similar to the one in Figure 9.3) while paging through the chapters of the class textbook and accompanying workbook. We can simply insert tally marks in the appropriate columns and rows to complete the inventory.

Data analysis: A simple tabulation of tally marks will result in column and row totals. We can review those totals to determine the range and frequency of non-linear texts in the class textbook and workbook. Results should reveal which types of non-linear texts are well represented and which are poorly represented in classroom materials.

Time needed: Relatively little time is needed to create a tally sheet and to page through required materials.

Resources needed: Class textbooks and workshops; tally sheet.

Non-linear text types	Chapter 1		Chapter 2		Chapter 3		ROW TOTALS
	Textbk	Workbk	Textbk	Workbk	Textbk	Workbk	
Charts							
Diagrams							
Figures							
Graphs							
Illustrations							
Maps							
Pictures							
Tables							
Other							
COLUMN TOTALS							

Figure 9.3 Tally sheet for inventory of non-linear texts in required textbook and workbook

9.2.3 Goals of post-reading exercises

Purpose: Busy teachers often structure post-reading activities around the exercises included in the class textbook, without really considering the purpose(s) of the tasks. This action research project helps teachers (a) identify the goals of post-reading exercises in the course textbook and (b) discover post-reading emphases that may be neglected because of the limitations of the textbook. A follow-up project could involve surveying other L2 reading textbooks to discover alternative and additional ways of structuring post-reading activities. (Parallel action research projects could also be undertaken with pre-reading and during-reading activities.)

Key question: **What are the goals of the post-reading exercises included in required reading materials?**

Anticipated outcome(s): At the conclusion of this project, we will have a better grasp of the post-reading activities included in the reading materials that we use in class. Insights gained will guide us in supplementing current materials with new exercises and activities so that students have a more complete reading experience. Even a simple review of Figure 9.4 will broaden

our sense of what can be accomplished as part of the post-reading segment of our classes.

Primary way to collect data: Document gathering, record-keeping form.

Data collection: This project begins with a re-examination of textbook post-reading activities that have already been used in class (in the last month or two). Using a record-keeping form, like that in Figure 9.4, we will do our best to identify the goal(s) and/or sub-goal(s) (indented in Figure 9.4) of each post-reading task and jot down chapter and exercise item in the spaces provided (see example in section A of Figure 9.4). For example, a particular post-reading task could require students to compare and contrast components of the text with personal experiences (section B); another could require students to understand modal verbs in interpreting the text (section L). If the amount of data compiled in this way turns out to be minimal, we can extend the examination to include reading materials that are currently being used and/or those that will be used in the future.

Data analysis: To determine the range and frequency of different post-reading tasks, we can review our completed record-keeping sheet. We will use findings to consider ways of improving and supplementing post-reading activities so that our students have the opportunity to explore the texts that they are reading from a range of perspectives.

Time needed: The first step to be taken is to familiarise ourselves with the record-keeping sheet (Figure 9.4). If we choose to focus on post-reading tasks that have *already* been used in class, the time needed to re-examine them and fill in the tally sheet will not be extensive. More time will be needed if we examine tasks that we have not yet used with our students.

Resources needed: Post-reading tasks used in class; record-keeping sheet.

9.2.4 Sources of difficulty in course materials

Purpose: Course readings can challenge students in different ways and for different reasons. Difficulties often stem from students' lack of familiarity with the topic (and related vocabulary), but other text characteristics can place demands on student readers as well (see Hudson, 2007). Such characteristics include the following:

- absence of concrete examples
- abstract imagery
- abstract theorising
- assumed background knowledge
- conceptual complexity
- density of new ideas
- grammatical complexity
- overly long sentences
- poorly signalled organisation
- unfamiliar vocabulary

Goals and sub-goals (the latter indented) for post-reading exercises	
A. <u>Ch 3, ex 6</u>	Classify information
<u>Ch 3, ex 6</u>	Categorise information
_____	Describe objects
_____	List perspectives or items of information
<u>Ch 3, ex 6</u>	Place information into a graphic organiser
B. _____	Compare and contrast
_____	Compare and contrast components of the text with personal experiences
_____	Compare and contrast elements of the text with elements of other texts
_____	Compare and contrast people, events or things within the text
C. _____	Consider author's point of view
_____	Identify author's biases
_____	Identify author's intent or purpose
D. _____	Consider vocabulary
_____	Extend meaning of a word used in the text in terms of personal lives
_____	Identify words that connect one idea to another
_____	Identify words that signal movement from one section to another (transitions)
_____	Recognise morphological clues to word meanings
_____	Understand multiple meanings of words
_____	Understand the meaning of a particular word
E. _____	Explore causal relations
_____	Recognise cause-and-effect relations that are explicitly stated in the text
_____	Recognise cause-and-effect relations that are inferred in the text
F. _____	Generalise
_____	Generalise from one text to another
_____	Generalise from text to personal experiences
G. _____	Identify main idea and details
_____	Identify ideas that support the main idea
_____	Identify the main idea of the text
_____	Recall/restate/paraphrase information
_____	Summarise
H. _____	Indicate sequence
_____	Ascertain chronological sequence
_____	Recognise a sequence of events
_____	Reconstruct plot, story line
_____	Trace development of argument
I. _____	Make connections
_____	Establish connections with other readings on the same topic
_____	Link content of text with personal experience or background knowledge
_____	Suggest practical applications of ideas in the text

Figure 9.4 Potential sources of difficulty in assigned readings

J.	_____	Make judgements
	_____	Consider significance of text
	_____	Distinguish fact from opinion
	_____	Draw conclusions
	_____	Elicit personal response from readers (like/dislike; agree/disagree)
	_____	Evaluate characters, incidents, ideas, arguments
	_____	Evaluate usefulness, truthfulness, etc.
	_____	Extend interpretation
	_____	Recognise bias
	_____	Understand what is implied versus what is stated
	_____	Weigh evidence
K.	_____	Predict
	_____	Speculate about what happened before
	_____	Think ahead to what may happen in the future
L.	_____	Show understanding of grammatical relations
	_____	Consider role of impersonal subjects
	_____	Explore role of definite and indefinite articles as information-signalling devices
	_____	Find main clauses in complex sentences
	_____	Identify relative clauses
	_____	Understand complex tense uses
	_____	Understand the role of modal verbs
	_____	Understand uses of complex noun phrases in subject position
	_____	Understand uses of passive structures
	_____	Understand what or who specific pronouns refer to
M.	_____	Other

Figure 9.4 Continued

Because one of the aims of reading teachers is to make texts accessible to students, teachers must vary their reading lessons in response to the demands placed on the reader by the text itself. In planning meaningful lessons, teachers should preview passages that are to be assigned with an eye toward identifying the difficulties that their students might face.

Key question: What difficulties are students likely to encounter with required course readings?

Anticipated outcome(s): This action research project could lead to several useful outcomes. A careful analysis of reading passages before they are actually assigned – to identify text characteristics that are likely to cause difficulties for students – will make it easier for us to make texts accessible to our students. Instead of following a standard template for our reading lessons, classes can be planned to address difficulties head-on. In this way, we will help students develop strategies for making sense of challenging texts on their own over the course of a semester. In addition, this new perspective on students' reading experiences will help us become more

understanding and compassionate when grading related assignments and providing students with feedback on their reading performance.

Primary way to collect data: Document gathering, checklist.

Data collection: Alone (or with colleagues using the same materials), we begin by assessing the key reading passages in each chapter of the textbook. We ought to use a separate checklist (like the one in Figure 9.5) to record the sources of potential difficulty in each passage. If there is time, we can follow similar steps with secondary passages and supplementary readings, if they are being used.

Title of reading passage: _____ Source(s) of potential difficulty for students _____ Absence of concrete examples _____ Abstract imagery _____ Abstract theorising _____ Assumed background knowledge by the author _____ Clarity of writing _____ Conceptual complexity _____ Density of new ideas _____ Formatting _____ Grammatical complexity _____ Length of sentences _____ Length of text _____ New conceptual knowledge _____ Organisation (e.g. poorly signalled) _____ Unfamiliar topic _____ Unfamiliar vocabulary (or new meanings of vocabulary) _____ Other _____

Figure 9.5 Potential sources of difficulty in assigned readings

Data analysis: We can make the most of this action research project by analysing completed checklists from three perspectives: (a) the challenges associated with each reading passage, (b) the sequencing of challenges that students are likely to encounter (from the beginning to the end of the textbook) and (c) students' overall reading experiences. Initially, we will review checklists one at a time to determine the most serious challenges that students are likely to face with each passage. At this stage, we can jot down ideas about how we might address potential difficulties to make the passage more accessible to our students.

We can then sketch out, on something like a timeline, the challenges that students are likely to face as they progress from one reading passage to the next, throughout the semester. While reviewing all our checklists and creating this timeline, we can consider questions such as these:

- Do passages become more cognitively challenging as the semester progresses?
- Do similar challenges surface repeatedly?
- Should the sequencing of reading passages be altered in some way so that students progress from less to more difficult passages?
- Should extra instructional time be allotted for certain readings because of their levels of difficulty?

Finally, we can focus on the students' overall reading experiences emerging from the semester-long curriculum by considering questions such as these:

- Are the readings challenging enough or too challenging?
- Will students encounter concepts that challenge common beliefs, general knowledge or reasoning?
- Will students be exposed to strategies to handle different types of challenges?
- Is the level of difficulty going to cause unnecessary student anxiety and frustration?
- Are students set up to have some successful reading experiences with this set of reading?
- Should I supplement key readings with easier or more challenging readings?

The answers to questions such as these should assist us in planning individual lessons and designing a reading curriculum with the proper balance of challenge and opportunities for reading success.

Time needed: Initially, we need to tailor the checklist (Figure 9.5) to our needs and make multiple copies of it. We then read and evaluate key textbook passages for sources of potential difficulty. Much of this work can be done before the semester begins.

Resources needed: Course readings, multiple copies of the checklist.

9.3 Extensive reading action research project

The development of fluent reading abilities is heavily dependent upon students' experiences of reading extended texts for extended periods of time. Research has shown that students who read independently, read for enjoyment, check out books from the library and read for extended amounts of time (a) develop stronger reading comprehension abilities (Day and Bamford, 1998; Stanovich, 2000) and (b) develop more positive attitudes toward reading (e.g. Wang and Guthrie, 2004). Despite the importance of

extensive reading, surprisingly few reading programmes make a commitment to it (Grabe, 2009; cf. Macalister, 2008). Among the numerous obstacles that prevent programmes from making a commitment to extensive reading is the need for easily accessible reading resources, including class libraries, multiple copies of reading materials, age-appropriate materials and materials for students with different interests (Grabe, 2009).

Quote 9.4

Extensive reading has an important place in the L2 curriculum because key aspects of linguistic competence cannot readily be acquired without it.

