

THE COMMUNICATION DISORDERS CASEBOOK

Learning by Example

Second Edition

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PREFACE

Casebook Songs

Introducing Our Book

The Communication Disorders Casebook: Learning by Example is intentionally different from most textbooks in communication sciences and disorders in both breadth and depth. The book includes an unusually broad examination of individuals with a variety of communication disorders. In-depth case reports describe real-life examples of clinical encounters between clinicians and the clients they serve, with references to historically significant and current literature and discussion of scientific evidence, clinicians' experiences, and clients' preferences.

We hope that the book will serve many audiences, including students, practicing clinicians, colleagues from other health care professions, and consumers of speech-language pathology and audiology services. An accompanying **Instructor's Manual**, which poses provocative questions concerning each case, offers additional resources and includes a test bank. A PowerPoint presentation is also included for each case, to stimulate students' critical thinking.

This book brings together a remarkably diverse and gifted group of scholars and clinicians. The cases themselves involve individuals across the age range. The text contains 61 cases divided into four sections by age group (infant/toddler, preschool, school age, and adult). Each situation depicts a unique relationship between at least two partners: a client and a clinician. Each author shares his or her story so that readers can learn about individuals with communication disorders and how they are evaluated and treated from the perspectives of those who provide services. The first chapter describes the common elements of each case study.

Our collective approach is decidedly client centered and challenges readers to give weight to both the art and science of our profession. We trust you will agree that the therapeutic relationship that develops between a clinician and client (and/or the client's family) is enhanced by a spirit of mutual respect and collaboration and a focus on solutions and quality of life.

Reaching Back—Before We Look Ahead

To set the stage for your reading of the case studies, we ask you to think back to the first person you met with atypical speech and/or hearing. Can you recall the details of that interaction, the individual's communication characteristics, and how you felt? How did this person function within his or her day-to-day environment? What impact did this person have on your decision to enter or interact with our profession? We will each share one of our stories.

Shelly: I have a number of clients whom I remember with affection and gratitude. I will begin at the beginning, with my first client as a new graduate student. My "clinical assignment" (I will call him Bill) was a college freshman who stuttered. This young man was a basketball star and was over 6'6" tall. As someone who is not quite 5' and who had never worked with a person who stuttered, I felt intimidated by his height and the severity of his speech disorder and concerned about how I could help, given my limited experience. Each time Bill spoke, he diverted his eye contact, his face turned red, and he started to perspire, apparently because of the effort required to communicate.

It seemed as if he stuttered on every word. I wanted to politely excuse myself, but his gentleness and his determination “to get rid of ‘this’ before it ruins everything” changed my mind and my life. I read all I could find on stuttering, talked with professors and supervisors, and observed my fellow student clinicians. I also decided to accompany Bill to some of his classes and even a few basketball game practices so I could see and hear his communication outside of the clinic room. He worked hard and seemed extremely motivated to change. We shared in the success of his becoming stutter-free and of the partnership that led him down a new path. During treatment, he spoke of the pain and frustration he felt as a person who stuttered. He continually expressed his appreciation to me for what had been achieved. I am not sure I ever told him just how much he meant to me. Perhaps I didn’t know. So, “thank you, Bill. You had a profound and lasting impact on me as a person and a professional.”

Ellen: My first memories of a person with an atypical speech disorder date to the late 1950s, when I was no more than 3 years old. Like Shelly and Dorian, I am profoundly grateful for the lessons learned. Walking hand-in-hand with my dad on the way to buy a new toy at the five-and-dime store, we passed by a man whose loud voice and appearance truly startled me. My father whispered, “Don’t be scared, that’s Cookie.” He warmly acknowledged Cookie and introduced me to him.

Cookie, as he was affectionately known by almost all who lived in our small New Jersey seaside town, was a man with multiple disabilities. He was largely edentulous and had a very hoarse voice and limited, difficult-to-understand speech. By traditional clinical standards, Cookie’s speech and expressive language would indeed be considered disordered. In addition, Cookie walked with a severe gait disturbance and one arm appeared contracted. Cookie’s vocal quality attracted attention and was jarring to listen to—initially frightening small children. That is, however, only part of the story. Cookie was known by first name and was beloved and since remembered by many of the residents. Cookie held a full-time job in which he used his voice to sell a product. With a smile for

all, each day Cookie stood near the five-and-dime store on Broadway Avenue and called out “aper, aper” to sell *The Daily Record*.

U.S. Poet Laureate (1997–2000) Robert Pinsky, PhD, also a native of Long Branch, New Jersey, immortalized Cookie in his collection of poetry, *The Figured Wheel: New and Collected Poems, 1966–1996*. Pinsky vividly celebrated Cookie and his hoarse voice within the fabric of a small town’s “song” in the title of his poem “A Long Branch Song.” As in any good case report, Pinsky succinctly described Cookie’s voice, unique communication style, and employment: “The hoarse voice of Cookie, hawking / *The Daily Record* for thirty-five years” (Pinsky, 1996, p. 148).

Later, U.S. Representative Frank Pallone entered “A Long Branch Song,” additional Pinsky poems, and his own recollection of Cookie in the 1997 U.S. Congressional Record (H.R.R., 1997-05-06).

How many of us can say that we are affectionately remembered by our first name (and a distinctive voice) by several generations of one small town, were celebrated by both a U.S. poet laureate and a U.S. congressman, and featured in the preface of a book on communication science and disorders? Cookie’s story embodies our commitment to the importance of looking beyond a diagnosis. We must always interpret the impact of our clients’ communication capacities on their hopes and dreams as they relate to their family and friends, workplaces, and communities. It is important to create the possibilities for joyful human communication in the context of accepting environments that de-emphasize the prefix *dis-* in the term *disability*.

Dorian: One client that I remember well was suspected of having a speech and language delay and I was asked to see her for a screening and possible full evaluation. Her name was Isabelle, and she was a charming 4-year-old attending the local Head Start program. She eagerly walked over to meet me as requested by one of her classroom teachers. Before I could formally introduce myself, she asked me my name and wanted to know what the “speech teacher” did. I told her my name and briefly described my job. She responded with the biggest smile, told me her name was Isabelle, and

happily accompanied me on a short walk to the small room reserved for special programs, leaving behind her envious playmates. Isabelle made herself comfortable at the table and waited for me to position my materials and myself at the table. Once I settled at the table, I asked Isabelle to tell me something wonderful about herself and family. That captivating smile appeared, and Isabelle told me the most delightful stories. Stories about her parents, her four sisters, her grandmother, the two cats, and the aunts, uncles, and cousins who visited frequently for birthday parties and holidays. Needless to say, I was stumped to find one speech or language behavior that caused her teachers to be concerned.

When I asked the teachers their concerns (the lead teacher and two classroom aides), they all said the same: Isabelle's dialect is too strong. She will not excel academically speaking that way.

Isabelle was bright, confident, and loquacious. I did not want to change that, but I also wanted Isabelle's teachers to have the same confidence in her that she had in herself. At the time, in the very late 1970s, I am not sure that my decision was the right one, but I decided to work with Isabelle, giving her second dialect instruction. We played games talking in different voices: the voices for school and grownups and the voices for home, play, and peers. I also gave the teachers information about the dialects of American English. While I never convinced those teachers that the dialect one speaks is not reflective of intelligence or a predictor of academic performance, I frequently think back to Isabelle, the child who showed me that intelligence and academic ability is expressed using many different speech and language forms.

