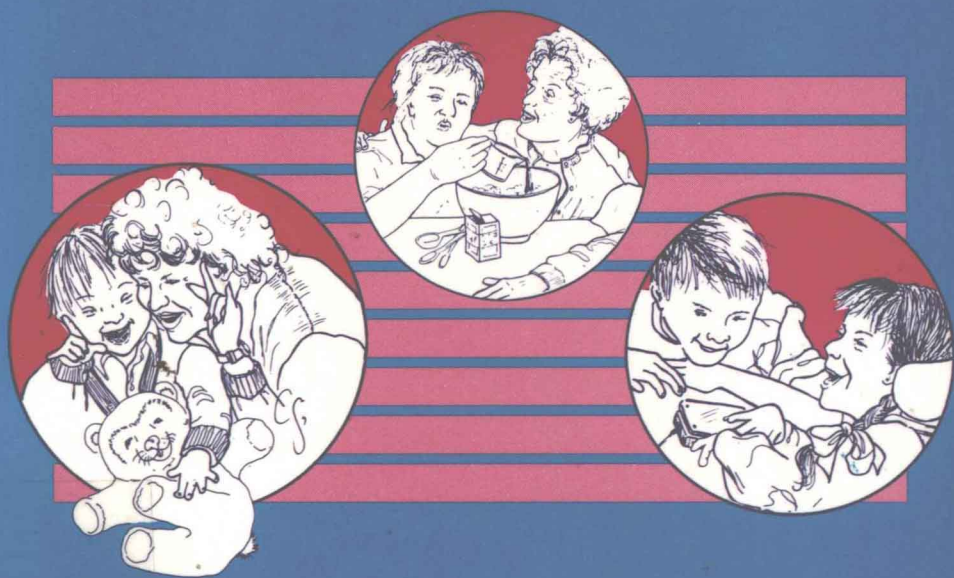# Communication Programming for Persons with Severe Handicaps

Vocal and Augmentative Strategies

Second Edition of Communication Programming for the Severely Handicapped: Vocal and Non-Vocal Strategies

Caroline R. Musselwhite
Karen W. St.Louis

Communication Programming for Persons with Severe Handicaps
Vocal and Augmentative Strategies

Second Edition of
Communication Programming for the Severely Handicapped:
Vocal and Non-vocal Strategies

Caroline Ramsey Musselwhite, Ed.D., C.C.C.-SPL
Irene Wortham Center
Asheville, North Carolina

and

Karen Waterman St. Louis, M.S., C.C.C.-SPL
Monongalia County Board of Education
Morgantown, West Virginia

Cover Artwork by Carol Goossens', Ph.D.

College-Hill Press
A Division of
Little, Brown and Company (Inc.)
34 Beacon Street
Boston, Massachusetts 02108

Printed in the United States of America

Acknowledgments

As in the initial version, this project began and ended without institutional support! However, the miracle of microcomputers allowed this book to become a reality (Caroline zapped two computers before it was all over!). The revision mushroomed far beyond the cutting and pasting that was originally suggested. Both the field of augmentative and alternative communication, and our own experiences in that field, have greatly expanded since our first book was published in 1982. This revision is an attempt to make this book more closely mirror existing knowledge and to provide more clinical support than in the first edition. We would like to acknowledge and thank the many people who provided the support that made this revision possible.

First, our immediate and extended families again gave a wide range of support. Our children, Matt, Katie, and Melinda, now in elementary and middle school, continued to learn new skills ("Isn't Worldsign new, Mom?") and remained patient of the interruptions of their routines. Our mothers, Julia and Louise, and mother-in-law, Sallie, magically invited our children to visit just days before crucial deadlines. Our fathers, Gene and Ed, were also very supportive.

More than 20 professionals from the United States, Canada, Europe, and Australia filled out a questionnaire regarding changes that enhance the book. In this way, we were able to obtain feedback from university teachers, direct service providers, students, and consumers. All of the suggestions were helpful, especially the ideas from Arlene Kraat.

Numerous professionals also took time to review various sections of the book, including: the staff at the Blissymbolics Communication International (Blissymbolics); Harry Bornstein (Signed English); Faith Carlson (PICSYMS); Gerilee Gustason (Signing Exact English); Roxanne Johnson (Picture Communication Symbols); David Orcutt (Worldsign); Lyle Lloyd (Sigsymbols); Dick Sobsey (Chapter 2); and Louise Kaczmarek (updated resources for Chapter 6).

Blissymbolics used herein are derived from the symbols described in *Semantography,* original copyright C. K. Bliss, 1949, Blissymbolics Communication International (a division of the Easter Seal Communication Institute, exclusive licensee, 1982).

Coworkers and administrative staff at the Irene Wortham Center offered considerable direct and indirect support. The Director, Bruce Fitchett, was most supportive and the following individuals reviewed sections or provided information: Arianne Piercy, Susan Royster, Stacy Small, and Sandy Showalter. The IWC children and their parents also provided inspiration and moral support. Inspiration was also provided by the students at North Elementary School in Morgantown, West Virginia.