Horst (2009, p. 41)

9.3.1 Inventory of available extensive reading materials

Purpose: There is plenty of evidence that large amounts of reading, when carried out consistently over an extended period of time, will improve students' reading abilities (Day and Bamford, 1998; Grabe, 2009). To make extensive reading a reality, plentiful reading resources are needed. Before asking for monetary resources – if they are available – to build up a collection of extensive reading materials for different reading proficiency levels and age groups, it is worthwhile surveying the school library, labs and classrooms, community resources and the Web to see what is available.

Key question: What extensive reading resources exist in the school? in the community? on the Web? What extensive reading resources are needed?

Anticipated outcome(s): The goal here is to locate reading resources that can be used for a classroom or school-wide extensive reading programme. The information gathered for this project will assist us in either bringing together reading resources to enable a commitment to extensive reading or making a case for the allotment of funds (or donations) for an extensive reading collection.

Primary way to collect data: Document search.

Data collection: Working alone or in collaboration with the school librarian and interested colleagues, we work toward discovering what reading materials exist in the school (e.g. in the library, labs, classrooms, closets and cupboards), in the community (e.g. in students' homes, from book stores) and on the Web that can be used for extensive reading.

Data analysis: Whatever reading resources are found can be categorised to determine if, in fact, interesting, attractive, easily accessible and varied

materials are available. Possible categories include the following: serious and fun, fiction and non-fiction, school-related and hobby-related, short and long, easy and challenging, age-appropriate and reading-level-appropriate, simplified and unsimplified. The number of materials found will determine if sufficient materials are available for the creation of an extensive reading library – housed in a classroom, in the school library or a computer lab (the latter for Web sources).

Time needed: Variable, depending on the size of the school and community and the number of resources to be found.

Resources needed: Persistence.

9.3.2 Top ten principles of extensive reading

Purpose: Although definitions of extensive reading vary in the literature (e.g. Aebbersold and Field, 1997; Bamford and Day, 2002; Day and Bamford, 1998), four common threads run through them. They include (a) quantity of reading, (b) reading for general meaning, (c) reading for pleasure and (d) student selection of readings. Commonly referenced are Day and Bamford's 'top ten' principles of extensive reading (Day and Bamford, 1998; see also Day and Bamford, 2002). See Table 9.6. The primary goal of this action research project is to determine the extent to which an already existing extensive reading programme abides by these ten principles. (For another set of principles, see Aebbersold and Field, 1997.)

Key question: **To what extent does our extensive reading programme meet the top ten principles advocated by extensive reading specialists Day and Bamford (1998)?**

Anticipated outcome(s): This action research project should lead to a better understanding of current extensive reading practices in our institutions. A comparison of the major features of our own extensive reading programmes with Day and Bamford's top ten principles will reveal similarities and differences between the two. We can decide if differences are justifiable, because of context-specific factors, or if modifications are worth striving for.

Primary way to collect data: Retrospective evaluation and comparison grid.

Data collection: We can accomplish the most on this project by working with other teachers (and staff) who are actively involved in the school's extensive reading programme. The goal is a retrospective evaluation of the programme. In frank discussions, we compare the features of our extensive reading programme with the principles outlined by Day and Bamford. Using a chart like the one in Figure 9.6, the team documents (in column B) extensive reading practices that match or mismatch the principles set forth by Day and Bamford. Where mismatches occur, differences are explained and a rationale is provided for current practices (in column C).

Table 9.6 Top ten principles of an extensive reading programme

1. *Students read as much as possible*, perhaps in and definitely out of the classroom.
2. *A variety of materials on a wide range of topics is available* so as to encourage reading for different reasons and in different ways.
3. *Students select what they want to read* and have the freedom to stop reading material that fails to interest them.
4. *The purposes of reading are generally related to pleasure, information, and general understanding.* These purposes are determined by the nature of the material and the interests of the student.
5. *Reading is its own reward.* There are few or no follow-up exercises after reading.
6. *Reading materials are well within the linguistic competence of the students* in terms of vocabulary and grammar. Dictionaries are rarely used while reading because the constant stopping to look up words makes fluent reading difficult.
7. *Reading is individual and silent*, at the student's own pace, and, outside class, done when and where the student chooses.
8. *Reading speed is usually faster rather than slower* as students read books and material they find easily understandable.
9. *Teachers orient students to the goals of the programme*, explain the methodology, keep track of what each student reads, and guide students in getting the most out of the programme.
10. *The teacher is a role model of a reader for students* – an active member of the classroom reading community, demonstrating what it means to be a reader and the rewards of being a reader.

(From Day and Bamford, 1998, pp. 7–8; see also Day and Bamford, 2002)

A Day and Bamford's (1998) extensive reading principles	B Our extensive reading practices: Match or mismatch with Day and Bamford	C Explanation of mismatch and rationale for current practice(s)	D Recommendation: Modify current practices or leave them as they are
1. Students read as much as possible, perhaps in and definitely out of the classroom.			
2.			

Figure 9.6 Comparison grid that facilitates a retrospective evaluation of one's extensive reading programme

Data analysis: As a team, we review columns A–C in our data-collection grid and decide if our extensive reading programme should remain as is or if changes are warranted. Recommendations are placed in column D. If changes are recommended, we will share the completed grid with our colleagues and school administrators and use it as a springboard for an institution-wide discussion of extensive reading practices.

Time needed: Team meetings, outside of class, are necessary.

Resources needed: Grid.

9.4 Additional action research questions

The three areas explored in this chapter have the potential for countless action research projects. We list a few additional questions here that might spark the interests of teachers in different settings. The questions are organised by our three targeted areas: reading-lesson stages, reading materials and extensive reading.

9.4.1 Questions related to reading-lesson stages

Additional questions related to reading-lesson stages include, but are not limited to, the following:

- How can I integrate graphic organisers into pre-reading (or during-reading, post-reading) activities?
- What role do I take on during post-reading discussions: teacher or evaluator?
- Which stages of a reading lesson are best served by group work?
- What goals am I fulfilling in each stage of my reading lessons (see Table 9.2)?
- How can I build student interest in readings that are not inherently interesting to them initially?
- What reading strategies am I modelling (or giving students the chance to practise) at each stage of the reading lesson?
- How can I integrate text highlighting, marginal notes, outlining and note taking into the during-reading segment of my classes?

9.4.2 Questions related to reading materials

Additional questions related to reading materials include, but are not limited to, the following:

- How suitable are mandated textbooks in terms of percentage of words unfamiliar to my students?
- How effective are the reading-to-write tasks that I design for my students?
- What benefits do students derive from using **reading guides**?
- How can I devise **jigsaw reading activities** to maximise student involvement in my reading lessons?
- What adaptations are needed to make mandated reading materials accessible to students (e.g. glosses, reading guides, divisions into smaller segments)?
- What kinds of fluency-development materials can I develop to supplement my textbook?
- What kinds of record-keeping charts can I develop to make it easy for students to keep track of their reading and their reading progress? How responsive are students to record-keeping charts?

9.4.3 Questions related to extensive reading

Additional questions related to extensive reading include, but are not limited to, the following:

- Which graded readers would be most suitable for my students? (See Further Reading at the end of the chapter.)
- What online resources could be compiled to create an electronic extensive reading collection?
- What kinds of record-keeping forms can I create for students to keep track of their extensive reading? How responsive are students to the charts?
- Which extensive reading materials are students checking out most frequently? least frequently?
- Which of the obstacles mentioned by Hedgcock and Ferris (2009) are holding back the extensive reading programme: time, curricular constraints, limited resources or learner resistance?
- How much time do students spend on extensive reading in class and at home each week?
- What kinds of encouragement do I give students to maintain continued engagement with extensive reading?

These lists of action research questions, which could easily be expanded, should be viewed as a sampling of options that teachers have available to them for meaningful action research.

9.5 Conclusion

In this chapter, we have sketched out nine action research projects that showcase some ways in which reading teachers can investigate select aspects of reading instruction, including reading-lesson stages, reading materials and extensive reading practices. Action research projects on these broad areas are virtually limitless. We hope that the model projects presented here, as well as the additional questions listed above, motivate teachers to become involved in action research.

Quote 9.5

Doing [action research] can reinvigorate our teaching, lead to positive change, raise our awareness of the complexities of our work, and show us what drives our personal approaches to teaching.

Burns (2010, P. 7)

Further reading

Citations that appear frequently in the chapter represent key sources for further details. Some other useful references, beyond those referred to in this chapter and in Chapter 10 (10.4, 10.5 and 10.7), are noted here. For additional readings on

- *jigsaw reading procedures and other reading-related classroom activities*, see Aebersold and Field (1997), Anderson (2008b, 2009), Nuttall (2005)
- *pre-reading, during-reading and post-reading activities*, see Hess (1991), Stoller (1994)
- *effects of previewing and providing background knowledge as part of pre-reading*, see Chen and Graves, 1995
- *extensive reading*, see Bamford and Day (2002), Day and Bamford (1998, 2002), Horst (2005), Pigada and Schmitt (2006), Yamashita (2008)
- *graded readers*, see Hill (2008)
- *extensive reading libraries for adult literacy learners*, see Rodrigo et al. (2007)
- *materials development for the reading classroom*, see Evans, Hartshorn and Anderson (2010)

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Section

V Resources

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Resources for exploring L2 reading

In this chapter, we list select resources related to the teaching and researching of reading. (Other resources appear in the Further reading sections of each chapter and in the References section at the end of the book.) These resources can assist teachers in improving instruction in their classrooms and can guide them in conducting meaningful action research. We have divided the resources into the following ten sections:

- Journals dedicated to reading and related issues
- Journals that report studies related to reading and reading-related topics
- Journals that periodically have articles related to teaching (and researching) L2 reading
- L2 teacher resource books on reading and related topics
- L1 teacher resource books with good ideas for L2 reading teachers
- Teacher resources on action research
- Web sites on reading and vocabulary
- Web sites on graphic organisers
- Web sites on action research
- Professional organisations of interest to reading teachers

10.1 Journals dedicated to reading and related issues

Journal of Adolescent & Adult Literacy (formerly *Journal of Reading*)
Journal of Literacy Research (formerly *Journal of Reading Behavior*)
Journal of Research in Reading

Language & Literacy: A Canadian Educational E-Journal (online journal)
Literacy Research and Instruction (formerly *Reading Research and Instruction*)
Reading and Writing
Reading & Writing Quarterly
Reading in a Foreign Language
The Reading Matrix: An International Online Journal
Reading Online (An electronic journal of the International Reading Association)
Reading Psychology
Reading Research Quarterly
The Reading Teacher
Scientific Studies of Reading