61 More Stories

Remembering Isabelle, Cookie, and Bill and the thousands of clients we have collectively had the privilege to know, we have written this book to underscore the importance of putting the person first. We trust you will enjoy meeting the clients and gifted clinicians within these 61 case studies and that you will be enriched by their collective "songs."

Shelly S. Chabon, PhD, CCC-SLP
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Authors' Note

Cookie is referred to by his real name, as the author did not engage in a clinical interaction with him. He has been previously publicly named in newspapers, a book, and the U.S. Congressional Record.

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Aimee Dietz, PhD, CCC-SLP, RYT-200, is Professor and Department Chair at Georgia State University. She is a speech-language pathologist at heart and is dedicated to training the next generation

of academic researchers and clinicians, as well as improving outcomes for people with aphasia. Her research focuses on using AAC as a language recovery tool and identifying associated neuro-biomarkers. In recent years, she has cultivated a new line of research that seeks to understand how mind-body practices, including adapted yoga, might be harnessed to build resilience and coping for people with poststroke aphasia and their cosurvivors.

Roxann Diez Gross, PhD, CCC-SLP, ASHA Fellow, has over 35 years of clinical experience. She is a consultant and clinical specialist for Swallowing Diagnostics, Inc., Parkland, FL. She has served as principal investigator on several research grants that she has been awarded. Her research in the area of respiratory and swallowing interactions has resulted in multiple peer-reviewed and invited publications, as well as frequent invitations to lecture both nationally and internationally. Her research study that developed a method and apparatus for quantifying pharyngeal residue was granted a U.S. patent (#7,555,329 B2).

Leo Dunham, MS, CCC-SLP, is currently working for Choice Rehabilitation at Autumn Hill Therapy and Living Center and Brighton Ridge Therapy and Living Center as a Speech-Language Pathologist and as Director of Rehabilitation. He obtained his master's degree from Rockhurst University in Kansas City, MO. Speech-language pathology is his second career, as he spent almost 30 years working in mechanical design and engineering. Leo earned a law degree from the University of Kansas in 1987. His experience has been focused on dysphagia, voice, aphasia, and cognitive communication disorders in skilled nursing environments.

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Her areas of expertise and research include assessment and remediation of articulation, motor speech, and phonological disorders in children.

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Meredith Harold, PhD, CCC-SLP, a former speech-language pathologist and university faculty member, is currently CEO of The Informed SLP. She leads a team of over 50 scientists and clinicians in reading and translating our field's latest clinical practice research, then delivers this to practicing SLPs in a format compatible with busy and patient-centered clinical practice. She is President of the Kansas Speech-Language-Hearing Association, member of ASHA's CRISP Committee, and a frequent collaborator on many speech-language pathology podcasts and social media channels.

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Lindsey Hiebert, PhD, CCC-SLP, is a Postdoctoral Research Fellow at the University of Delaware. She earned a PhD in Communication Sciences and Disorders from the University of Texas at Dallas and a Clinical Master's in Speech-Language Pathology. She is a fluent Spanish speaker and obtained a Bachelor of Arts degree in Spanish Language and Literature. Her research interests include bilingual language development, disorders, and intervention in preschool and school-age children, stemming from her extensive clinical work with culturally and linguistically diverse populations. Her publications to date include longitudinal observations of language and reading development in Spanish-English bilingual children across 3 or more years.

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Gail B. Kempster, PhD, is Associate Professor Emerita at Rush University, having earned her doctoral degree at Northwestern University. In addition to teaching and research, Dr. Kempster continued working with individuals with voice disorders for most of her career. Her most widely known work is as one of the authors of the 2009 CAPE-V (Consensus Auditory-Perceptual Analysis of Voice) protocol, which was published in *Laryngoscope* and documented as one of the 21 most influential papers in laryngology since the year 2000.

Ann W. Kummer, PhD, CCC-SLP, retired as Senior Director of Speech-Language Pathology at Cincinnati Children's Hospital. She is Professor Emerita of the University of Cincinnati College of Medicine. She has presented hundreds of national and international lectures and published over 60 peer-reviewed articles and 30 book chapters. She is also the author of the text entitled *Cleft Palate and Craniofacial Conditions* (4th ed., 2020), which includes an online course. Dr. Kummer is an ASHA Fellow and received Honors of ASHA in 2017.

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Ross G. Menzies, PhD, is a clinical psychologist with an interest in anxiety-related disorders, the role of existential issues in psychopathology, the mental health of those who stutter, and applications of cognitive behaviour therapy (CBT). He has developed CBT packages for adolescents and adults who stutter and adapted them for Internet presentation. Ross has produced more than 200 manuscripts, including 10 books, and was the President and Convenor of the 8th World Congress of Behavioural and Cognitive Therapies in 2016. He is a previous National President of the Australian Association for CBT and a founding Board member of the World Confederation of CBT.

Deborah Moncrieff, PhD, CCC-A, researches auditory disorders across the life span, with particular emphasis on the negative impact of auditory disorders on communication, language, learning, and reading. She studies the prevalence and impact of auditory disorders in both children and adults. In order to enhance the clinical diagnosis of APD, she has worked to develop and gather normative data on new tests for the clinical assessment of APD. She has also developed a therapeutic approach for remediating children with a binaural integration type of APD (sometimes referred to as an integration deficit), characterized by a unilateral ear deficit during tests of dichotic listening. To better understand the neurophysiology of normal and disordered auditory processing, she is using electrophysiologic methods to explore neural activation patterns within ascending auditory pathways in children with APD. She has also used functional MRI techniques to characterize levels of brain activation during dichotic listening tasks.

Mariateresa (Teri) H. Muñoz, SLPD, CCC-SLP, is Clinical Assistant Professor at Florida International University. She has over 30 years of experience

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Mark Onslow, PhD, is a speech-language pathologist. He is the Foundation Director of the Australian Stuttering Research Centre. His research interests are the epidemiology of early stuttering, mental health of those who stutter, measurement of stuttering, and the nature and treatment of stuttering. Mark is a member of the international Lidcombe Program Trainers Consortium and is in constant demand as a speaker internationally. He

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Beate Peter, PhD, CCC-SLP, is Associate Professor in the College of Health Solutions at Arizona State University. Her research focuses on the genetic etiologies of communication disorders, downstream effects on brain structures and functions, and characteristic behavioral biomarkers, for instance, fine and gross motor dyscoordination in the presence of genetically influenced childhood apraxia of speech. She initiated and launched the Babble Boot Camp[©], the first clinical trial of a proactive intervention designed to mitigate or prevent speech and language disorders in infants at predictable risk for these disorders based on their genotypes.

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Christina Rizzo Tatreau, BCBA, LABA, founded Tate Behavioral with the goal of bringing high-quality ABA services to Massachusetts. As CEO, Christina oversees Tate Behavioral, as well as Tate Learning Center, a highly specialized school for students with complex learning and communication needs. Christina holds a BA from Clark University, has an MFA from Bennington College, and completed her coursework in Applied Behavior Analysis at the Florida Institute of Technology. A former writer, her clinical passions are applied verbal behavior, social skills instruction, and schedules of reinforcement. Christina placed on the *Forbes* NEXT1000 2021 list, a designation honoring small business entrepreneurs redefining the American dream.

