Children’s Speech Sound Disorders

Caroline Bowen, PhD CPSP
Speech-Language Pathologist
New South Wales
Australia
Children’s Speech
Sound Disorders
Dedication

To my dear and encouraging husband Don Bowen, whose commitment to scholarship, teaching, social justice, and keeping an open mind is my inspiration, always.
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Contributors

Elise Baker, PhD
Lecturer
Discipline of Speech Pathology
Faculty of Health Sciences
The University of Sydney
Sydney, NSW
Australia

B. May Bernhardt, PhD
Professor
School of Audiology and Speech Sciences
University of British Columbia
Vancouver, British Columbia
Canada

John E. Bernthal, PhD
Professor and Chair
Department of Special Education and Communication Disorders
University of Nebraska – Lincoln
Lincoln, Nebraska
USA

Ken M. Bleile, PhD
Professor
University of Northern Iowa
Cedar Falls, Iowa
USA

Barbara Dodd, PhD
Research Professor
Perinatal Research Centre
University of Queensland
Brisbane QLD
Australia
Department of Language and Communication Sciences

City University
London
UK

Lynn Flahive, MS
Instructor/Clinic Coordinator
Department of Communication Sciences and Disorders
Texas Christian University
Fort Worth, Texas
USA

Peter Flipsen, Jr., PhD
Associate Professor of Speech-Language Pathology
Department of Communication Sciences and Disorders and Education of the Deaf
Idaho State University
Pocatello, Idaho
USA

Karen Froud, PhD
Assistant Professor of Speech-Language Pathology
Teachers College
Columbia University
New York
USA

Hilary Gardner, DPhil
Lecturer
Department of Human Communication Sciences
The University of Sheffield
Sheffield
UK
Contributors

Fiona E. Gibbon, PhD
Professor and Head of Department of Speech and Hearing Sciences
University College Cork
Ireland

Gail T. Gillon, PhD
Pro-Vice-Chancellor, College of Education
University of Canterbury
Christchurch
New Zealand

Karen Golding-Kushner, PhD
Speech-Language Pathologist
Executive Director
Velo-Cardio-Facial Syndrome Educational Foundation, Inc.
Milltown, New Jersey
USA

Sharon Gretz, MEd
Founder and Executive Director
Childhood Apraxia of Speech Association of North America
Pittsburgh, Pennsylvania
USA

Anne Hesketh, PhD
Senior Clinical Lecturer in Speech and Language Therapy
School of Psychological Sciences
The University of Manchester
Manchester
UK

Chantelle Highman, BSc (Hons)
PhD Candidate and Speech Pathologist
Curtin University of Technology
Andrea Way Child Development Centre
Department of Health
Perth, WA
Australia

Megan M. Hodge, PhD
Professor
Department of Speech Pathology and Audiology
University of Alberta
Edmonton, Alberta
Canada

Barbara W. Hodson, PhD
Professor and Doctoral Program Coordinator
Communication Sciences and Disorders
Wichita State University
Wichita, Kansas
USA

David Ingram, PhD
Professor in Speech and Language
Department of Speech and Hearing Science
Arizona State University
Tempe, Arizona
USA

Deborah G. H. James, PhD
Academic Researcher/Paediatric Speech Pathologist
Centre for Allied Health Evidence
University of South Australia
Adelaide, SA
Australia

Victoria Joffe, DPhil
Senior Lecturer
City University
London
UK

Gwen Lancaster, MSc
Speech and Language Therapist
Language, Learning, and Behaviour Support Team
London Borough of Merton
UK

Suze Leitão, PhD
Senior Lecturer
Curtin University of Technology
Perth, WA
Australia
Contributors

Gregory L. Lof, PhD
Director and Associate Professor
Graduate Program in Communication Sciences and Disorders
MGH Institute of Health Professions
Boston, Massachusetts
USA

Brenda Louw, PhD
Professor in Speech-Language Pathology and Head Department Communication Pathology
University of Pretoria
Pretoria
South Africa

Robert J. Lowe, PhD
Professor, Communication Disorders
Bloomsburg University of Pennsylvania
Bloomsburg, Pennsylvania
USA