10.2 Journals that report studies related to reading and reading-related topics

Applied Linguistics
Applied Psycholinguistics
Australian Review of Applied Linguistics
Canadian Modern Language Review
Elementary School Journal
Journal of Educational Psychology
Language Learning: A Journal of Research in Language Studies
Language Learning & Technology
Language Teaching
Language Teaching Research
Language Testing
The Modern Language Journal
Second Language Research
Studies in Second Language Acquisition
System
TESOL Quarterly

10.3 Journals that periodically have articles related to teaching (and researching) L2 reading

Applied Language Learning
ELT Journal
English for Specific Purposes

English Teaching Forum
Foreign Language Annals
Internet TESL Journal
Journal of English for Academic Purposes
The Language Teacher
Prospect: A Journal of Australian TESOL
TESL-EJ (Teaching English as a Second or Foreign Language: An Electronic Journal)
TESL Canada Journal/La Revue TESL du Canada
TESOL Journal

10.4 L2 teacher resource books on reading and related topics

- Aebersold, J. A. and Field, M. L. (1997) *From reader to reading teacher: Issues and strategies for second language classrooms*. New York: Cambridge University Press.
- Anderson, N. J. (1999) *Exploring second language reading: Issues and strategies*. Boston, MA: Heinle & Heinle.
- Anderson, N. J. (2008) *Practical English language teaching: Reading*. New York: McGraw-Hill.
- Bamford, J. and Day, R. R. (eds) (2002) *Extensive reading activities for teaching language*. Cambridge: Cambridge University Press.
- Bernhardt, E. (2011) *Understanding advanced second-language reading*. New York: Routledge.
- Birch, B. (2007) *English L2 reading: Getting to the bottom* (2nd edn). Mahwah, NJ: Lawrence Erlbaum.
- Calderón, M. (2007) *Teaching reading to English language learners, grades 6–12*. Thousand Oaks, CA: Corwin Press.
- Chapelle, C. A. and Jamieson, J. (2008) *Tips for teaching with CALL: Practical approaches to computer-assisted language learning*. New York: Pearson Longman.
- Cohen, R. (2009) (ed.) *Explorations in second language reading*. Alexandria, VA: TESOL.
- Coxhead, A. (2006) *Essentials of teaching academic vocabulary*. Boston, MA: Houghton Mifflin.
- Day, R. R. (ed.) (1993) *New ways in teaching reading*. Alexandria, VA: TESOL.
- Day, R. R. and Bamford, J. (1998) *Extensive reading in the second language classroom*. New York: Cambridge University Press.
- Farrell, T. S. C. (2008) *Teaching reading to English language learners: A reflective guide*. Thousand Oaks, CA: Corwin Press.

- Folse, K. S. (2004) *Vocabulary myths: Applying second language research to classroom teaching*. Ann Arbor, MI: University of Michigan Press.
- Grabe, W. (2009) *Reading in a second language: Moving from theory to practice*. New York: Cambridge University Press.
- Han, Z.-H. and Anderson, N. J. (eds) (2009) *Second language reading research and instruction: Crossing the boundaries*. Ann Arbor, MI: University of Michigan Press.
- Hedgcock, J. S. and Ferris, D. R. (2009) *Teaching readers of English: Students, texts, and contexts*. New York: Routledge.
- Hess, N. (1991) *Headstarts: One hundred original pre-text activities*. Harlow, UK: Longman.
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- Khalifa, H. and Weir, C. J. (2009) *Examining reading: Research and practice in assessing second language reading*. Cambridge, UK: Cambridge University Press.
- Mokhtari, K. and Sheorey, R. (eds) (2008) *Reading strategies of first- and second-language learners: See how they read*. Norwood, MA: Christopher-Gordon.
- Nation, I. S. P. (2001) *Learning vocabulary in another language*. New York: Cambridge University Press.
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- Nuttall, C. (2005) *Teaching reading skills in a foreign language* (3rd edn). Oxford, UK: Heinemann.
- Samway, K. D., Whang, G. and Pippitt, M. (1995) *Buddy reading: Cross-age tutoring in a multicultural school*. Portsmouth, NH: Heinemann.
- Schmitt, N. (2000) *Vocabulary in language teaching*. New York: Cambridge University Press.
- Schmitt, N. (2010) *Researching vocabulary: A vocabulary research manual*. Basingstoke, UK: Palgrave Macmillan.
- Seymour, S. and Walsh, L. (2006) *Essentials of teaching academic reading*. Boston, MA: Houghton Mifflin.
- Urquhart, A. H. and Weir, C. (1998) *Reading in a second language: Process, product and practice*. New York: Longman.
- Zimmerman, C. B. (2009) *Word knowledge: A vocabulary teacher's handbook*. New York: Oxford University Press.

10.5 L1 teacher resource books with good ideas for L2 reading teachers

- Baumann, J. and Kame'enui, E. (eds) (2004) *Vocabulary instruction: Research to practice*. New York: Guilford Press.
- Beck, I. L. and McKeown, M. G. (2006) *Improving comprehension with Questioning the Author: A fresh and expanded view of a powerful approach*. New York: Scholastic.
- Beck, I. L., McKeown, M. G. and Kucan, L. (2002) *Bringing words to life: Robust vocabulary instruction*. New York: Guilford Press.
- Blevins, W. (2001) *Building fluency: Lessons and strategies for reading success*. New York: Scholastic.
- Farstrup, A. and Samuels, S. (eds) (2002) *What research has to say about reading instruction* (3rd edn). Newark, DE: International Reading Association.
- Fry, E. B. and Kress, J. E. (2006) *The reading teacher's book of lists* (5th edn). San Francisco, CA: John Wiley & Sons.
- Gaskins, I. W. and Elliot, T. (1991) *Implementing cognitive strategy instruction across the school*. Brookline, MA: Brookline Books.
- Graves, M. F., Juel, C. and Graves, B. B. (2006) *Teaching reading in the 21st century* (4th edn). Boston, MA: Allyn & Bacon.
- Guthrie, J. T. (ed.) (2008) *Engaging adolescents in reading*. Thousand Oaks, CA: Corwin Press.
- Guthrie, J. T., Wigfield, A. and Perencevich, K. C. (eds) (2004) *Motivating reading comprehension: Concept-Oriented Reading Instruction*. Mahwah, NJ: Lawrence Erlbaum.
- Kuhn, M. R. and Schwanenflugel, P. J. (eds) (2008) *Fluency in the classroom*. New York: Guilford Press.
- McCardle, P. and Chhabra, V. (eds) (2004) *The voice of evidence in reading research*. Baltimore: Paul H. Brookes.
- McCardle, P., Chhabra, V. and Kapinus, B. (2008) *Reading research in action: A teacher's guide for student success*. Baltimore: Paul H. Brookes.
- McKenna, M. C. and Robinson, R. D. (2008) *Teaching through text: Reading and writing in the content areas*. Boston: Allyn & Bacon.
- Moskal, M. K. and Blachowicz, C. (2006) *Partnering for fluency*. New York: Guilford Press.
- Opitz, M. F. (2007) *Don't speed. Read! 12 steps to smart and sensible fluency instruction*. New York: Scholastic.
- Pearl, N. (2007) *Book crush: For kids and teens – recommended reading for every mood, moment, and interest*. Seattle, WA: Sasquatch Books.
- Pressley, M. (2006) *Reading instruction that works* (3rd edn). New York: Guilford Press.

- Pressley, M., Billman, A., Perry, K., Reffitt, K. and Reynolds, J. (eds) (2007) *Shaping literacy achievement*. New York: Guilford Press.
- Pressley, M., Dolezal, S., Raphael, L., Mohan, L., Roehrig, A. and Bogner, K. (2003) *Motivating primary-grade students*. New York: Guilford Press.
- Pressley, M. and Woloshyn, V. (1995) *Cognitive strategy instruction that really improves children's academic performance* (2nd edn). Cambridge, MA: Brookline Books.
- Rasinski, T. V. (2003) *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension*. New York: Scholastic Books.
- Rasinski, T., Blachowicz, C. and Lems, K. (eds) (2006) *Fluency instruction: Research-based best practices*. New York: Guilford Press.
- Readence, J. E., Bean, T. W. and Baldwin, R. S. (2004) *Content area literacy: An integrated approach* (8th edn). Dubuque, IA: Kendall/Hunt.
- Swan, E. A. (2003) *Concept-oriented reading instruction: Engaging classrooms, lifelong learners*. New York: Guilford Press.
- Tierney, R. J. and Readence, J. E. (2004) *Reading strategies and practices: A compendium* (6th edn). Boston: Pearson.
- Vacca, R. and Vacca, J. (2008) *Content area reading: Literacy and learning across the curriculum* (9th edn). New York: Allyn & Bacon.

10.6 Teacher resources on action research

- Borg, S. (2006) Conditions for teacher research. *English Teaching Forum*, 44(4), 22–7.
- Borg, S. (ed.) (2006) *Language teacher research in Europe*. Alexandria, VA: TESOL.
- Burns, A. (1999) *Collaborative action research for English language teachers*. New York: Cambridge University Press.
- Burns, A. (2010) *Doing action research in English language teaching: A guide for practitioners*. New York: Routledge.
- Burns, A. and Burton, J. (eds) (2008) *Language teacher research in Australia and New Zealand*. Alexandria, VA: TESOL.
- Coombe, C. and Barlow, L. (eds) (2007) *Language teacher research in the Middle East*. Alexandria, VA: TESOL.
- Edge, J. (ed.) (2001) *Action research: Case studies in TESOL*. Alexandria, VA: TESOL.
- Edge, J. and Richards, K. (eds) (1993) *Teachers develop teachers' research: Papers on classroom research and teacher development*. Portsmouth, NH: Heinemann.
- Educational Action Research* (refereed international journal).
- Farrell, T. S. C. (ed.) (2006) *Language teacher research in Asia*. Alexandria, VA: TESOL.

- Farrell, T. S. C. (2007) *Reflective language teaching: From research to practice*. London: Continuum.
- Freeman, D. (1998) *Doing teacher research: From inquiry to understanding*. Boston, MA: Heinle & Heinle.
- Makalela, L. (ed.) (2009) *Language teacher research in Africa*. Alexandria, VA: TESOL.
- McGarrell, H. M. (ed.) (2007) *Language teacher research in the Americas*. Alexandria, VA: TESOL.
- Richards, J. C. and Farrell, T. S. C. (2005) *Professional development for language teachers: Strategies for teacher learning*. New York: Cambridge University Press.
- Wallace, M. J. (1998) *Action research for language teachers*. New York: Cambridge University Press.