Jenny A. Roberts, PhD, is Professor in the Department of Speech-Language-Hearing Sciences at Hofstra University. She became interested in the language development of internationally adopted children while working as an SLP in the late 1990s. At that time, there was little published research available for determining what might be typical language development in the population of internationally adopted children. In 2000, she began collaborating with colleagues, some of whom had adopted children of their own, and together they conducted several studies on the language development of children adopted from China. She is the proud mother of a beautiful daughter and aunt of two beautiful nieces, all of whom are adopted from China.

Richard A. Roberts, PhD, CCC-A, is Associate Professor and Vice Chair of Clinical Operations for the Department of Hearing and Speech Sciences at the Vanderbilt Bill Wilkerson Center. His primary research interests include various topics related to assessment and management of vestibular dysfunction. Dr. Roberts has served on the Board of Directors of the Alabama Academy of Audiology, the American Academy of Audiology, and as a Trustee of the American Academy of Audiology Foundation. He was recently recognized by the American Academy of Audiology with the 2020 Clinical Excellence in Audiology award.

Wilder M. Roberts, AuD, CCC-A, is Assistant Professor at the University of South Alabama, where she provides clinical education with speciality areas of pediatric audiology, amplification, pediatric (re)habilitation, educational audiology, and cochlear implants. She earned her BS in Deaf Education and her MS in Audiology from the University of Montevallo and her AuD from the University of Florida. She has worked in both educational and university settings. She has presented her work at local, state, and national levels.

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Michele Schmerbauch, MS, CCC-SLP, graduated from the University of Nebraska–Lincoln in 2005. She has been a speech-language pathologist at Mayo Clinic Health System–Eau Claire for the past 15 years. Her professional interests include working with individuals poststroke, TBI, and degenerative disorders. She is passionate about helping

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Diane M. Scott, PhD, CCC-A, is a Full Professor in the Department of Communication Sciences and Disorders in the College of Health and Sciences at North Carolina Central University in Durham, NC. She has been working in audiology for 40 years. She has served in academia for most of her career. Dr. Scott served as the director of the American Speech-Language-Hearing Association (ASHA) Office of Multicultural Affairs. She was also on the ASHA Multicultural Issues Board and the ASHA Board of Ethics.

Kathleen A. Scott, PhD, is Professor Emeritus in the Department of Speech-Language Hearing Sciences at Hofstra University. Her doctoral dissertation was on the spoken and written language skills of school-age children adopted from China. She has made several presentations and written articles concerning the language development of internationally developed children. She is the proud aunt of two beautiful nephews adopted from Guatemala.

Jeff Searl, PhD, is Professor at Michigan State University in the Department of Communicative Sciences and Disorders. His teaching, research, and clinical interests are laryngeal voice disorders, head and neck cancer, and cleft of the lip/palate. He has published and presented extensively in these areas. Dr. Searl has had an active clinical career spanning nearly 30 years, providing diagnostic and therapy services to children and adults with voice, resonance, and speech disorders. Dr. Searl has been recognized for his contributions by the International Association of Laryngectomees and selection as a Fellow of the American Speech-Language-Hearing Association.

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Amee P. Shah, PhD, CCC-SLP, is Professor of Health Science and Director of the Cross-Cultural Speech, Language and Acoustics Lab at Stockton University, NJ. She is an award-winning ASHA-certified Speech-Language Pathologist and Speech Scientist, working on building evidence-based best practices for multicultural populations through her research, education, and leadership. Her work has helped enhance the individual experiences for her clients as well as transform organizational culture in varied industries such as corporations, universities, police and first responders, and hospitals. She has developed and published frameworks, proven methods, and technology to assess and enhance cross-cultural communication as well as emotional intelligence.

Stacey Sheedy, BAppSci (Speech Path), Hons, is a speech pathologist who works at the Southwestern Sydney Stuttering Unit, a unit within South Western Sydney Local Health District. She is an affiliate of the Ingham Institute of Applied Medical Research and an honorary clinical fellow at the Australian Stuttering Research Centre, the University of Technology Sydney. Stacey treats people who stutter of all ages and provides clinical guidance to speech pathologists nationally. She has published research in scientific journals and presented research at international conferences. Stacey is a member of the Lidcombe Program Trainers Consortium and the Continuing Professional Education in Stuttering Consortium.

Rosalee C. Shenker, PhD, CCC-SLP, is the Founding Executive Director of the Montreal Fluency Centre and a member of the Lidcombe Program Trainers Consortium. She has specialized in fluency disorders for over 40 years, teaching a graduate course at McGill University, providing clinical training and mentoring for speech pathologists, as well as invited presentations and workshops nationally and internationally. Rosalee has pub-

lished in peer-reviewed journals and contributed chapters on stuttering to various textbooks. Her most recent work emphasizes the treatment of bilingual children who stutter, as well as evidence-based stuttering treatment of school-age children.

Kiiya Shibata, MS, CCC-SLP, completed her master's degree in Communicative Disorders at San Francisco State University in 2015. She worked in acute medical, inpatient rehabilitation, and outpatient settings before narrowing her clinical focus to primary progressive aphasia (PPA) and other neurodegenerative diseases impacting communication. In 2021, she returned for her PhD in the Department of Hearing and Speech Sciences at Vanderbilt University, with a focus on equitable clinical management of individuals with PPA and their families.

Robert J. Shprintzen, PhD, CCC-SLP, is President of The Virtual Center for Velo-Cardio-Facial Syndrome, Inc. (<http://www.vcfscenter.org>). A Fellow of the American Speech-Language-Hearing Association (ASHA), he received ASHA's Outstanding Clinical Achievement Award. ASHA's highest award, Honors of the Association, followed in 2013. He has published 232 journal articles, 40 chapters, and 7 textbooks. He is past Editor of *The Cleft Palate-Craniofacial Journal*. In 1985, he was among the youngest faculty members ever promoted to the rank of Full Professor at the Albert Einstein College of Medicine. Dr. Shprintzen is credited with delineating four genetic syndromes that bear his name in the medical literature.

Jeff Snell, PhD, completed his doctorate in Psychology at the University of Southern Mississippi with a specialization in clinical psychology. In 1998, Dr. Snell joined the staff at Quality Living, Inc., where he has since served as Director of Psychology and Neuropsychology and works with individuals with neurological injuries and chronic pain. Dr. Snell presents regularly to clinical, insurance, case management, and advocacy audiences throughout the United States. At Quality Living, Dr. Snell brings talent and experience in developing compensatory strategies that are critical to the long-term success of clients and their families.

Carolyn (Carney) Sotto, PhD, CCC-SLP, is Professor and Undergraduate Program Director in the Department of Communication Sciences & Disorders at the University of Cincinnati. She teaches graduate/undergraduate students on campus and online in the areas of speech sound disorders, phonetics, assessment, psychometrics, child language, and literacy. Carney was awarded Fellow of ASHA in 2018. She was awarded the Scholar-Mentor Award by the National Black Association Speech Language Hearing (NBASLH) in 2022. Carney is a past President of the Ohio Speech-Language-Hearing Association (OSLHA) and was awarded Fellow and Honors of OSLHA. She is a faculty advisor for UC NSSLHA and Multicultural Concerns in CSD (MC2).