Rebecca McCauley, PhD
Professor
Department of Communication Sciences
University of Vermont
Burlington, Vermont
USA

Karen McComas, MA
Associate Professor
Marshall University
Huntington, West Virginia
USA

Sharynne McLeod, PhD
Professor in Speech and Language Acquisition
Charles Sturt University
Bathurst, NSW
Australia

Adele Miccio, PhD (1951–2009)
Associate Professor of Communication Sciences and Disorders
Co-Director, Center for Language Science

Pennsylvania State University
University Park, Pennsylvania
USA

Benjamin Munson, PhD
Associate Professor in Speech Language Hearing Sciences
University of Minnesota
Minneapolis, Minnesota
USA

Roslyn Neilson, PhD
Lecturer
Faculty of Education
University of Wollongong
Australia

Aubrey Nunes, PhD
Director
Pigeon Post Box Ltd.
London
UK

Megan S. Overby, PhD
Assistant Professor
Department of Communication Sciences and Disorders
The College of St. Rose
Albany, New York
USA

Michelle Pascoe, PhD
Senior Lecturer in Speech Pathology
Division of Communication Sciences and Disorders
School of Health and Rehabilitation Sciences
University of Cape Town
South Africa

Karen E. Pollock, PhD
Professor and Chair
Department of Speech Pathology and Audiology
University of Alberta
Edmonton, Alberta
Canada
Contributors

Thomas W. Powell, PhD
Professor
Department of Rehabilitation Sciences
Louisiana State University Health Sciences Center
Shreveport, Louisiana
USA

Suzanne C. Purdy, PhD
Associate Professor and Head
Discipline of Speech Science
The University of Auckland
Auckland
New Zealand

Mirla G. Raz, MEd
Communication Skills Center
GerstenWeitz Publishers
Scottsdale, Arizona
USA

Joan Rosenthal, MA
Retired
University of Sydney
Sydney, NSW
Australia

Sue Roulstone, PhD
Professor of Speech and Language Therapy
University of the West of England
Director of the Speech and Language Therapy Research Unit
Frenchay Hospital
Bristol
UK

Dennis M. Ruscello, PhD
Professor of Speech Pathology and Audiology
Adjunct Professor of Otolaryngology
West Virginia University
Morgantown, West Virginia
USA

Susan Rvachew, PhD
Associate Professor
School of Communication Sciences and Disorders
McGill University
Montreal, Quebec
Canada

Amy E. Skinder-Meredith, PhD
Assistant Professor
Washington State University
Pullman, Washington
USA

Ruth Stoeckel, PhD
Clinical Speech-Language Pathologist
Mayo Clinic
Rochester, Minnesota
USA

Carol Stoel-Gammon, PhD
Professor
Department of Speech and Hearing Sciences
University of Washington
Seattle, Washington
USA

Judith Stone-Goldman, PhD
Emeritus Senior Lecturer
Department of Speech and Hearing Sciences
University of Washington
Seattle, Washington
USA

Edythe Strand, PhD
Speech Pathologist
Department of Neurology, Mayo Clinic
Associate Professor, Mayo College of Medicine
Rochester, Minnesota
USA
Contributors

Angela Ullrich, MA
Research Associate, Doctoral candidate
Department for Pedagogics and
Therapy of Speech and Language Disorders
University of Cologne
Germany

Nicole Watts Pappas, PhD
Adjunct Lecturer
Charles Sturt University
Bathurst, NSW
Speech Pathologist
Mr. Gravatt Children’s Developmental Service
Brisbane, QLD
Australia

A. Lynn Williams, PhD
Professor
Department of Communicative Disorders
East Tennessee State University
Johnson City, Tennessee
USA

Pam Williams, MSc
Consultant Speech and Language Therapist
Nuffield Hearing and Speech Centre
Royal National Throat, Nose, and EAR Hospital
London
UK
Introduction

