

Audiology and Auditory Dysfunction (1997)

Authors: George T. Mencher, Sanford E. Gerber, and Andrew McCombe

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Reviewer: Barbara Kurpita, Niagara Rehab, St. Catharines, Ontario

The authors of *Audiology and Auditory Dysfunction* clearly state that the goals of this book "are to offer to the beginning student an introduction to hearing disorders and to provide a basic framework from which the more advanced student may proceed" (p. xiv). This book also offers a slightly different perspective for an introductory text by providing an emphasis on the "ear" for audiologists and on "hearing" for otologists.

The book begins with three preliminary chapters which cover standard introductory material: anatomy and physiology; acoustics and psychoacoustics; and, basic audiometric testing. These chapters are clearly written in very understandable and non-technical terms. However the introductory chapters do not include all the material necessary to provide the novice student with the knowledge to fully understand the chapters that follow.

Of course, all available material cannot be presented in any book written. However, some "basics" appear to be missing. For example, there is a detailed summary about the audiometer, its frequency and intensity characteristics, its controls and the various stimuli used, yet surprisingly there is not a description of the audiogram, what it measures, how to interpret it, or how it relates to the sounds we hear. Since various audiograms are used as supporting evidence throughout the rest of the chapters, this description would have presented a more complete picture of the topics being discussed.

The chapter on Basic Audiometric Testing covers pure tone air and bone conduction testing as well as speech testing. While it is appropriate not to cover more advanced types of audiological test results (e.g., ABR tracings, threshold tone decay, and stapedial reflexes) in the basic testing section, referring to them in later chapters

leaves the reader in a quandary as to where to find and how to use this information.

The strength of this book is in the later chapters, which take the reader on a journey starting at the external ear and moving inward towards the brain stem. Each major section of the ear is examined and a comprehensive review is provided of the various medical conditions and factors which can impact on hearing and cause a hearing disorder. The chapters dealing with the outer and middle ear include: acquired disorders and anomalies of the external ear, otitis media, and bony abnormalities of the middle ear. The chapters dealing with the external ear have excellent photographs depicting various diseases, medical conditions or other factors which affect the ear and may have an impact on hearing. These are a valuable resource to the beginning student of audiology.

The chapters dealing with the inner ear and the brain stem cover the topics of congenital and acquired hearing impairment, ototoxicity, noise induced hearing loss, presbycusis, disorders of the auditory nerve and brain stem, and auditory processing disorders. Again, these chapters review the topics from a medical and from an audiological perspective. The chapter on noise exposure provides a very good summary on the effects of noise on all parts of the ear. It also provides helpful suggestions for reducing noise exposure and guidelines to be used in a monitoring program.

Throughout the book, references are made to the various syndromes which are often associated with hearing disorders. Accompanying pictures, audiograms, and descriptions of these syndromes again serve as a valuable resource for individuals who work with different clinical populations.

The final chapter covers the management of hearing loss in children and adults. This chapter is especially well researched and documented, and provides many references for anyone wanting more information on a topic. This is important because, as our profession strives to become more outcome oriented and to have evidence on which to base our procedures, we need to have this scientific background. There is a detailed decision tree diagram which provides the reader with the steps to be followed in managing hearing loss for both children and adults. Several of the hearing handicap scales are described and their

purposes reviewed. Finally, some of the various points to consider regarding remediation are outlined, including information on FM systems and cochlear implants.

Audiology and Auditory Dysfunction provides a general review of hearing disorders in a clear and understandable manner. It provides an additional perspective lacking in many introductory texts by emphasising on the medical conditions that affect ears and hearing. It also has a humanistic approach that does not often come across in books or journals. The authors clearly state their position in the preface: "We have adopted the position that the patient is primary, the disorder is secondary.... We are not dealing with hearing disorders; we are dealing with people who have hearing disorders." (p. xiv).

The authors have done a reasonable job of achieving their stated goals. If used as an introductory text, the book may need to be supplemented with additional readings to cover some of the basic information that is missing. It will be a valuable resource for both audiologists and otologists in giving each group information about the ear and about hearing.

Reading Comprehension Difficulties - Processes and Intervention (1996)

Editors: Cesare Cornoldi and Jane Oakhill

Publisher: Lawrence Erlbaum Associates

Available from: Erlbaum,
www.erlbaum.com, 1-800-9books9

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Reviewer: Lynne Healy, Halifax Regional School Board, Hammonds Plains, Nova Scotia

This book provides an overview of research in the area of reading comprehension difficulties. The studies described in the various chapters outline a number of factors that underlie the reading process and reading comprehension in particular. The specific focus on reading comprehension comes from the premise that although the ability to understand written text is critical to success in school, reading

comprehension as a specific disability has been overlooked in the scientific literature. The authors state that reading comprehension is often considered simply as a component of learning disabilities or a developmental cognitive difficulty. They indicate that their objective in this book is to look specifically at reading comprehension difficulties and the research that deals with this topic.