Tamsen St Clare, PhD, is a clinical psychologist with a special interest in treating anxiety and obsessive-compulsive disorders. She is currently working exclusively in private practice but was formerly the Clinical Director of the University of Sydney's Anxiety Disorders Clinic and the Head of the Anxiety Treatment and Research Unit at Westmead Hospital. She has been involved in the development and evaluation of treatment programs for speech-related anxiety in adults who stutter and has published several peer-reviewed articles on this topic.

Kenneth O. St. Louis, PhD, Emeritus Professor of speech-language pathology at West Virginia University, taught and treated fluency disorders for 45 years. His research has culminated in more than 200 publications and 425 presentations. He is an ASHA Fellow and recipient of the Deso Weiss Award for Excellence in Cluttering, WVU's Benedum Distinguished Scholar Award, and WVU's Heebink Award for Outstanding Service. He founded the International Project of Attitudes Toward Human Attributes and has collaborated with more than 300 colleagues internationally to measure public attitudes toward stuttering. He has also presented and published widely on cluttering and stories of stuttering.

Linia Starlet Willis, SLPD, CCC-SLP, is a 2007 graduate of James Madison University. She

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Julie A. G. Stierwalt, PhD, is a Consultant in the Division of Speech Pathology, Department of Neurology and Associate Professor in the Mayo Clinic College of Medicine at the Mayo Clinic in Rochester, MN. In this capacity, she provides diagnostic and treatment services for individuals with speech, language, cognitive, and/or swallowing impairment across acute care, outpatient and specialty clinic settings. She maintains an active research agenda across these topic areas as well. In 2009, she was named Fellow of the American Speech-Language-Hearing Association.

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Jessica R. Sullivan, PhD, is the Interim Department Chair and Assistant Professor in the Communicative Sciences and Disorders Department at Hampton University. Dr. Sullivan is an affiliated research scientist at Haskins Laboratories at Yale University. Dr. Sullivan has served on numerous committees and boards with professional organizations. She received her BA in 1996 from Louisiana State University and Master's in Deaf Education from Lamar University in 2000. She

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Shurita Thomas-Tate, PhD, CCC-SLP, is Associate Professor of Speech-Language Pathology in the Department of Communication Sciences and Disorders at Missouri State University. She is the founder/director of Ujima Language and Literacy, a nonprofit organization that exists to connect, empower, and advocate for children and families. She has been recognized and honored for her commitment to community engagement, literacy, and diversity/equity/inclusion. Her passion for supporting the holistic development of children drives her involvement in numerous organizations focusing on issues such as poverty, education, and foster care. Dr. Thomas-Tate currently serves on the Board of Education for Springfield, Missouri R-12 Schools.

Janelle Johnson Ward, MHS, CCC-SLP, graduated with a master's degree from the University of Missouri-Columbia. During her career as a speech-language pathologist, she worked both in school and rehabilitation settings with children and adults. Most of her work life has been spent serving young adults who had sustained traumatic brain injury. Currently, Janelle spends her days as a taxi driver and logistics manager for her three children.

Amy L. Weiss, PhD, CCC-SLP, is Professor Emerita at the University of Rhode Island, where she served on the faculty in the Department of Communicative Disorders for 16 years before retiring in 2020. Her clinical, teaching, and research interests focused on child language learning and disorders as well as stuttering in both children and adults. She is currently living in western North Carolina, where she spends her time reading, volunteering, appreciating Appalachian music up close, and buying too many pairs of earrings.

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Lauraine L. Wells, AuD, is a board-certified audiologist and Lead Regulatory Affairs Specialist with 3M Personal Safety Division working with hearing protection and hearing conservation standards and regulatory issues globally. Previously, Dr. Wells was an occupational audiology consultant and a clinical audiologist at the University of Northern Colorado. Dr. Wells earned her AuD degree from Salus University and a Master of Science degree from the University of Arizona. She has served professional organizations, including the Council for Accreditation in Occupational Hearing Conservation and the National Hearing Conservation Association. Currently, she is co-coordinator of the NORA Cross Sector for Hearing Loss Prevention and serves on the Safe-in-Sound award expert committee.

Tammy Wigginton, MS, BRS-S, CCC-SLP, is a member of the Dysphagia Research Society, an International Association of Laryngectomee Alaryngeal Speech Instructor, a Lee Silverman certified clinician, and a board-certified specialist in swallowing disorders. She is a frequent conference lecturer on the topics of dysphagia and evaluation and treatment of communication and swallowing disorders associated with head and neck cancer. She has a special interest in medical bioethics as it relates to the care and management of patients with swallowing disorders and head and neck cancers.

Diane L. Williams, PhD, CCC-SLP, BCS-CL, is Professor and Head of the Department of Communication Sciences and Disorders at Pennsylvania State University. She has over 40 years of clinical experience with children and adults with a range of developmental language disorders. Dr. Williams conducts research in autism spectrum disorders (ASD) with an emphasis on the processes of language, cognition, and memory. She has authored numerous peer-reviewed publications, book chapters, and a book on the neurobiologi-

cal basis of language disorders and frequently presents on how what she has learned from her research informs her clinical practice as a speech-language pathologist.

Judith Maige Wingate, PhD, CCC-SLP, is Professor and Chair of the Department of Communication Sciences and Disorders at Jacksonville University. Dr. Wingate received a BA in music therapy from Charleston Southern University, MS in speech-language pathology from the University of South Florida, and a PhD in voice and voice disorders from the University of Florida. She worked as a voice specialist for the University of Florida from 1996 to 2013. Her research interests include occupational voice problems, singing voice, and clinical outcomes in voice therapy. She is the author of *Healthy Singing*, a vocal health book for singers and their teachers.

Carla Wood, PhD, CCC-SLP, is Professor and the Director of the School of Communication Science and Disorders at Florida State University. Her teaching and research engagement focus on child language development and disorders, with specific emphasis on language and literacy interventions for underserved students from culturally and linguistically diverse backgrounds. She has been a certified speech-language pathologist for over 25 years, which included working in elementary schools and early intervention.

J. Scott Yaruss, PhD, CCC-SLP, BCS-F, F-ASHA, is Professor of Communicative Sciences and Disorders at Michigan State University and President of Stuttering Therapy Resources. His NIH-funded research examines the variability of stuttering and the impact of stuttering on people's lives. He has published more than 110 peer-reviewed manuscripts and more than 250 other papers on stuttering and stuttering therapy, as well as several clinical resources, including the Overall Assessment of the Speaker's Experience of Stuttering (OASES), *Early Childhood Stuttering: A Practical Guide*, *School-Age Stuttering Therapy: A Practi-*

cal Guide, and the *Minimizing Bullying* program (<http://www.StutteringTherapyResources.com>).