10.7 Web sites on reading and vocabulary

Extensive Reading Foundation:

www.erfoundation.org/index.html

Repository for information on extensive reading:

<http://extensivereading.net/er/index.html>

ReadThinkWrite NCTE and IRA site for teachers:

www.readwritethink.org/index.asp

List of reading strategies with links to an overview and procedures for each strategy:

www.learningpt.org/expertise/literacy/bestpractices/strategies.php

International Reading Association teacher resources:

www.reading.org/Resources/Radio.aspx

Education Northwest Teacher Resources:

<http://educationnorthwest.org/resources>

National Literacy Trust (UK) reading teacher resources:

www.literacytrust.org.uk

National Council of Teaching English (NCTE) site with links to resources for elementary, middle, secondary and college teachers:

www.ncte.org

Resource database with references to articles and publications on national and international literacy programmes, research and projects:

www.literacy.org

Paul Nation's home page with links to many vocabulary and reading fluency resources:

www.victoria.ac.nz/lals/staff/paul-nation/nation.aspx

Paul Nation's online seminars on reading and vocabulary:

www.compasspub.com/english/book/book_view.asp?h_seq=1110

Compleat Lexical Tutor:

www.lextutor.ca

Sites that provide access to various word lists and information about them:

www.victoria.ac.nz/lals/resources/academicwordlist

www.nottingham.ac.uk/~alzsh3/acvocab/index.htm

www.duboislc.org/EducationWatch/First100Words.html

www.teaching-english-in-japan.net/directory/cat/84

jbauman.com/aboutgsl.html

Vocabulary exercises for the Academic Word List:

www.academicvocabularyexercises.com

10.8 Web sites on graphic organisers

Jiang, X. and Grabe, W. (2007) Graphic organizers in reading instruction: Research findings and issues. *Reading in a Foreign Language*, 19: 34–55.

<http://nflrc.hawaii.edu/rfl/April2007/jiang.html>

Graphic organisers for reading teachers:

<http://community.wvu.edu/~xj002>

Comprehensive site on graphic organisers that leads to numerous useful links, including those to help teachers make graphic organisers on their own:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/graphicorganizers/index.html>

Rationale for using graphic organisers in the classroom and illustration of steps for using customisable graphic organisers. Overview that itemises the thinking skills and language structures that specific graphic organisers target:

www.carla.umn.edu/cobaltr/modules/strategies/gorganizers/index.html

Inventory of different graphic organisers, with multiple links:

www.ncrel.org/sdrs/areas/issues/students/learning/lr1grorg.htm

www.somers.k12.ny.us/intranet/skills/thinkmaps.html

Downloadable graphic organisers and teacher notes:

<http://my.hrw.com/nsmedia/intgos/html/igo.htm>

10.9 Web sites on action research

Crookes, G. (1993) Action research for second language teachers – going beyond teacher research. *Applied Linguistics*, 14(2): 130–44.

www2.hawaii.edu/~crookes/acres.html

Hadley, G. (ed.) (2006) *Action research in action*. [RELC Portfolio Series 8.] Singapore: SEAMEO.

www.nuis.ac.jp/~hadley/publication/relcar/action-research.pdf

- Hayman, A. (1999) Action research: A tool for improving practice in EFL classrooms. *The Language Teacher Online*:
www.jalt-publications.org/tlt/articles/1999/12/hayman
- Mann, S. (1999) Opening the insider's eye: Starting action research. *The Language Teacher Online*:
<http://wrap.warwick.ac.uk/3235>
- NETWORKS: An On-Line Journal for Teacher Research*.
<http://journals.library.wisc.edu/index.php/networks>

10.10 Professional organisations of interest to reading teachers¹

- American Educational Research Association (AERA)
Association Internationale de Linguistique Appliquée (AILA)/International Association of Applied Linguistics
Australian Council of TESOL Associations
International Association of Teachers of English as a Foreign Language (IATEFL)
International Reading Association (IRA)
Japan Association of Language Teaching (JALT)
National Reading Conference (NRC)
Regional English Language Center (RELC) (Associated with the Southeast Asian Ministers of Education Organization, SEAMEO)
Teachers of English to Speakers of Other Languages (TESOL)

¹ Consult organisations' Web sites for affiliates.

Glossary

Note: Page number in parentheses after each term indicates the first significant use of the term. Words in italics can be found elsewhere in the glossary.

action research (p.xiv) Type of teacher-initiated research. Teachers look critically and systematically at their own classrooms for the purposes of improving their own teaching and enhancing the quality of learning that takes place.

alphabetic principle (p.64) Principle that written spellings systematically represent spoken words. One can transfer *letter-sound knowledge* to new words.

analysis of word parts (p.186) Vocabulary-building activity in which students break down words into their smallest parts to identify prefixes, suffixes and stems.

assessment for learning (p.157) use of student feedback and teacher feedback to support learning and raise students' awareness of ways to improve learning.

automaticity (p.15) Ability to carry out a skill accurately and rapidly, without being able to reflect on the processes involved, and without being able to suppress the skill.

background knowledge (p.6) Prior knowledge that readers utilise in interpreting a text. This includes general, cultural and topic-specific knowledge.

basal curriculum (p.76) Curriculum centred around basal (or basic) readers, textbooks used to teach reading and associated skills (mainly to schoolchildren from grades 1–6). A standard basal series comes with fairly thick hard-cover readers for students and a collection of workbooks, assessment tools and activities.

book flood programme (p.204) A reading programme in which students are provided with large amounts of interesting reading material, designed to be read, discussed and shared in a variety of ways.

bottom-up models of reading (p.25) Metaphorical depiction of reading as a mechanical process in which the reader creates a unit-by-unit mental translation of the information in the text, with little interference from the reader's own background knowledge.

case study (p.90) Research method that involves gathering and analysing data about an individual example as a way of studying a broader phenomenon. A case may be a single student, a group of learners or a whole class.

cognates (p.40) Words, related in origin, with similar forms and meanings in another language.

collocation (p.140) Ways in which words combine with one another regularly (e.g. operating room, consumer spending, vanilla ice cream).

concepts about print (p.64) Preliminary knowledge of how text works: for example, opening a book properly, recognising the beginning of a book, knowing the direction in which print is read, having some elementary knowledge of the orthography.

connectionist theories (p.28) Theories of how cognitive processes work, reflecting likely psychological correlates to the brain's neurological structure. In their most current versions, they provide strong accounts for word-recognition processes, vocabulary knowledge and learning and the development of syntactic knowledge (see Ellis, 1999, for an introduction).

constructivist models of reading (p.30) Models of reading comprehension and interpretation that derive from the perspective of the reader. Because readers actively construct their comprehension of a text, text meaning is essentially what the reader determines the text to mean. These theories are useful for understanding how literary texts can be understood in multiple ways and at multiple levels by different readers. However, as theories of reading, they offer no detailed explanation for the development of reading abilities; rather, they assume acceptable comprehension and interpretive levels from the outset. Nor do they offer explanations for how expository texts are used for learning new material or how procedural texts are to be understood appropriately.

content-based instruction (p.155) Overarching term referring to instructional approaches that make a dual, though not necessarily equal, commitment to language- and content-learning objectives. (See also Concept 5.5.)

control group (p.64) A group (of students) used as a standard of comparison in a controlled experiment that does not receive the *treatment* that the researcher is interested in. A group that, ideally, differs from the experimental group only in terms of the single factor that the researcher is investigating.

correlation (p.71) The extent to which two or more things are related; measure of the strength of the relationship between two sets of data. For example, as vocabulary knowledge increases so does reading comprehension ability. Correlations are reported on a scale from .00 to 1.00. There are multiple correlation formulas; the most common one is the Pearson correlation. Correlation indicates a *potential relationship* but it does not indicate that one variable *caused* the occurrence of the other.

discourse knowledge (p.37) Knowledge of *discourse organisation*.

discourse organisation (p.21) Structural framework of discourse. Patterns and features of discourse that reflect *genre*, writers' intentions, flow of information, *text structure* and types of information being presented. (For us, discourse organisation is a more general term than *genre*, *rhetorical organisation* and *text structure*.)

discourse structure (p.37) See *discourse organisation*.

executive control processing/processor (p.22) Operation of working memory that focuses attention selectively, attends to priority tasks, allocates task operations strategically, sets goals for reading, monitors comprehension and repairs comprehension problems.

experimental group (p.113) See *treatment group*.

exposure to print (p.16) Total amount of reading done by learners over a long period of time.

extensive reading (p.77) Approach to the teaching and learning of reading in which learners read large quantities of material that are within their linguistic competence.

fluency (p.34) Fluency in reading involves a combination of speed, accuracy and fluidity of processing. Fluency is a relative concept that must take into consideration reading task, reading topic, reader's age and amount of L2 exposure. (See also Concept 3.1.)

free written recall (measure) (p.105) Measure of a person's ability to reconstruct information from a text at some point after having read the text. No specific ordering of text information is required for the recall. Supporting cues for recall are sometimes provided. Research studies can also use free spoken recall measures where students provide oral recalls of some information from a reading (usually in their L1s).

genre (p.22) Means for organising formal aspects of a text to reflect specific functional intentions of a group, discipline or culture. Genres (e.g. poetry, mysteries, want ads, letters of recommendation, academic journal articles, sermons) have specific aims, expectations and defining characteristics.

graded readers (p.106) A series of books, usually for L2 students, ranked by vocabulary level, grammar structures or another level of difficulty, rather than by grade level. Students who are learning to read or learning a language read them. The students gradually work through the series as they become ready for more challenging vocabulary, grammar, length, etc.

graphic organiser (p.230) Visual frame used to represent and organise information (e.g. Venn diagram, timeline, pie chart).

incidental learning (p.197) Learning that occurs without focusing on specific information. It may or may not require some level of conscious attention. In discussions of reading, readers read to understand the text, not to learn the words in the text. Nonetheless, readers notice and attend to words as they move through texts, even if only for very short periods of time. Some of these words are learned through incidental learning.

inferencing (p.7) Ability to draw a logical conclusion based on explicit information in a text and *background knowledge*.

informed consent (p.176) Term used to record that a person willingly agrees to participate in a research or action research project. It assumes that the participant understands the nature of the study, its implications and future consequences.

institutional review board (IRB) (p.176) A committee – at, for example, a school, school district, university or language programme – formally charged with ensuring that research is conducted ethically. The committee is responsible for approving and monitoring research with the aim of protecting participants. Sometimes an IRB is referred to as an ethical review board.

interactive models of reading (p.26) Metaphorical depictions of reading as some combination of bottom-up and top-down processes, though typically not a full combination of all aspects of *top-down* and *bottom-up models*.

interlocutor (p.70) A person who is actively engaged in conversation.

IRB (p.176) See *institutional review board*.

jigsaw reading activities (p.270) Instructional technique in which sub-groups of learners in a class are asked to read different parts of a text. The full picture is then pieced together, like a jigsaw, when members of different groups come together to complete a task.

KWHL (p.148) A graphic organiser, with four columns, designed to assist learners with reading (and other learning). It is an extension of the more traditional *KWL* chart (see below); it includes a ‘how’ (H) column that directs students’ attention to the students’ own strategy use.