Although the book is divided into five sections, the organization of the text is not immediately apparent by perusing these sections. The introduction to this book, however, introduces the topic of reading comprehension through a discussion of several questions such as "How can a reading comprehension problem be defined and identified?" and explains the intent of the five sections. The first section focuses on factors which can produce a reading comprehension difficulty. The second section discusses the characteristics of children with poor reading comprehension. The third section considers specific aspects of a reading comprehension problem including the role of story knowledge, riddle comprehension, and the processing of anaphoric devices. The fourth section deals with reading comprehension in two specific populations and the fifth section discusses the educational implications of research on reading comprehension difficulties.

In Chapter 1 of the first section, reading is viewed as being comprised of two distinct or disassociable skills—decoding and comprehension. However, through the review of a number of studies the authors indicate that these skills are positively correlated. The role of print exposure is discussed in the second chapter as being an important variable when assessing reading ability. Stanovich et al. conclude in this chapter that the more exposure to print an individual has, the greater his/her vocabulary knowledge, metalinguistic ability, and general world knowledge. All of these skills will contribute to success in reading comprehension. The third chapter in this section focuses on the role of comprehension monitoring in understanding texts and concludes that information processing limitations may explain why children fail to recognize when texts do not make sense. The research described in this chapter indicates that, despite inconsistencies, children are predisposed to derive a single interpretation from a text. This predisposition may influence their comprehension monitoring

skills, so that they compensate for the inconsistencies. The question arises as to what factors comprise comprehension monitoring and how do they affect reading comprehension.

The next four chapters provide research on and discussion about a number of factors that affect reading comprehension. These include comprehension monitoring, text structure knowledge, the ability to make inferences, working memory, metacognition, phonological and lexical processing, and motivation. The authors of the various chapters may disagree as to which are the key factors, but difficulty in any or all of these abilities can interfere with effective reading comprehension. The study reported in Chapter 7 shows that, although all of these factors can affect the reading process, they are not necessarily all part of every comprehension difficulty. Recognizing which of these factors are contributing to reading comprehension difficulties for any individual would be important when designing appropriate intervention protocols.

In the review of research on story structure knowledge, the authors concluded that deficient story structure knowledge was more likely to cause reading comprehension difficulties than result from them. This was very interesting. It suggested that teaching children explicit knowledge about story structure as an aid to reading comprehension is important. In Chapter 9 the use of riddles to support children's understanding of linguistic structure was discussed. This discussion highlighted a strategy for helping children become more metalinguistically aware. This is important since awareness of linguistic structure has been implicated in the development of text comprehension skills. This chapter also provided a good summary of the various types of riddles and identified which are more difficult to understand in terms of linguistic complexity.

Chapter 11 outlined the inferencing abilities of children with hydrocephaly as compared to other children with reading comprehension problems. Although both groups of children experienced difficulties making inferences effectively during reading, the hydrocephalic children also had a specific problem with lexical access. This finding raised the question as to whether inferencing itself is the core component of some comprehension difficulties or whether there is a small set of more basic underlying processes which, when impaired, affect

the ability to make inferences. A thorough review of factors that affect the development of reading in deaf children was presented in Chapter 12.

The last two chapters describe specific programs for treating reading comprehension problems. In Chapter 13, Lumbelli describes a program which focuses on text comprehension as a problem solving task. Children were explicitly taught how to read the text as a problem solving activity, supported by a trainer who provided the necessary scaffolding using a reflection-response model. The purpose of Chapter 14 was to examine the role of social agents such as teachers and parents as a source of influence on metacognitive development in reading. Baker concludes in this chapter that although social agents may not routinely promote metacognitive knowledge and strategies, there are ample opportunities to do so in everyday interactions. She also reports the results of several studies which indicate that children's reading comprehension can be improved by increasing their metacognitive skills.

Given the density of the material contained in this book, its intended audience would appear to be individuals with a good understanding of both research design and language development and disorders, especially as they relate to the nature of reading comprehension difficulties. This certainly reflects the origin of this book: a seminar held in Milano in 1994 where a number of researchers were invited to present their research on reading comprehension and comprehension difficulties and write a chapter based on their presentation. Although the book provides a good review of the research on reading comprehension difficulties, there is little information that can be applied directly to the clinical or educational setting. It does, however, provide the reader with a good deal of information to reflect on when working with individuals who have reading comprehension difficulties. It raises awareness of the complexity of reading comprehension difficulties and the many factors that can interfere with success in this area. As the authors state, understanding the cause of the reading comprehension difficulty will better enable clinicians and educators to provide intervention that is most appropriate to the problem. This review of research may prompt the development of new intervention strategies for these students.