Scott R. Youmans, PhD, CCC-SLP, is Associate Professor and Chair in the Department of Communication Sciences and Disorders at Pace University. He obtained his BS from the College of Saint Rose, his MEd from North Carolina Central University, and his PhD from Florida State University. Dr. Youmans has had clinical experience in schools, rehabilitation centers, outpatient clinics, nursing homes, consulting, and private practice; however, the majority of his clinical career has been spent as an acute care, hospital-based speech-language pathologist. His clinical specializations include adults with acquired, neurogenic communication and swallowing disorders and following laryngectomy. Dr. Youmans teaches in the areas of dysphagia and motor speech disorders. His research publications and presentations are in the area of adult, acquired, neurogenic communication disorders and swallowing.

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Robyn A. Ziolkowski, PhD, CCC-SLP, is the Principal of Seminole Elementary School in Okeechobee, Florida. Her research interests include early intervention, literacy and language development, and reading disabilities. She was named Principal of the Year in Okeechobee, FL, in 2022. She has 20+ years of experience in educational settings in administration and working with children with reading disabilities and communication disorders.



MAKING THE CASE FOR CASE-BASED LEARNING

Ellen R. Cohn, Shelly Chabon, and Dorian Lee-Wilkerson

An Overview

For three decades as a physician, I looked to traditional sources to assist me in my thinking about patients; textbooks and medical journals, mentors and colleagues with deeper or more varied clinical experience; students and residents who posed challenging questions. But after writing this book, I realized that I can have another vital partner who helps improve my thinking, a partner who may, with a few pertinent and focused questions, protect me from the cascade of cognitive pitfalls that cause misguided care. That partner is present in the moment when flesh-and-blood decision-making occurs. That partner is my patient or her family member or friend who seeks to know what is in my mind, how I am thinking. And by opening my mind I can more clearly recognize its reach and its limits, its understanding of my patient's physical problems and emotional needs. There is no better way to care for those who need my caring.

—Groopman (2007, p. 269)

The Communication Disorders Casebook: Learning by Example is a book about some of the many special people with communication problems and those who are privileged to serve them. It provides students, faculty, and practicing clinicians with relevant “real-life” examples of clinical encounters between clinicians and clients. Why did we perceive a need for this text? While there are many excellent resources in communication sciences and disorders, few books present rich, relatable, and diverse case studies across a broad spectrum of settings, client ages, and communication dis-

order types. These cases illustrate the importance of asking “a few pertinent and focused questions” (Groopman, 2007), seeking to reconcile the perspectives of all involved and accepting that there are likely to be multiple truths in determining clinical origins and options for families and their loved ones.

We envisioned several audiences for this book, with a shared interest in the use of case studies, as an experiential education strategy that provides both foundational knowledge and awareness of its utility in clinical work.

1. *Prospective students* who are considering undergraduate and/or graduate study in communication sciences and disorders might read this book to expand their views of the discipline by gaining the perspectives of practicing clinicians.
2. *Undergraduate and graduate students* in communication sciences and disorders might apply these “real-life” cases to their classroom studies.
3. *New clinicians* might use this book to assist them in developing a framework for clinical decision-making.
4. *University faculty members and practicing clinicians* may wish to acquire new understanding of parts of the field they might not typically encounter and gain sophisticated perspectives from experienced clinicians related to their current practice.

We also expect that some *persons with communication disorders and their families* may read specific cases to gain insights concerning their personal communication challenges.

The cases described in this book are intentionally varied in terms of the client's age, complexity and type of communication disorders, diagnostic and treatment approaches, and length of treatment. The body of work, however, is unified as follows. Consistent with our clinical philosophies, we have adopted a "client"-centered approach, wherein a real or fictional person (sometimes a composite of individuals seen over an author's years of clinical practice) is the central focus of each chapter. Of course, one chapter on the topic of a speech or hearing disorder cannot represent the entire universe of people with that particular disorder. These are not presented as "textbook cases." Two individuals who share a common diagnosis are not likely to be otherwise identical. We do expect, however, that the background information and clinical reasoning the authors provide will elucidate each topic area and that questions generated and methods considered may be of relevance to the treatment of other individuals.

Readers of the book may use it to expand their *knowledge* of a wide range of communication disorders in both children and adults as well as to increase their *skill* in applying that knowledge to solve a clinical problem. They may relate to the individuals described on the pages that follow on an *affective* level, resulting in empathy and a quality of understanding and caring about the individuals featured. We believe that this combination of *facts and feelings* may well increase readers' application, retention, and generalization of the content. We also hope that review of these cases will encourage readers to "think like speech-language pathologists." That is, reading about the experiences of the clients and clinicians featured in this text will provide an appreciation for the opportunities and the challenges involved in the practice of speech-language pathology.

Some of these cases describe treatment approaches that are supported empirically. Others reflect the wisdom of practice and insights accumulated from clinical careers filled with tested and reasoned discoveries. All offer a balanced, multidimensional context in which the complexities and ambiguities of the clinical relationship are evident and clinical decisions realized. In short, we believe

that readers will benefit from the lessons learned and shared by the authors.

The text is divided into four sections by client age group (infant/toddler, preschool, school age, adult). It contains 61 cases selected to exemplify both the diversity of our services and the uniqueness of those we serve. A broad review of all of these cases will uncover a variety of methodological approaches to the treatment of individuals with communication disorders. Some of these approaches could not have been foreseen a decade ago. Others have a long tradition in our profession. An examination of a single case will reveal the practical application of the array of methodological possibilities. Each individual case is presented in depth and includes the following common elements:

- Conceptual knowledge areas: contains information needed to adequately interpret and resolve the case
 - Short introductory paragraph: establishes the problem to be considered
 - Background information: provides the historical information necessary to understand the case, summarizes recent developments and significant milestones leading to the clinical challenges, and identifies the pertinent facts
 - Evaluative findings: allows authors to discuss a professional hypothesis and possible courses of treatment, in consideration of best data, clinical judgment, and individual patient needs, priorities, and desires
 - Description of course of treatment: details the procedures followed for the chosen treatment option, including analysis of patients' responses to the intervention
 - Further recommendations: allows for clinician "wrap-up" and review of treatment results as well as reworking of initial hypothesis and/or suggestions for maintaining positive effects of treatment
 - Reference section: lists all sources used within the text for the interest and aid of the reader for close or further study
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What Is a Case Study?

Each case study in this text is a comprehensive, realistic account of a person with a communication problem that illustrates the decision-making process used to develop, implement, and evaluate clinical services provided by a speech-language pathologist or audiologist. Each case offers a narrative description of the facts, beliefs, feelings, and experiences of the people involved.

What Value Does a Case-Based Approach Bring?

Nohria (2021), in an article about graduate education, noted that the use of case studies in teaching increases student confidence and makes a very strong impact on student learning. The use of a case-based approach by Nohria provides a framework for how to prepare for clinical practicum and ultimately how to prepare for clinical and professional work beyond school.

Nohria lists six key skills students achieve through the use of case studies. These include (1) ways to collaborate, (2) recognizing and correcting bias, (3) advocacy for clients and the profession, (4) critical thinking about key facts and distracting backgrounds, (5) decision-making, and (6) sustaining curiosity about the field.