KWL (p.82) A graphic organiser, with three columns, designed to assist learners with reading (and other learning). The KWL acronym stands for ‘Know’ (what the learner already knows), ‘Want to know’ (what the learner wants to learn while reading) and ‘Learned’ (what the learner has learned from reading). The K pre-reading strategy activates students’ background knowledge; the W pre-reading strategy guides students in establishing a purpose for reading; the L post-reading strategy helps students articulate what they have learned from reading.

Language Threshold (p.43) General level of second-language ability that allows a reader to understand a text fluently according to the reader’s purpose. Above the threshold, a reader is able to call on strategic reading processes (both first-language and second-language) effectively. The threshold varies with specific tasks, topics and reader purposes, but at some point with continuous practice in reading, the reader is able to read most texts at a level above the language threshold. (See also Concept 2.3.)

letter-sound knowledge (p.41) Ability to relate letters and sounds. Note that a sound may have more than one spelling (/f/ → f, ff, gh); and a spelling may have more than one sound (a → /a/ as in *have*, /ae/ as in *mad*, /e/ as in *made*).

letter-sound relationships (p.62) Consistent relations between a given letter and its phonemic variants, and a given sound and its orthographic variants.

lexical access (p.15) Rapid and automatic activation of word meanings in the lexicon. It is possible in second-language contexts to recognise a word (word recognition), but not have any useful meaning entry for that word stored in the lexicon.

lexical sets (p.186) Sets of words that have semantic or grammatical similarities (e.g. words for food, classroom terms, words related to botany, words for hedging, nouns, transition words, adverbs).

longitudinal study (p.72) Research that involves the study of the same learners over a period of time, usually for at least 5–6 months but often longer, sometimes up to several years.

meta-analysis (p.87) Advanced statistical technique that uses the results of individual research studies on the same topic for a summary statistical study of that topic; the result is a synthesis of findings from multiple

studies. It usually requires that studies include certain statistics (means and standard deviations), use an experimental design (experimental and control groups, pre-test and post-test), and report appropriate reliability statistics. Research questions are usually examined by comparing differences in effect-size statistics between experimental groups and control groups and averaging these effect sizes across all the relevant studies. The result is an overall effect-size statistic for the specific question. (An effect size of .20 is small; .50 is moderate, .80 or bigger is large.)

metacognitive awareness (p.38) See *metacognitive knowledge*.

metacognitive knowledge (p.39) Conscious awareness of one's knowledge. More specifically, the ability to reflect on what one knows (e.g. language awareness). Such knowledge allows a reader to plan, regulate and monitor learning and (in the context of this book) reading.

metalinguistic awareness (p.38) See *metalinguistic knowledge*.

metalinguistic knowledge (p.39) Conscious awareness of language that allows one to recognise and discuss linguistic categories such as nouns, verbs, subordinate clauses, word meanings, etc. (See also Concept 2.1.)

models of reading (p.24) Theories of the component skills, processes and knowledge bases involved in reading. Formal models are based on the results of empirical evidence and are typically confirmed by additional independent studies. Descriptive models attempt to synthesise existing research comprehensively. Metaphorical models attempt to interpret more generally the reading processes involved in comprehension.

morphological awareness (p.78) Knowledge of word prefixes, word suffixes, word stems and word formation processes.

multimedia learning (p.30) A term used by Mayer (2009) to refer to learning from words and pictures (from dual modes, dual formats, dual codes). The basic premise of multimedia learning is that learners can understand something better when it is presented in words and pictures rather than when it is presented in words alone.

multiple regression (p.75) Statistical technique for evaluating the effects of more than one independent variable on a dependent variable; statistical technique for estimating or predicting a value for a dependent variable from two or more independent variables. For example, multiple regression allows a researcher to remove the influence of other variables (e.g. vocabulary, background knowledge, grammar) on a dependent variable (reading comprehension ability), and then see if the skill one is interested in (e.g. oral passage fluency) still has an independent significant effect on the dependent variable (reading comprehension).

multiplier effect (p.190) Possible outcome of training by which the learners of a skill, in turn, teach additional learners. For example, when teachers who learn a new teaching technique at a professional conference return to their schools and train other teachers, that multiplies the effect of the original training.

non-linear text (p.258) Text that is not organised by sequences of sentences and paragraphs. Examples of non-linear text include charts, diagrams, figures, graphs, maps and tables. Non-linear computer texts include hyperlinks to additional information.

orthography (p.40) Graphic representations of a written language; these graphic representations may be alphabetic, syllabic or logographic in nature.

paced reading (p.150) Rate-development activity during which students read at a fixed rate determined by the teacher (e.g. 100 wpm). In an ideal paced-reading programme, students read at a rate that is challenging but not overly frustrating and that becomes progressively faster over time.

paired readings (p.152) Activity in which students work in pairs on a variety of reading tasks. One possibility is for students to take turns reading segments of the text aloud to each other, with the 'listener' monitoring and helping out with reading problems.

parsing (p.17) Act of breaking clauses down into their smaller constituent units. See *syntactic parsing*.

phoneme-identificationability (p.64) Ability to identify phonemic sounds in words. This could mean identifying the first sound of a word, the last sound of a word or segmenting words into component sounds.

phonemic awareness (p.62) Ability to recognise sounds in words (cf. *phonological awareness*).

phonological awareness (p.78) General ability of learners to recognise phonemic sounds in a word, syllables in a word or syllable parts within a syllable.

previewing (p.230) A pre-reading activity in which students prepare for a reading and often look over the text that they are going to read to identify its key features. In this way, students establish their own expectations about what information they will find in the text and the way(s) in which the information is organised.

pseudoword identification (p.65) Usually the ability to look at a non-word and pronounce it using the phonological rules of the language, or the ability to see a non-word and press a button indicating that the form is a non-word (lexical decision task).

qualitative analysis (p.86) Analysis of qualitative data, data which are not counted (e.g. student interviews), but can be reviewed for noticeable patterns and insights. It typically involves the interpretation of data in non-quantitative ways: categorising responses, highlighting key parts of verbal records, noting interesting patterns in responses. Sometimes descriptive *quantitative data* is included.

qualitative data (p.172) Data relating to or concerning some quality (cf. *quantitative data*).

quantitative analysis (p.86) Analysis of quantitative data (numerical data such as reading rates, number of words learned, number of pages read). The data can be counted, categorised and compared in numerous ways. Quantitative data usually involve statistical testing of some type.

quantitative data (p.172) Data that can be counted, measured, expressed as a quantity (cf. *qualitative data*).

rauding (p.5) A term that ‘comes from the combination of two words, reading and auding. It refers to the frequently occurring situation where individuals are reading or listening, and they are understanding most of the thoughts that they are encountering as they read or aud the sentences or text involved. Rauding focuses on the idea that reading prose and listening to prose generally involve the same comprehension processes’ and are carried out at maximally efficient processing speeds (Carver, 1997, p. 6).

read-alouds (p.173) Classroom procedure in which the teacher reads aloud to students and students follow along, often reading silently along with the teacher.

Readers’ Theatre (p.165) A performance of a reading in which the focus is the dramatic interpretation of a text. Performers stand in front of the class holding their scripts and reading the story aloud, interpreting their parts using stress and intonation. Advocates urge teachers to use Readers’ Theatre for reading fluency training in large part because of the important role that rereading and appropriate phrasings play in preparation.

reading efficiency (p.78) Ability, often seen as the essence of general reading comprehension, that is formally understood as the interaction of strong reading rate abilities (decoding and speed of processing) and reading accuracy skills (decoding and comprehension skills) (see Carver, 1997).

reading guide (p.270) An exercise handout, distributed to students before a reading assignment, that ‘walks’ students through a reading passage, modelling the steps taken and the strategies used to comprehend a passage. It gives students one or two pre-reading tasks, some during-reading tasks

and post-reading tasks as follow-up. All tasks are tailored to the assigned passage.

reading processes (p.9) Cognitive operations that occur in *working memory* and that draw upon long-term memory. (For examples, see Concept 1.7.)

reading to integrate information (p.7) A purpose for reading that requires the same detailed level of comprehension as *reading to learn*; it also requires decisions about the relative importance of select information and the reorganisation of information from multiple sources. The critical evaluation of information being read is required so that the reader can decide what and how information is to be integrated.

reading to learn (p.7) A purpose for reading. Reading-to-learn tasks are typical of academic and professional settings where readers need to learn information (i.e. main ideas as well as details that elaborate the main ideas) from the text and link the text to their own knowledge bases.

reading to search (p.7) A purpose for reading in which readers combine scanning for a word or phrase with minimal sampling of sentence meaning to determine if they are in the right areas of the text for targeted information.

recall measure (p.114) See *recall task*.

recall task (p.81) Task that requires a reader to reconstruct information from a text after reading it, by speaking, writing or completing some formal guide or outline.

regression model (p.75) Statistical procedure that looks for the best fit between a measure (dependent variable) and other variables. Other variables that 'fit' well are referred to as 'predictors' of the key (dependent) measure. The predictors that are significant account for (overlap with) a non-random amount of the variability that can be observed in the key dependent measure. The independent contributions of significant predictors can be measured with this methodology.

rereading (p.77) Activity in which students reread the same passage or text. Rereading may involve a search for new information, an effort to repair comprehension, the completion of a post-reading activity, or one of a number of fluency-development exercises.

rhetorical frame (p.7) The patterns of organisation that writers use to present expository information and that readers construct mentally to learn relevant information. Possible frames include cause-effect relations, classification, comparison and contrast, linear sequences and problem-solution relations (cf. *rhetorical organisation*).

rheterical organisation (p.80) Pattern of organisation used in expository and persuasive texts where information is presented as analysis, cause and effect, classification, comparison and contrast, definition, loose description or problem–solution.

scaffolding (p.78) An instructional strategy that involves supporting novice learners to facilitate learning; the concept originates from Vygotsky's socio-cultural theory and his concept of the 'zone of proximal development'. As learners gain knowledge, skills and confidence, support (scaffolding) is removed (and possibly replaced by other forms of support to complement new learner needs).

scan (p.7) Specialised type of reading in which the reader searches quickly for a specific piece of information or a specific word (cf. *skim*).

script (p.228) Portion of a lesson plan that specifies the exact words that will be used by the teacher. Often used in lessons where the teacher is modelling strategic behaviours while reading aloud to his or her students.

self-report (p.105) Opportunity for respondents to report on what they, themselves, do or know (e.g. how much they read each week). Self-report information can be collected with checklists, surveys, questionnaires, interviews, etc.

semantic feature analysis (p.186) A vocabulary-learning method that requires students to relate terms associated with a topic or some concept. For example, students could be asked to categorise various energy terms (e.g. thermal energy, nuclear energy, hydroelectric energy, solar energy, wind) according to whether the words have certain properties (e.g. organic, natural, polluting, non-polluting).

semantic proposition formation (p.18) Process of combining word meanings and structural information into basic clause-level meaning units. (See Concept 1.6 for an illustration.)

shared variance (p.73) Amount (expressed as a percentage) of overlap between two measures, based on the statistical variation that is shared between the two measures. It translates a Pearson *correlation* (square the Pearson correlation) into a numerical variable that provides a more interpretable approximation of the relation between the two variables. For example, if the shared variance between a vocabulary score and a reading comprehension score is .55, then 55 per cent of how the students varied in their responses to the vocabulary test overlapped with how they responded to the reading test.

sight words (p.104) Vocabulary items that are automatically recognised by readers within a fraction of a second without the need for strategies. (See also Concept 5.1.)

situation model of reader interpretation (p.21) Reader's elaborated interpretation of information from the text in terms of his or her own goals, expectations, feelings and *background knowledge*.

skills (p.8) Linguistic processing abilities that are relatively automatic in their use and their combinations (e.g. choosing the correct meaning of words with multiple meanings, *semantic proposition formation*, slower reading rate with different texts).

skim (p.7) Specialised type of reading in which the reader reads quickly for a general understanding of the text, for the gist of a passage. The process typically involves the strategic skipping of segments of the text and the reading of key parts (cf. *scan*).