Children with speech sound disorders have gaps in their speech sound systems that can make what they say difficult to understand. Nevertheless, most of them persist valiantly in their struggle to communicate, despite limited speech sound repertoires, restricted use of syllable structures, and incomplete stress pattern inventories. They may fill the gaps, or constraints, with speech patterns and structures that should not really be present in the utterances of otherwise typically developing children of their ages. For instance, affected English-learning children of four or five may say *foon* for *spoon*, *bwabbit* for *rabbit*, or *dipt* for *chips*; and sometimes they simply seem to leave a gap, and the listener hears, for example, *see* for *seed*, *ine* for *mine*, or *teffone* for *telephone*. They can have poor stimulability, systemic and substitution errors, syllable structure errors, consonant distortions, vowel deviations, atypical prosody, unusual tonality, and offbeat timing. Any or all of these intriguing but bothersome speech characteristics can occur singly or in combination; and the children’s speech difficulties can encompass a mixture of phonetic (articulatory), phonemic (cognitive–linguistic), structural (craniofacial), perceptual, or neuromotor bases.

Some children have minor speech production difficulties and near perfect intelligibility, likely fitting at the high end of the Percentage of Consonants Correct (PCC) scale (Shriberg 1982; Shriberg, Austin, Lewis, et al. 1997), which is displayed in Table i.1. But of those referred for screening or assessment, a large proportion of the children speech–language pathologists/speech and language therapists (SLPs/SLTs) actually see for intervention are at the other end of the PCC scale. They have moderate-to-severe and severe speech impairments and low intelligibility. As well as making communication arduous for the children themselves, their poor speech clarity places additional demands on their parents, siblings, and others close to them. Often, these individuals have to work overtime, listening attentively in order to decipher what the speech-impaired children are saying, regularly finding themselves in the roles of advocate, apologist, code-breaker, go-between, and personal interpreter.

Table i.1 Severity scale based on a conversational speech sample (Shriberg 1982)

<table>
<thead>
<tr>
<th>Severity intervala</th>
<th>Percentage of Consonants Correct (PCC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild to normal</td>
<td>&gt; 85%</td>
</tr>
<tr>
<td>Mild to moderate</td>
<td>65–85%</td>
</tr>
<tr>
<td>Moderate to severe</td>
<td>50–65%</td>
</tr>
<tr>
<td>Severe</td>
<td>&lt;50%</td>
</tr>
</tbody>
</table>

aThe severity interval descriptors are applicable to children aged 4 and older.
Under the umbrella heading of Speech Sound Disorders (SSD), the difficulties these young clients face attract labels such as Developmental Phonological Disorder or simply Phonological Disorder, Functional Articulation Disorder or Articulation Disorder, and Childhood Apraxia of Speech (CAS). All of these diagnoses have a multiplicity of confusing synonyms and acronyms. Irrespective of diagnostic labels (Broomfield and Dodd 2004a; Shriberg, Lewis, Tomblin, et al. 2005) or psycholinguistic profiles (Baker, Croot, McLeod, et al. 2001; Stackhouse and Wells 1997) and the short-term and long-term impacts of speech impairment for the children themselves (Felsenfeld, Broen, and McGue 1992, 1994) and for their significant others, SLPs/SLTs are charged with the responsibility of dealing effectively with these gaps and are uniquely qualified to do so (Gierut 1998; Law, Garrett, and Nye 2003, 2004).

About this book

Highly unintelligible three-, four-, and five-year-old children with moderate-to-severe and severe SSD, as revealed by their PCCs in conversational speech or their performance on single-word-naming (citation naming) tasks, often have complex and difficult-to-analyse speech (Campbell, Dollaghan, Rockette, et al. 2003). Accordingly, they can pose demanding diagnostic, intervention, reporting, and information-sharing challenges for speech and language professionals. This is so whether they are seasoned therapists, experienced clinical educators, new to the workforce, or students. Addressed primarily to clinicians and clinical educators, the focus of Children’s Speech Sound Disorders is the work clinicians do with such children and their families. It is also about the so-called ‘mildly involved’ children, many of whom are at school and are older than the moderately and severely affected ones (McKinnon, McLeod, and Reilly 2007; Pascoe, Stackhouse, and Wells 2006; Shriberg, Kwiatkowski, and Gruber 1994; Shriberg, Tomblin, and McSweeny 1999). These older children may have been in therapy for lengthy periods continuously or intermittently and have just one or a few persisting and seemingly intractable speech issues. Examples include a stubborn lateral or palatal /s/ or difficulty in the way they produce a long vowel, so that when they say bird it sounds to the listener like bored.