Case studies make learning more visible, assisting students with seeing what and how learning objectives are met (Columbia University in the City of New York, Office of the Provost, n.d.). They help students connect theory with clinical practice. Case-based instruction naturally integrates consideration of language and cultural factors, preparing students to engage in culturally responsive practice and to continually seek to increase their cultural competence. Case-based instruction also sheds light on the value of engaging in inter-professional practice.

This text is based on the observation that speech-language pathologists need strong theoretical knowledge in *combination with* scientific

and clinical skill to make culturally relevant and ethically responsive clinical judgments. It can provide a forum for both the theoretical and the practical aspects, the art and science, of clinical work. Ideally, readers will be moved by a particular case to challenge its theoretical foundation, to ask questions about their own and others' clinical positions, to examine the contexts for the clinical actions, and to consider all of the possible consequences of the professional decisions. One way that this can be accomplished is through the use of questions designed to assess understanding of concepts and theories, their relationship to previous knowledge and experience, and their application to future work. How and why were particular hypotheses formulated? How were evaluation results interpreted, and how were the interpretations applied? How and why did the authors choose particular approaches to intervention? As professionals, we are often distinguished by these types of questions as they inform our scholarship as well as our practices.

Questioning is at the core of science and thus is also central to our clinical success. Asking the right questions guides us to make well-reasoned clinical decisions. So how do you, the reader, know what questions to ask? What types of questions will help you to "realize your potential to learn" (Bain, 2004) from these case studies and lead to an approach of clinical decision-making that is clear and understandable? Chabon and Lee-Wilkerson (2006) described a learning framework, adapted from Fink (2003), which offers a prospective organization for such questions. King (1995) provided some "generic question stems," or exemplars, and the level of thinking reflected in each. Lemoncello (2009) adapted King's work and created a "Critical Thinking Template" to facilitate case analyses. Using Ferguson's (2008) position to adopt "a critical perspective" will also guide the reader to ask questions about the cases that reflect consideration of social, cultural, and linguistic factors. The following are a few examples of questions relevant to the clinical decision-making process that were formulated based on these earlier writings and incorporated into the learning stages proposed by Fink (2003). When we ask these questions of

ourselves, they can serve as a mechanism for applying acquired knowledge and skills in new contexts. They foster an ethic of inquiry that shapes the clinical decision-making process reflected by the clinicians and writers included in this text.

Question Framework

Foundational Knowledge: *What do you know about the client in the case study you read?*

These questions involve the recall of information, facts, and concepts at a level that invites explanation:

- What are all of the relevant facts and the existing sociocultural context?
- What are the key physical/emotional/neurological factors that are impaired?
- Who are the key people involved?
- What activities are limited for the client because of their communication abilities or inabilities?

Skill in Application of Knowledge: *How can the information you read be used?*

These questions lead to making decisions, solving problems, and performing clinical tasks:

- Did the client's communication or swallowing improve with treatment and, if so, in what ways?
- How did the clinician know that the treatment approach was or was not successful?
- What was measured and how was it measured?

Skill in the Integration of Knowledge: *How does the information you read relate to what you knew before?*

These questions involve analysis and synthesis, and they reflect connections with previous learning and experiences:

- What are the strengths and weaknesses of the treatment approach(es) used and assessment methods selected?
- What are some of the differences between this disorder and other similar or related disorders?
- What are the differences between the treatment approach(es) used and other similar or related approaches?
- Was there consensus between the client/family's and clinician's account of the case?
- Is adequate use made of previous research and observations?
- Are the inferences drawn clear, sound, and appropriate?
- How does the information compare with your previous knowledge about or experience with this disorder and/or the treatment of this disorder?

Skill in Acknowledgment of the Human Dimension: *Why is what you read important to you and to those you serve? How does what you read confirm or alter your attitudes about the client, family, and you as a clinician?*

These questions lead to increased insight about self and others:

- In considering the family's account of the case:
 - What do they believe caused the problem?

- What were their hopes/fears about the progression and length of the treatment?
- What are their expectations about the outcome?
- How might the client's perceptions affect the outcomes of the case?
- Who will be the client's supports throughout and following treatment?
 - How might the clinician's perceptions of family support affect their choice of treatment approach?
- How did the problems described affect the client's and the client's family's daily life and the interaction between the client and their significant others?
- How will cultural/social factors support or inhibit the treatment?
- How will personal traits of the clinician support/inhibit the treatment?
- Whose interests were served and whose were ignored?
- Does the approach selected reflect an objective attitude? Does the approach take the client's perspective into account?

Skill in Assessing the Relevance of Knowledge: *Why is what you read important?*

These questions examine the reasons that underlie or support methods or actions and result in meaningful reflection and self-assessment:

- How does the action taken reflect current criteria, standards, and theory?
- Why do you believe the clinician selected the particular treatment/assessment method?
- What are some alternative treatment options/assessment methods?
- What are the primary reasons for the current outcome?
- Would you use the same treatment/assessment method? Why or why not?

Skill in Self-Directed Learning: *How do you plan to use what you read about in this case?*

These questions lead to active engagement in independent scholarship and reflective practice that continues beyond the reading of a particular case or cases.

- What factors might have led to a different outcome? Why?
- How could the information provided in the case be applied to other clients?
- Are there unanswered questions/concerns?
- How can the treatment program be duplicated and continued by other clinicians/researchers?
- How can you or other professionals evaluate the treatment described in your own practice?
- How do the outcomes in the current case study compare to other related cases reported in the literature?
- What evidence is available to refute or confirm the approaches taken?

What Is New in This Edition

The secret of the care of the patients is in caring for the patient.

—Peabody, Harvard University, 1925

Most of the cases in this edition have been updated consistent with F. W. Peabody's enduring philosophy as well as more recent clinical discussions and discoveries. The cases have also been updated to reflect the influences of online instruction and learning, teletherapy, interprofessional education and practice, and inclusive practices. Instructor resources have also been updated to promote collaborative and interactive learning, to foster inclusion and belonging among students, to enhance

scholarship, to generate productive dialogue of theory and practice, and to assist students and practicing clinicians to consider clinical behaviors and to evaluate their possible effectiveness (Dwight, 2022) across clinical sites. Further, the instructor resources provide guidance in how to use the cases to demonstrate and promote understanding of the ways cultural and linguistic characteristics and values influence interpretation of case data and decision-making (Dantuma, 2021) and to facilitate the development of four cardinal attitudes of successful audiologists and speech-language pathologists, as first proposed by Sutherland-Cornett and Chabon in 1988 and expanded on by Wendy Papir-Bernstein (2017). These attitudes include a scientific attitude, a therapeutic attitude, a professional attitude, and a leadership attitude. Finally, the test bank has been updated to reinforce key concepts and to provide additional practice with test taking.

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Part I

INFANT OR TODDLER CASES





AUTISM CASE 1

Anne: Developing a Communication Assessment and Treatment Plan for a Toddler Diagnosed With Autism Spectrum Disorder: Special Considerations

Trisha L. Self and Terese Conrad

Conceptual Knowledge Areas

This case study challenges readers to consider their knowledge of development from birth to age 3 years in the specific areas of cognition, receptive/expressive language, play, oral-motor and sensory-motor skills, self-regulation, and nutrition.