SQ3R (p.82) A five-step reading strategy captured by its letters: Survey (or skim), Question, Read, Recite (or Recall) and Review. The study technique is very popular but empirical research on the technique shows that it does not lead to significant learning gains when compared to other options.

SSR (p.153) See *Sustained Silent Reading*.

strategies (p.8) Abilities that are potentially open to conscious reflection and use (e.g. establishing a purpose for reading, taking steps to repair faulty comprehension, previewing a text). See Concept 1.2 for additional examples.

structural equation modelling (p.78) Statistical technique used to show the impact of certain variables while, at the same time, eliminating the impact of several other variables; a statistical technique that shows the strength and nature of hypothesised relationships among sets of variables. It is an advanced procedure that relates multiple variables and shows their relationship independently of all the other variables. The procedure also removes error variance, so the relationships identified are more likely to be true relationships.

Sustained Silent Reading (SSR) (p.153) Classroom time devoted to silent reading, when teacher and students are reading materials of their own choice. Typically SSR sessions occur on a regular basis, without instruction, evaluation or interruptions. Also referred to as DEAR: Drop Everything And Read.

syntactic parsing (p.16) Reader's ability to take in and process words as larger units of structure so that basic grammatical information can be extracted to support clause-level meaning.

text model of reading comprehension (p.20) Fundamental higher-level comprehension process involving the coordination of ideas from a text that represent the main points and supporting ideas.

text structure (p.34) Language features that mark text information and writers' intentions (e.g. new versus given information, paragraphing, sequence markers, signalled rhetorical patterns, transition phrases and sentences).

text structure awareness (p.143) Conscious awareness of the ways in which text information is organised and the signals that provide cues to this organisation. Good readers use text structure awareness for reading comprehension. (See also Concept 5.4.)

timed reading (p.150) Rate-development activity during which students time their reading (in words per minute) and calculate comprehension scores. The goal is to improve reading rate and comprehension over time.

top-down models of reading (p.25) Metaphorical depiction of reading that characterises the reader as someone who has a set of expectations about text information, directs the eyes where to look on the page and samples enough information from the text to confirm or reject the hypothesised expectations.

training study (p.64) Research that involves training a group of participants in some skill or set of tasks.

transactional models of reading (p.30) See *constructivist models of reading*.

Transactional Strategies Instruction (p.91) Approach to reading instruction that leads students to become strategic readers (rather than learners of individual strategies).

transfer (p.35) Use of L1 knowledge (e.g. phonological, syntactic, strategic) in L2 tasks. (See also Concept 2.4.)

treatment (p.66) The training, instruction or resources that are given to an experimental group but not to a *control group*.

treatment group (p.64) Group of students that is subject to researchers' *treatment*.

working memory (p.11) Active component of memory processes in cognition. It is limited in capacity, retains active information for a relatively short period of time and integrates information and processes to construct comprehension. It is not a separate part of brain functioning but is a network of currently active information and related processes being used at a given moment. (See also Concept 1.4.)

working memory activation (p.13) Process in which information that is sufficiently excited (electrically and chemically in the brain) becomes part of the working network of information being used actively in cognitive processing.

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Subject Index

In page reference, *f* indicates figures and *t* indicates tables.

- Action research
 - Data analysis tasks, 182–3
 - Data collection techniques, 174–5
 - Definition, xiv, 164–6,
 - Ethical considerations, 173–6
 - Guidelines, 166–91
 - Purposes, 165–6
 - Steps, 166–91, 167*f*
- Affect *see* Motivation
- Alphabetic principle, 64–5
- Assessment, 99
- Assessment for learning, 157–8
- Attentional processing, 22
- Attitudes toward reading *see* Motivation, 214–16
- Automaticity, 15–16, 27–8, 97
- Background knowledge, 6, 19, 22–7, 29, 32
- Book flood, 204
- Bottom-up models of reading, 25–8, 32
- Buddy reading, 210*t*
- Cognates, 40, 42
- Collaborative Strategic Reading, 157
- Component reading abilities, 13–24
- Comprehension
 - Activities, 140–2, 256–8
 - General, 6, 8, 23, 28, 32, 141
 - Main-idea, 97, 140–2, 237–43
 - Monitoring, 142, 143*t*
- Concept of Definition Map, 138–9
- Connectionist theories, 28, 32
- Constructivist models of reading, 30–2
- Content-based instruction, 87–9, 155–6
- Contrast markers, 235–7
- Contrastive rhetoric, 53–4
- CORI, 87–90, 92, 156–7
- Dictionaries, 197–9
- Differences between L1 and L2 reading, 34–57
 - Experiential, 48–51, 55
 - Individual, 48–51, 55
 - Institutional, 54–5
 - Linguistic, 36–48, 55
 - Processing, 36–48, 55
 - Socio-cultural, 52–3, 55
- Directed Reading–Thinking Activity, 147–8
- Discourse Knowledge, 36–8, 55
- Discourse Organisation, 21, 37–8, 53–4, 80–2, 230
 - Action research projects for, 229–37
- Discourse Structure *see* Discourse Organization
- Dual-Coding Model, 29–30, 32
- Dual language reading processes, 36, 46–8, 55–6, 103
- During-reading, 133*t*, 145, 249*t*
 - Action research projects for, 249*t*, 250–3
- Echo reading, 210*t*
- Elaborative Interrogation, 142*t*
- Evidence-based teaching practices, xvii, 129–159
- Executive control processing/processor, 22–3, 32
- Exposure
 - To print, 16, 50, 55
 - To reading, 50

- Extensive reading, 77, 88, 98, 105–7, 119–22,
152–3
Action research projects for, 265–9
Principles of, 268*t*
- Flashcards, 134, 202–203
- Fluency
Action research projects for, 204–11
In reading, 11–13, 23–4, 27, 29, 69, 74–7,
98, 117–19
Instruction, 88–9, 98, 117–19, 149–52,
208–11, 209–10*t*
- Genre, 38, 50–1, 230
- Glosses, 199–200
- Grammar awareness, 17–8, 242–3
- Grammatical knowledge, 37
- Graphic organizer, 230–35
- Inferencing, 7, 26, 32
- Informed consent, 176
- Institutional Review Board, 176
- Instruction
Curricular principles for, 131–3
Evidence-based, 129–59
Implications for, 130*t*, 130–1
Strategy, 82–92, 98, 110–17, 146–9,
221–9, 226*f*
- Interactive-Compensatory Model,
27–9, 32
- Interactive models of reading, 26–7, 32
- Knowledge
Background *see* Background knowledge
Discourse, 36–8, 55
Grammatical, 17–18, 36–7
Lexical, 36
Linguistic (and Language), 36, 71
Metacognitive *see* Metacognitive
Metalinguistic *see* Metalinguistic
- KWHL, 148–9
- KWL, 82
- Language resources, 51, 55
- Language Threshold, 43,
- Letter-sound knowledge, 62–8
- Letter-sound relationships, 41, 62–4
- Lexical access, 15, 32, 136
- Linguistic differences *see* Differences
- Literacy, xii–xiii, 52–3
- Main-idea comprehension
Action research projects for, 237–43
Skills practice, 140–42
- Metacognition, 39
- Metacognitive
Awareness, 29, 36, 38, 55
Knowledge, 39–40
- Metalinguistic
Awareness, 36, 38–9, 55
Knowledge, 39–40
- Metaphorical models of reading, 25–7
- Models of reading, 24–31
- Morphological awareness, 78–80
- Motivation, 29, 49–50, 55, 87–91, 98, 122–4,
154–5
Action research projects for, 211–16
- Multimedia Learning, 30
- Non-linear text, 258–60, 260*f*
- Oral paired rereading, 152, 206–8
- Orthographic Depth Hypothesis, 41–42
- Orthography, 40
- Paced reading, 150, 209*t*
- Parsing *see* Syntactic parsing
- Phoneme-identification ability, 64–7
- Phonemic awareness, 62
- Phonological awareness, 78
- Post-reading, 133*t*, 145, 249*t*
Action research projects for, 249*t*, 253–5,
256–8, 260–1, 262–3*f*
- Pre-reading, 133*t*, 144–5, 249*t*
Action research projects for, 249*t*, 249–50
- Pre-, during-, post-reading, 133*t*, 249*t*,
See also Pre-reading, During-reading,
Post-reading
- Previewing, 230
- Processes, reading, 8, 11–24, 25–7, 32
Higher-level, 19–24
Lower-level, 14–19
- Pseudoword recognition, 65–7
- Psycholinguistic guessing game model,
30–2
- Qualitative data, 172
- Quantitative data, 172
- Question forming strategy, 82–7
- Questioning the Author, 84–7, 92, 141–2,
238–40,
- Rauding, 5
- Read alouds, 210*t*, 227–9
- Reader response, 31
- Readers' Theatre, 210*t*
- Reading
Abilities, 8
As cultural socialization, 52–3, 55, 99
Assessment, 99
Attitudes toward, 214–16
Components of *see* Component reading
abilities
Comprehension *see* Comprehension
Definition of, xv–xvi, 3–4, 11–13
Development, 89