Regrettably, time constraints and conflicting priorities can make it impossible for practitioners to regularly access the literature that relates to these children; synthesise, digest, and integrate what they have read; and then apply the knowledge clinically. Consequently, potentially valuable information remains in academe, somehow refusing to cross either the theory-therapy gap (Duchan 2001) or the research-practice gap (Duchan 2001). Attempting to reduce these gaps and speaking clinician-to-clinician, clinician-to-researcher, and researcher-to-clinician, Children’s Speech Sound Disorders sets out to make critical theory-to-evidence-to-practice connections explicit. Emphasising evidence-based practice (EBP), Part 1 concerns the theoretical and empirical developments this decade, and leading earlier work, in the classification, differential diagnosis, and management of children affected by SSD. EBP in clinical speech pathology is a dynamic three-way arrangement whose goal is to integrate three things: clinical expertise; client/patient values, interests, needs, and choices; and current best evidence (ASHA 2006a). In the EPB literature relating to our field (Dollaghan 2004, 2007; Johnson 2006;
Montgomery and Turkstra 2003; Reilly, Douglas, and Oates 2004), the important connections between the clinician’s role and good science are constantly highlighted. In the words of Apel and Self (2003), ‘By consciously seeking out and using scientific evidence as the foundation for their clinical services, SLPs . . . become clinical scientists. They also may become partners with researchers.’ Against this scientific backcloth, the focus of Part 2 is the practicalities of day-to-day treatment of SSD and associated issues.

Expert essays

Written from the perspective of an experienced SLP involved in clinical practice, the uniqueness of this book resides in its being the work of many hands. In it, an international line-up of 51 academicians, clinicians, researchers, and thinkers representing a range of expertise, paradigms, and theoretical orientations answer questions about key theoretical, assessment, intervention, and service delivery issues. The questions, mostly multipart, are numbered consecutively Q1 through Q49 in the text, and the answers appear as sections A1 through A49. Case examples are also included throughout the book. Whereas the children—Aaron, Adam, Aidan, Andrew, Bethany, Bobby, Brett, Brian, Bruno, Ceri, Christopher, Daniel, David, Dorothy, Emeline, Emma, Fiona, Gerri, Greg, Huia, Iain, Joanna, Jessica, Josie, Kenny, Luke, Madison, Max, Nadif, Nina, Olaf, Owen, Peter, Precious, Quentin, Ricky, Robert, Sebastian, Shaun, Sigrid, Simon, Sophie, Tessa, Tumi, Uzzia, Vaughan, William, Xing-Fu, Yoshi, and Zach—are real, their names and family members’ names are pseudonyms. And although many of them are, not all questions are necessarily the author’s. Most are based on frequently asked questions from students, clinical educators, and clinicians in continuing professional development (CPD) or continuing education unit (CEU) events, private correspondence, and postings to the phonological therapy list (Bowen 2001). It is hoped that the essays will provide a unique resource for SLPs/SLTs, wherever they work.

World Health Organization

In an individual child, intelligibility concerns may come bundled co-morbidly with other communication impairments, for example, voice or fluency disorders, semantic and pragmatic difficulties, and language-processing and production issues. Some children have other issues of health, development, and well-being, such as physical or sensory challenges, chemical allergies and food intolerances, intellectual impairment, learning difficulties, and auditory processing and attention deficits. In culturally and linguistically diverse clinical settings, numbers of them face the added complication of attempting to acquire more than one language and hence more than one speech sound system (Yavas 2007). Whether they are monolingual or multilingual, have an isolated SSD, or have an SSD as one of several issues, their lives will be affected in the areas of Body Function, Body Structure, Activity and Participation, Environmental Factors, and Personal Factors. These are the headings itemised in the World Health Organization’s ICF-CY: the children and youth version of the International Classification of Functioning, Disability and Health (World Health Organization 2001). The first question is about the ICF-CY, and it goes to speech-language pathologist, Sharynne McLeod.