Most infants have an innate drive to learn language and socialize with others (Janzen & Zenko, 2012). In fact, when children's learning systems are developing typically, these skills are acquired automatically without being taught. For children on the autism spectrum, however, early learning strategies, communication skills, and early social skills typically do not develop without intervention (Brien & Prelock, 2021).

Early in the developmental process, children on the autism spectrum demonstrate difficulties attending to people. They tend to avoid interactions with others and thus experience fewer opportunities to hear language and practice reciprocal communication. Additionally, because children with an autism spectrum disorder (ASD) typically are not intrinsically motivated to participate in and/or initiate social interactions, they do not engage in the conventional play activities toddlers often use to learn about their environment and the early rules for social engagement (Brien & Prelock, 2021; Janzen & Zenko, 2012). Children on the autism spectrum often demonstrate difficulties with modulating, processing, and integrat-

ing sensory information. These sensory challenges often affect a child's desire to engage in social interactions and thus his or her ability to benefit from naturally occurring learning situations (Ebert, 2020).

The following case study involves a young female child who was referred to a university-based speech-language-hearing clinic by a developmental pediatrician. The child was reported to have delayed speech, language, cognitive, and social skills. She had a history of ear infections, and her nutrition intake was poor. The physician had informed the parents that the child was demonstrating early signs of an autism spectrum disorder.

Description of the Case

Background Information

At age 1 year 10 months, Anne was referred to a university speech-language-hearing clinic (SLHC) by a developmental pediatrician. The pediatrician was concerned, as were the child's parents, that Anne's receptive and expressive language skills were significantly delayed. The pediatrician also recommended the family seek a highly structured early intervention program within the community. Upon referral to the university SLHC, the family was asked to complete a case history prior to being scheduled for a speech-language

evaluation. Review of the case history and other evaluations provided by the family revealed the following developmental information.

Past Medical History

Anne was born to a 25-year-old female at 40 weeks' gestation. There was no reported use of alcohol, tobacco, and/or drugs during the pregnancy. At birth, Anne weighed 7 lb 10 oz and was 19 in. long. She responded immediately to breastfeeding and continued to do so without difficulty.

Her mother reported that Anne had chronic ear infections, which were not responsive to antibiotic treatment. Prior to receiving pressure equalization (PE) tubes at approximately 17 months of age, Anne had stopped responding to most sounds, her balance was generally poor, and she had not yet started walking. After receiving the PE tubes, she responded more readily to certain sounds and her balance quickly improved. Not long after the tubes were placed, she began walking.

Anne had otherwise been a healthy child. She had no known drug allergies, and her immunizations were current.

Developmental History

Anne began to roll over at approximately 6 months of age, sat independently at 7 months, crawled at about 9 months, and began walking at 17 months (almost immediately after PE tubes had been placed). Anne's mother reported that Anne began to imitate "mama" and "dada" at about 15 months but would not say those words spontaneously until she was approximately 19 months old. Her mother also reported that Anne babbled at times and imitated a few other words (car, dog).

To communicate her wants/needs, Anne's mother indicated that her daughter would walk to the desired object and stand near it; sometimes she would knock on it and/or attempt to obtain the item on her own. Anne did not use any distal pointing, nor did she use other typical gestures to obtain a desired item/activity.

Her mother reported that Anne was able to respond appropriately to simple questions, such as "Where's your cup?" "Where's your shoe?"

and "Where's your brother?" by moving to and/or retrieving the labeled object/person. Additionally, when someone said, "Ready to go outside?" she moved to the door, or when someone said, "Let's go for a ride," she moved toward the garage door. Anne followed an individual's gestural line of regard when items of interest were pointed out and accompanied by information such as "There's a bird." If she was not interested in the object, she was nonresponsive.

Anne liked to assemble puzzles, roll cars, stack Duplos™, and flip through magazines. She was able to roll a car back and forth with an adult. Anne did not initiate her own play but would "play" if an adult initiated it. If Anne got excited during play, she would flap her hands and rock back and forth.

Anne was able to feed herself and drank from an open-mouthed cup. She reportedly ate a variety of foods, as long as the foods did not require much chewing.

At bedtime, Anne allowed someone to brush her teeth and tolerated being given a bath but would not independently wash herself. She did not resist being dressed and, at times, would attempt to assist her parents during this process.

Anne's mother reported that a particular blanket was the greatest source of comfort for her daughter. When Anne held her blanket, it seemed as though she was in another world. She did not respond to activity and/or sound. Because of this, Anne's mother limited the time she was able to access the blanket. She was only allowed to have it during nap times, at bedtime, and when they went out of the house for errands and appointments.

When Anne was approximately 16 months of age, her mother became concerned that she was not walking and her communication skills appeared to be delayed. She took her daughter to a local hospital for an evaluation of her communication and motor skills. At the time of the evaluation, Anne's skills were considered well below normal limits. Her speech and language skills were, reportedly, 7 to 10 months delayed. Her eye contact and joint attention skills were observed to be poor. She was essentially nonverbal. She demonstrated repetitive hand and finger movements and did not tolerate change. She did not play

appropriately with toys (often mouthing them or engaging in perseverative movements back and forth). Following the evaluation, Anne began to receive physical therapy and speech-language treatment until insurance would no longer support payment.

Family History/Social History

Anne lived with her mother, father, and brother. Her mother, Amy, was 27 years old, had a college degree, and stayed at home with Anne during the day. Anne's father, Jerrod, was 36 years old and was employed as a computer technician. Anne's brother was 3 years old and appeared to be developing typically. The parents indicated that there had been a history of developmental differences on both sides of their family. Amy reported that she had a 16-year-old cousin who had been diagnosed with high-functioning autism. Jerrod reported having a sister who was socially challenged but had no formal diagnosis.

Medical Diagnostic History

At age 1 year 8 months, Anne was evaluated by a developmental pediatrician. The child's mother reported that she continued to be concerned that Anne was not expressing her needs, had delays in her speech, and did not respond consistently to her name.

During the evaluation, Anne did not separate easily from her mother. A neurodevelopmental evaluation revealed that Anne had low muscle tone in both her upper and lower extremities. She was, however, walking independently at the time of the evaluation.

Anne did not want to participate in many activities with the examiner as she demonstrated stranger anxiety during most of the examination. She did respond favorably when cars were presented and moved from her mother's lap to roll them back and forth repeatedly across the floor. She also enjoyed moving a ball back and forth while lying on the floor to watch the rolling movement. She demonstrated excitement when the examiner blew bubbles by flapping her

hands. She did not, however, make any attempts to request more. Anne would not respond when the examiner repeatedly called her name and would not establish joint attention with activities presented by her mother or the examiner.

Reason for Referral

At the time of evaluation, the developmental pediatrician indicated that Anne had significant speech and language delays and poor joint attention and social interaction skills. She was also reported to have stereotypic behaviors. Although the mother was told that Anne demonstrated early signs of an autism spectrum disorder, the doctor indicated that a specific diagnosis might not be reliable prior to 2 years of age.

Based on the findings of the diagnostic evaluation, the developmental pediatrician recommended that the parents seek early intervention services along with individual speech-language treatment. Additionally, he recommended that Anne be tested for fragile X syndrome and have high-resolution chromosome testing completed. After her second birthday, it was recommended that the family return to his office in consultation with a psychologist to reassess the status of the autism spectrum disorder characteristics using the Autism Diagnostic Observation System-2 (ADOS-2; Lord et al., 2012).