- Dual language processes, 36, 46–8, 55–6, 103
- Efficiency, 11, 22–4, 78
- Fluency *see* Fluency
- General comprehension, *see* Comprehension
- Instruction *see* Instruction
- L1 and L2, 4, 34–57
- Lesson stages *see* Pre-, during-, post-reading
- Materials, 256–65
- Oral supported, 210*t*
- Performance, 201*t*
- Processes, *see* Processes
- Purposes for, 5–10
- Rate, 209*t*
- Repeated, 117–19, 150–1, 209–10*t*
- Silent reading in class, Action research project for, 169–91
- Skills *see* Skills
- Strategic, 12, 22–4, 146–9, 221–9
- Strategies *see* Strategies
- To critique, 8, 32
- To find simple information, 6–7, 23, 32
- To integrate information, 7–8, 22, 32
- To learn, 7, 32
- To search, 6–7, 32
- To skim, 7, 27, 32
- To write, 8, 32
- Recognition exercises, 135–6, 209*t*
- Rereading, 76–8, 151
- Rhetorical organization, 80–2
- Rhetorical patterns, 7, 230
- Scanning, 7
- Semantic proposition formation, 18–19, 30, 32
- Sequence markers, 235–7
- Shadow reading, 209*t*
- Sight word reading, 104–5, 134
- Signal words, 235–7, 236*t*
- Situation model of reader interpretation, 21–3, 32
- Skills, 8–9, 15–19
- Skimming, 7
- SQ3R, 82
- SSR *see* Sustained Silent Reading
- Strategic reading, 98, 146–9
 - Action research projects for, 221–9
- Strategies, 8–10, 22–4, 82–92, 98, 100, 110–17, 146*t*, 226*f*
- Strategy instruction, *see* Instruction
- Sustained Silent Reading, 153
- Syntactic parsing, 16–18, 32
- Syntactic processing *see* Syntactic parsing
- Text model of reading comprehension, 20–3, 32
- Texts
 - Kinds of, 50
 - Non-linear, 258–60, 260*f*
 - Organization *see* Discourse organization
 - Potential sources of difficulties with, 149, 261–5, 264*f*
- Text structure awareness, 142–5
- Timed reading, 150
- Top-down models of reading, 25–6, 30, 32
- Transactional models of reading, 30–2
- Transactional Strategy Instruction, 91–2
- Transfer, 35–6, 39, 45–6, 55, 103
- Translation, 108–12
- Verbal Efficiency Model, 29
- View of Reading model, 28–9, 32
- Vocabulary
 - Action research projects for, 169–91, 196–204
 - Recognition, 137–40
 - Research studies, 69–74, 88, 97, 100, 104–10
 - Teaching techniques, 137–40, 177–78*f*
- Word recognition, 15–16, 28–9, 88–9, 91, 97, 100–5, 134–6, 205–6
 - Models of, 28, 32
- Word Wall Approach, 140
- Working memory, 11–12, 14, 32
- Working memory activation, 13–15

Author Index

- Abbott, R. D., 69, 78–80
Adlof, S. M., 29
Aebersold, J. A., 267, 271, 277
Afflerbach, P., 9
Alderson, C., 17, 29, 37, 44, 53, 57, 99, 126
Alessi, S., 218
Alexander, P., 9
Al-Homoud, F., 100, 107, 120–122
Alloway, T., 33
Allwright, D., 167
Anderson, J. R., 8
Anderson, M. C., 11, 13, 22, 33, 47
Anderson, N. J., 9, 10, 98, 99, 126, 131, 140,
159, 204, 206, 208, 209, 219, 227, 237, 245,
251, 256, 271, 277, 278
Arguelles, M.
Asher, J. W., 98, 100, 112, 115–117
August, D., 57, 126, 159

Baddeley, A., 11, 12, 13, 22, 33, 47
Bailey, K. M., 164
Baker, L., 12, 39, 238, 240
Baldwin, R. S., 280
Bamford, J., 153, 204, 265, 266, 267, 268,
271, 277
Barbosa, P., 99, 123, 155, 159, 211
Barlow, L., 166, 193, 280
Bassetti, B., 47, 57
Baumann, J., xiv, 159, 218, 279
Beall, L. C., 12, 238
Bean, T. W., 280
Beck, I. L., 69, 84–87, 94, 137, 159, 218, 238,
239, 279
Bennett, M. B., 223
Bernhardt, E., 43, 57, 126
Berninger, V. W., 69, 78–80

Berry, A., 271
Bialystok, E., 39, 41
Biber, D., 236
Billman, A., 280
Birch, B., 16, 134, 277
Blachowicz, C., 94, 98, 147, 148, 150, 209,
210, 230, 245, 279, 280
Black, P., 158
Blevins, W., 159, 210, 219, 279
Block, C. C., 94, 112, 159, 223, 226, 245
Bogner, K., 159, 219, 280
Borg, S., 164, 280, 193
Bossers, B., 137
Bouchard, E., 223, 245
Bradley, B. A., 69, 77, 78
Breznitz, Z., 11
Brinck, T., 271
Britt, M. A., 8
Bruck, M., 40
Burke, V., 271
Burns, A., 164, 167, 173, 174, 175, 176, 190,
193, 195, 221, 271, 280
Burns, S., 33, 126, 240, 245
Burton, J., 174, 193, 280
Byrne, B., 62–68

Calderón, M., 159, 218, 277
Caravolas, M., 40
Carrell, P. L., 108, 143
Carver, R., 5, 33, 196, 291
Catts, H. W., 29
Chamot, A. U., 245
Chapelle, C. A., 187, 277
Chen, H.-C., 108, 271
Chhabra, V., 33, 38, 117, 159, 211, 213,
223, 279

- Clarke, M., 42
 Cobb, T., 187
 Cohen, A., 110
 Cohen, R., 277
 Collins, S., 69, 90–92
 Coltheart, M., 28
 Connor, U., 53
 Connors, K., 43
 Conrad, S., 236
 Cook, V., 47, 57, 110
 Coombe, C., 166, 193, 280
 Cooper, J., 54
 Coxhead, A., 121, 197, 216, 277
 Crawford, M., 135, 206, 209
 Crookes, G., 282
 Cunningham, A., 36

 Davis, M., 155, 211
 Davison, C., 157
 Day, R., 153, 204, 219, 256, 265, 266, 267, 268, 271, 277
 de Glopper, K., 17
 DeKeyser, R., 119
 de la Fuente, J., 51, 100, 110–112
 DiBella, J., 90
 Dolezal, S., 159, 219, 280
 Dörnyei, Z., 49, 122, 21, 213, 219
 Dowhower, S., 219
 Duffy, G. G., 112, 226, 227, 245
 Duffy-Hester, A., xiv
 Dufon, P., 200, 218
 Duke, N. K., 169
 Dunlap, S., 41, 42
 Durgunoğlu, A., 43
 Dutta, A., 8
 Dwyer, A., 218
 Dymock, S., 94, 159

 Eckstut-Didier, S., 251
 Edge, J., 164, 193, 280
 Elley, W., 120, 204
 Elliot, T., 279
 Ellis, N., 285
 Ellsworth, R. A., 216
 Enright, M., 8, 33
 Erler, L., 98, 100, 112–114
 Eskey, D. E., 16
 Evans, N. W., 159, 271
 Eyraud, K., 140, 170
 Eysenck, M. W., 11, 13, 22, 33, 47

 Fairbanks, C., 54
 Farrell, T. S. C., 164, 165, 166, 167, 174, 179, 132, 192, 193, 277, 280, 281
 Farstrup, A., 219, 279
 Ferris, D. R., 126, 159, 218, 245, 247, 248, 249, 250, 252, 256, 270, 278
 Field, M. L., 267, 271, 277

 Fielding, L., 38
 Fielding-Barnsley, R., 6, 62–68
 Finegan, E., 36, 236
 Fisher, P., 94
 Fitzgerald, J., 240
 Folse, K. S., 135, 159, 169, 187, 197, 205, 206, 218, 219, 277
 Fong, C. H., 200, 218
 Fowle, C., 218
 Freeman, D., 281
 Frost, R., 41
 Fry, E. B., 236, 279
 Fuchs, D., 204
 Fuchs, L., 204

 Gallagher, J. D., 90
 Gambrell, L. B., 122, 159, 219
 Garcia, G., 43
 Gardner, D., 51
 Garton, A. F., 52
 Gaskins, I. W., 69, 90–92, 223, 279
 Gathercole, S., 33
 Genesee, F., 183
 George, M., 238
 Geva, E., 40, 41
 Gibson, S., 206
 Giles, G., 140, 170
 Girsai, N., 97, 99, 110, 126
 Goldenberg, C., 57, 126
 Goldman, S. R., 38
 Goodman, K., 30
 Gorsuch, G., 100, 117–118, 119, 219
 Gough, P., 28, 29, 30, 33
 Grabe, W., 5, 6, 8, 11, 13, 16, 21, 23, 25, 31, 33, 36, 37, 43, 50, 87, 94, 98, 99, 114, 117, 120, 126, 129, 131, 137, 141, 142, 143, 144, 149, 155, 157, 159, 169, 186, 200, 204, 205, 211, 213, 222, 225, 226, 227, 229, 230, 231, 232, 233, 234, 238, 242, 244, 265, 278
 Graves, B. B., 279
 Graves, M. F., 108, 159, 240, 271, 279
 Greaney, V., 169
 Green, J., 140
 Greenberg, D., 271
 Griffin, G. F., 109
 Griffin, P., 33, 126, 240, 245
 Guthrie, J. T., 7, 17, 49, 57, 69, 74–76, 82–84, 87–90, 94, 99, 117, 122, 123, 124, 126, 142, 155, 156, 159, 169, 204, 211, 212, 215, 216, 244, 265, 279

 Hadley, G., 283
 Haeri, N., 53
 Hall, R., 271
 Hambrick, D. Z., 100, 104–105, 119, 137
 Hamilton, R., 239
 Han, Z.-H., 131, 278
 Hancin-Bhatt, B., 43

- Hanks, J., 167
 Hanley, J. R., 40, 54
 Harley, T. A., 109
 Harm, M., 28
 Harris, M., 41, 42
 Harris, S. R., 69, 71, 72–74, 95, 225
 Harrison, C., 158
 Hart, B., 69–72, 73
 Hart, L., 21
 Hartmann, R. R. K., 51
 Hartshorn, K. J., 159, 271
 Hashim, F., 110
 Hatano, G., 41, 42
 Hayman, A., 283
 Hedgcock, J. S., 126, 159, 218, 245, 247, 248,
 249, 250, 252, 256, 270, 278
 Hess, N., 271, 278
 Hill, D. R., 271
 Hoover, W., 28, 29, 33
 Horst, M., 100, 106–107, 187,
 266, 271
 Hosp, M., 204
 Huang, H. S., 40, 54
 Hudson, T., 6, 11, 25, 33, 53, 57, 98, 108,
 143, 196, 248, 250, 261, 278
 Hughes, M., 222
 Hulme, C., 159
 Hulstijn, J., 17, 137
 Humenick, N., 122, 211
 Hyland, K., 197

 Israel, S. E., 112, 245
 Iwahori, Y., 219

 Jacobs, G. M., 152, 200, 218
 Jamison, J., 187, 277
 Janzen, J., 94, 99, 227
 Jeffries, L., 135, 205, 206, 209, 219
 Jenkins, J., 204
 Jeon, E. H., 117
 Jetton, T. L., 9
 Jiang, X., 94, 126, 144, 159, 230, 231, 232,
 233, 234, 137, 282
 Johansson, S., 236
 Johnson, L., 108
 Joseph, H., 271
 Juel, C., 279

 Kame'enui, E., 159, 218, 279
 Kapinus, B., 33, 38, 117, 159, 211, 213,
 223, 279
 Kaplan, R. B., 53
 Kear, D. J., 216
 Kern, R., 51, 110, 147, 278
 Khalifa, H., 6, 33, 37, 99, 126, 278
 Kintsch, W., 20, 22, 33
 Kirby, J. R., 29, 33
 Kirsch, I., 7

 Klauda, S. L., 17, 69, 74–76, 87–90, 99, 117,
 123, 159, 204
 Klingner, J., 157, 222
 Knight, S., 219
 Ko, M. H., 218
 Koda, K., 8, 11, 33, 38, 40, 41, 42, 44, 46, 48,
 50, 56, 57, 100–103, 104, 110, 126, 131,
 134, 159
 Koenig, S., 140, 170
 Komiyama, R., 123, 126, 154, 211, 216
 Kress, J. E., 236, 279
 Kucan, L., 94, 137, 218, 239, 279
 Kuhn, M. R., 69, 75, 76–78, 94, 98, 117, 159,
 204, 219, 279

 Landi, N., 13, 16, 33
 Laufer, B., 97, 99, 109, 110, 126, 134,
 137, 218
 Laverick, C., 247
 Lee, C., 158
 Leech, B., 236
 Leftwich, S., 222
 Leki, I., 54
 Lems, K., 94, 98, 150, 209, 280
 Leow, R. P., 218
 Leung, C., 157
 Li, S., 245
 Liberto, J., 108
 Lightbown, P., 120
 Lim, H. J., 49, 54, 57, 126, 219
 Linderholm, T., 6
 Linek, W., 219
 Little, T. D., 29
 Lockhart, C., 193
 Lundberg, I., 50, 53, 54
 Lupescu, S., 219

 Macalister, J., 266
 Macaro, E., 98, 100, 112–114
 Makalela, L., 193, 281
 Malarcher, C., 219
 Malloy, J. A., 122, 159, 219
 Mann, S., 283
 Marinak, B. A., 159, 219
 Marshall, B., 158
 Martinez, M., 219
 Masterson, L., 54
 Mayer, R., 30, 289
 McCardle, P., 33, 38, 117, 159, 211, 213,
 223, 279
 McClelland, J., 28
 McCrostie, J., 218
 McEntire, J., 251
 McGarrell, H. M., 168, 193, 281
 McKenna, M. C., 216, 279
 McKeown, M. G., 69, 84–87, 94, 137, 159,
 218, 238, 239
 McRae, A., 69, 87–90, 99, 123, 159

- Meisinger, E. B., 69, 75, 76, 77, 78
 Met, M., 183
 Meyer, B. J. F., 69, 80–82, 230, 245
 Mikulecky, B. S., 135, 205, 206, 209, 219
 Moates, D. R., 48
 Mohan, B., 230
 Mohan, L., 159, 219, 280
 Mokhtari, K., 98, 221, 223, 226, 245, 278
 Morris, R. D., 69, 77, 78
 Morrow, L. M., 69, 77, 78
 Mosenthal, P., 8, 33
 Moskal, M. K., 209, 210, 279
 Mulcahy-Ernt, P., 8, 33
 Muljani, D., 48
 Munby, H., 245

 Nagelhout, E., 53
 Nagy, W., 39, 43, 69, 78–80, 94, 126, 137, 159, 218
 Nation, I. S. P., 57, 94, 109, 117, 120, 126, 137, 140, 149, 159, 169, 187, 197, 199, 200, 204, 206, 217, 219, 242, 256, 257, 258, 278
 NICHD Early Child Care Research Network, 71, 95
 Nicholson, T., 94, 135, 159
 Nicolae, I., 187
 Nies, A., 238
 Nolen, A. L., 176
 Nunan, D., 247
 Nuttall, C., 271, 278

 Oakhill, J., 13, 16, 33
 Oby, M., 271
 Ogbu, J. U., 54
 Ogle, D., 147, 148, 230, 245
 O'Malley, J. M., 245
 Opitz, M. F., 159, 204, 279
 Ouellette, G., 72, 73
 Ozungor, S., 142, 244

 Padak, N. D., 134, 219
 Paivio, A., 29, 30
 Pakenham, K. J., 251
 Paris, S., 9
 Park, J., 256
 Parris, S. R., 112, 159, 223
 Pearl, N., 212, 279
 Pearson, P. D., 9, 38, 230, 238, 245
 Perencevich, K. C., 49, 57, 94, 99, 123, 155, 156, 159, 211, 279
 Perfetti, C., 8, 13, 16, 21, 29, 33, 41, 42
 Perry, K., 280
 Peters, E., 219
 Peterson, C., 29, 33
 Pharis, B., 108
 Pichette, F., 43
 Pickering, S., 33
 Pigada, M., 271

 Pippitt, M., 210, 219, 278
 Plaut, D. C., 28
 Poon, L. W., 69, 80–82, 230, 245
 Porche, M. V., 69, 71, 72–74, 95
 Prater, K., 219
 Pratt, C., 52
 Pressley, M., 12, 13, 15, 16, 20, 30, 33, 57, 69, 90–92, 94, 122, 124, 142, 146, 147, 159, 211, 219, 222, 223, 225, 279, 280
 Prichard, C., 57, 97, 99, 126, 197, 219
 Prince, P., 109
 Proctor, R., 8
 Pulido, D., 100, 104–105, 119, 137

 Rakestraw, J. A. Jr., 38
 Raphael, L., 90, 159, 219, 238, 280
 Raphael, T. E.
 Rasinski, T., 94, 98, 117, 134, 150, 159, 209, 210, 219, 280
 Ravenhorst-Kalovski, G. C., 134, 137
 Rawson, K., 20
 Readence, J. E., 280
 Reddy, P., 57
 Reffitt, K., 280
 Reichard, C., 226
 Renandya, W. A., 152
 Reynolds, J., 280
 Richards, J. C., 165, 167, 174, 192, 193, 251, 281
 Richards, K., 280
 Risley, T. R., 69–72, 73
 Robinson, P., 22
 Robinson, R. D., 279
 Rodney, D., 72, 73
 Rodrigo, V., 271
 Roehrig, A., 159, 219, 280
 Rosen, N., 135, 206, 219
 Roser, N. L., 219
 Rott, S., 97, 99, 126
 Rouet, J.-F., 8
 Rozycki, W. V., 53
 Rueda, R., 49, 54, 57, 126, 219
 Ruston, H., 47, 150

 Sadoski, M., 29, 30, 33
 Samuels, S., 219, 279
 Samway, K. D., 210, 219, 278
 Sasamoto, E., 219
 Savage, R. S., 29, 33
 Scaffiddi, N., 155, 211, 271
 Schmitt, D., 197, 216, 218
 Schmitt, N., 100, 107, 120–122, 126, 137, 169, 187, 197, 199, 200, 216, 218, 271, 278
 Schoonen, R., 17, 137
 Schunk, D., 8, 47, 50
 Schwanenflugel, P. J., 47, 69, 75, 76, 77, 78, 94, 98, 150, 159, 204, 219, 279

- Scott, J., 39
 Scott, V., 51, 100, 110–111, 112
 Segalowitz, N., 43, 75
 Seidenberg, M., 28
 Sénéchal, M., 72, 73
 Seng, G., 110
 Sevcik, R. A., 69, 77, 78
 Seymour, S., 178
 Shanahan, T., 159
 Shany, M.
 Sheorey, R., 98, 221, 223, 226, 245, 278
 Siegel, L., 41
 Simis, A., 17
 Simmons, H. D., 54
 Sinatra, R., 134
 Snellings, P., 17
 Snow, C. E., 33, 69, 71, 72–74, 94, 126, 240, 245
 Snow, M. A., 183
 Snowling, M., 159
 Solic, K., 69, 90–92
 Stahl, S. A., 31, 69, 77, 78, 94, 126, 137, 159, 218
 Stanovich, K., 16, 26, 28, 30, 33, 120, 169, 196, 265
 Stanovich, P., 26
 Stapleton, P., 120
 Stevens, J., 98, 100, 112, 115–117
 Stevenson, M., 17
 Stoller, F. L., 135, 140, 155, 170, 206, 209, 219, 271
 Storch, S., 71, 95
 Strecker, S., 219
 Sturtevant, E., 219
 Styles, E., 22
 Swan, E. A., 94, 156, 223, 280

 Taboada, A., 69, 82–84, 87, 99, 123, 155, 159, 211, 249
 Tabors, P. O., 69, 71, 72–74, 95
 Taglieber, L., 108
 Taguchi, E., 100, 117–119, 219
 Takaki, M., 206
 Takase, A., 100, 123–124
 Takayasu-Maass, M., 117, 219
 Tanaka, H., 120
 Taylor, A., 98, 100, 112, 115–117, 218
 Thornbury, S., 197
 Tierney, R. J., 280

 Tomasello, M., 36
 Tonks, S., 87, 123, 155, 211
 Trabasso, T., 223, 245
 Tse, P., 197
 Tzeng, O., 40, 54

 Underwood, T., 238
 Urquhart, S., 17, 25, 46, 278
 Ushida, E., 49, 122, 211, 213, 219

 Vacca, J., 280
 Vacca, R., 280
 van den Broek, P., 6
 Vander Putten, J., 176
 Van Dyke, J., 21
 Van Gelderen, A., 17
 Vaughn, S., 157, 222
 Velasco, A., 49, 54, 57, 126, 219

 Wade-Woolley, L., 41
 Wagner, D., 52
 Wallace, M. J., 164, 167, 174, 185, 190, 193, 281
 Walsh, L., 278
 Wang, J., 216, 265
 Wang, M., 100–103, 104, 134
 Waring, R., 106
 Webb, S., 54, 100, 108–110, 218
 Weber, C. M., 238
 Weir, C., 6, 17, 25, 33, 37, 46, 99, 126, 278
 Whang, G., 210, 219, 278
 Whitehurst, G., 71, 95
 Wigfield, A., 49, 57, 26, 87, 94, 99, 123, 124, 155, 156, 159, 211, 212, 215, 279
 Wiliam, D., 157, 158
 Williams, J., 94, 230, 251
 Woloshyn, V., 280
 Woo, D. G., 69, 77, 78
 Worthy, J., 219
 Wren, S., 30

 Yamashita, J., 43, 271
 Yarbrough, D., 108
 Yoshii, M., 218

 Zehler, A., 57, 159
 Zimmerman, B., 50
 Zimmerman, C. B., 159, 169, 187, 278