Following the completion of this examination, the parents contacted the local university SLHC for an evaluation with the intent to schedule Anne to receive speech-language intervention.

Findings of the Evaluation

At age 1 year 9 months, Anne was first brought to the university SLHC by her mother. Based on the information reported in the case history and the medical documentation received from the developmental pediatrician, it was determined that it would be beneficial to design Anne's sessions to provide diagnostic therapy. The purpose of this plan was to develop a baseline for Anne's receptive and expressive skills and to determine

an appropriate communication system based on her abilities and her communication needs (Ricco & Prickett, 2019).

Diagnostic Therapy Findings

Anne's ability to initially participate in treatment sessions was inconsistent. She demonstrated a great deal of difficulty transitioning from the waiting room to the treatment room, even when her mother provided her physical support and remained in the treatment room throughout the session.

Anne tended to have more success during treatment when she was reinforced with highly motivational toys (toys with wheels) that she could operate independently while lying on the floor and watching the wheels move back and forth. When she was presented with toys that required assistance from an adult to appropriately activate them (open containers, turn knobs), she would engage in the following behaviors: turn/move away from the adult, refuse to participate, drop to the floor, whine, cry, crawl under furniture, and hide her face. Additionally, Anne would throw items (that were not intended to be thrown) in an apparent attempt to protest engaging with that particular item. Typically, when Anne was frustrated, she would cry, retrieve her blanket, and attempt to get her mother to pick her up. When her mother immediately picked her up, Anne's crying subsided quickly. If her mother did not readily respond and pick her up, the behavior would escalate and the crying continued for several minutes. When Anne came to treatment without her blanket, her ability to participate functionally in any portion of the session decreased and the whining and crying behaviors increased.

Treatment Options Considered

Initial Treatment Plan

Prior to completing the diagnostic treatment period, it had been anticipated that Anne's treatment goals would include encouraging her to

tolerate hand-over-hand assistance during play activities, spontaneously indicating preferences by choosing one item out of a field of three, and spontaneously requesting an item by exchanging an object/symbol/representation of the item with an adult. Based on the results of the diagnostic therapy sessions as described above, her goals were revised. More importantly, the following modifications were incorporated in an attempt to decrease excess stimulation, reduce stress created by the environment, and encourage Anne to focus and participate.

Physical Modifications

Current evidence for children with ASD (UNC School of Medicine, n.d.) suggests that, when necessary, the physical environment of the treatment room be modified so that unnecessary visual stimulation (decorations on the walls, excess furniture) is eliminated, sensory stimulation that might be distracting/irritating (bright lights, extra treatment materials) is reduced, and preferred motivators to assist with transitions between and within treatment activities are incorporated, thus creating a structured, positive working/playing atmosphere for the child.

To create this type of environment for Anne, the following modifications were implemented. To assist with Anne's transition from the waiting room to the treatment room, a "texture walk" (path of differing textures) was created. This path, approximately 30 feet long, contained a variety of textured pieces (bubble wrap, carpet mats, smooth/silky textures) lined up along the carpeted hallway. Anne was encouraged and assisted to remove her shoes and socks prior to proceeding down the path. Often, Anne stopped and rubbed her feet on certain textures. These textures were also incorporated into the session so she could access them as needed during treatment. Typically, Anne did not need physical assistance to transition down the hallway; only occasional verbal encouragement was needed to keep her moving forward.

The lights in this hallway were turned off; only natural lighting was used as Anne moved from the waiting room to the treatment room.

Additionally, her sessions were conducted without overhead fluorescent lighting. The room was lit by the lighting that came through the window naturally in the treatment room.

The furniture in the treatment room was limited. Needed chairs were placed against the walls and only a large tub that was approximately table height for Anne was placed in the center of the room. Other tubs containing additional treatment items were placed near the wall and out of the direct visual line. The large tub contained two to three highly preferred items. Anne was encouraged to choose one toy and engage in functional play for a period of time. When she was finished with the toy, she was encouraged to place it in a finished basket (with a lid), rather than throwing it when she was frustrated and/or wanted to switch activities.

Anne's blanket was available for her to access, when needed, at each session. She often carried it into the therapy room and dropped it when she became interested in activities in the treatment room. The blanket was left in an area that was visible to her throughout the session. The amount of time she spent holding, touching, and/or cuddling in the blanket was tracked (Ebert, 2020).

Course of Treatment

With type of environment established, Anne's goals were revised to encourage her to participate in therapy activities without exhibiting off-task behavior (crying, dropping to the floor) while interacting with the clinicians, to choose one preferred item (with minimal prompting) from a field of two, and to spontaneously request an item by touching a container, which held a desired item or a digital picture representing that item.

Analysis of Client's Response to Treatment

Once the physical environment was modified and Anne's treatment goals were revised, her inappropriate behaviors (crying, whining, throwing, hid-

ing, etc.) were reduced. After approximately 2.5 months, Anne was participating and interacting appropriately during 90% of the session (45-minute sessions were scheduled two times per week; baseline, 9%). She was making choices from a field of two items (one preferred, one foil) with 83% accuracy (baseline, 0%). She began to request an item by touching a container or a representational digital picture with 66% accuracy (baseline, 0%).

The following semester, the modifications used previously were incorporated into Anne's treatment. Although Anne's off-task behaviors had decreased from the past semester, they continued to disrupt her ability to participate at maximal levels throughout treatment sessions. She continued to demonstrate a "need" to hold preferred toys throughout an entire session and would cry/whine during some transitions between activities. After several sessions, the clinicians began to identify additional motivators for Anne. Soon, she began to work without needing to hold her preferred toys. Additionally, she began to respond favorably to a visual work schedule and was eventually able to transition from the waiting room to the treatment room and between activities without incident (UNC School of Medicine, n.d.).

Anne's goals for this semester included touching an object/color photo to request a preferred item, selecting a picture and choosing the appropriate corresponding item when presented with a choice of two-color pictures/photos representing preferred items/activities, and finally, exchanging a picture/photo with a communication partner to request a preferred item/activity (Alsayedhassan et al., 2021). Initially, Anne's baseline score was 0% for all targeted objectives; by the end of the semester (approximately 3 months; two 45-minute sessions/week), she achieved 90% accuracy or above on all three objectives. Anne also began to spontaneously produce some intelligible and approximated verbalizations (e.g., "no"; "ball"; "block"; /bu/; /mo/) during various activities.

Because Anne achieved her targeted goals, an additional goal was added to improve her turn-taking skills during play-based activities. Initially, Anne was not able to take turns; by the end of the semester, she was able to take her turn at the

appropriate time with minimal verbal prompts 96% of the time during highly preferred activities.

Further Recommendations

It was recommended that future treatment focus on developing appropriate communicative means/acts to assist Anne with making requests and indicating protest/rejection. Additionally, it was recommended that Anne be encouraged to use and practice appropriate means/acts via a Picture Exchange Communication System (PECS) (Frost & Bondy, 2002) to communicate with different communication partners in a variety of contexts/activities.

Authors' Note

This information was based on a hypothetical case.

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