Many members of the North Carolina Augmentative Communication Association (population 160+ and growing!) gave specific support in the form of reviewing sections, providing information, and taking over Caroline's newsletter duties, especially Karen Casey, Jean Sandhofer, Ken Whitley, and Gracie Williams.

Several individuals were available by phone each time a trauma occurred, including Barry Romich and Carol Goossens'. On the home front, friends provided the support needed to survive this project. Notable among them are Beverly Bieniek, Mary Lou Hutchinson, Maggie Lauterer, Kathy McGuire, and Phyllis Stiles.

Preface

The closest simile as to how people treat nonspeech people is how they treat pet dogs . . . think about that for a minute. How much difference is there? People take good care of pet dogs. They give them love, food, warm homes, attention when they are not busy. And people don't expect much out of their pet dogs. Just affection and obedience. This is the sad part. People just don't expect much from nonspeech people.

> — *Personal communication via voice synthesizer,*
> Rick Creech, *paravocal communicator*

Focus

This book covers both vocal and nonvocal, or augmentative communication strategies, as well as related topics such as preliminary skills and support systems. We chose not to limit the scope of this book strictly to augmentative strategies because we believe strongly that vocal communication, being the primary and normative mode, must always be considered. Including vocal language programming in conjunction with a more indepth coverage of augmentative programming will, we hope, help keep these communication modes in perspective. Throughout this book we will stress the potential usefulness of augmentative modes to facilitate or supplement vocal language. Observation of proficient augmented communicators has shown that use of multiple modes (e.g., vocalizations, gestures, and symbols) can greatly enhance success of communicative interactions. Therefore, we will stress use of a combination of modes, rather than selection of a single mode. Still, it is important to recognize that for some individuals augmentative modes will serve as an alternative to speech, at least for a portion of their lives.

The emphasis in the various chapters of this book reflects our varied purposes in covering different topics. Chapters in Part I are designed to acquaint the reader with background information and considerations that apply to all modes of communication programming. Therefore, these chapters explore important topics and provide directions and resources for further study. Part II presents an overview of selected vocal language programs and issues in vocal language training. Because of the large number of available programs, this is not intended to be a comprehensive literature review. Its purpose is to provide the reader with a basis for comparing various programs in relation to specific issues about developing communication strategies. Part III receives the greatest emphasis, as information concerning augmentative communication is less available and less inte-

grated. In addition, this part covers a wide variety of communication systems rather than focusing only on specific programs. We think it is important to provide sufficiently detailed descriptions of each system to allow the communication specialist to make informed decisions. The four appendices are designed to supplement, through various types of resources, the information presented in this text.

Overview of Chapters

Chapter 1 presents a decision-process model that can be used for structuring the increasingly detailed decisions that must be made regarding communication programming. Recent theoretical approaches to selecting communication modes for primary emphasis in training are described, and a visual continuum is presented as a means of following a client's progress.

Chapter 2 presents selected issues that relate to general communication programming. These issues, such as methodology selection, the content to be trained, and the context in which the training will take place, are described and then presented in later chapters as they relate to each communication mode (vocal, aided, or unaided).

Chapter 3 presents preliminary training strategies for skills usually considered prerequisites to language training. We have stressed the idea and trend apparent in recent literature that these preliminary skills, such as attending, can often be taught concurrently with communication oriented tasks.

Support services are described in Chapter 4. The need for a team of professionals, including occupational, physical, and speech–language pathologists, along with the classroom personnel and parents, is emphasized in planning and implementing communication programming. Sources of funding at the local, state, and national levels are discussed.

Vocal communication strategies are presented in Chapter 5. Several communication programs are reviewed as they relate to the general issues in communication programming raised in Chapter 2. Both general and prescriptive assessment strategies are presented. Involvement of parents in their child's programming is also discussed.

Chapters 6, 7, 8, and 9 deal with augmentative communication strategies. Chapter 6 describes the functions of augmentative systems and the implications for their use. Factors to consider in exploring the potential applications of aided and unaided modes are briefly discussed. Chapters 7 and 8 deal specifically with unaided and aided modes, respectively. An in-depth description of the communication systems that can be utilized with each of these modes is presented. Chapter 9 introduces the concept of using technology to increase interaction opportunities for people with severe communication impairments.

Populations for Whom This Book is Intended

This book is intended for a wide variety of client populations. These people may be divided into categories according to the basic impairment that influences the communication disorder. Table A lists these categories and indicates client populations that may fall within each. This table does not include all possible client populations. Also, the categories are not mutually exclusive; clients often have more than one impairment contributing to the communication disorder. For example, mental retardation may accompany autism or cerebral palsy. Our opinion is that considering the impairment leading to the communication disorder will often be more helpful than looking at population labels. The wide range of capabilities and limitations existing within a client population requires that decisions ultimately be made on a case-by-case basis.

This book is also intended for a wide range of people involved in working with those with communication handicaps. It is primarily intended for professionals designing and implementing communication programs. The major professional groups involved in these activities are speech–language pathologists and special educators. Physical therapists, occupational therapists, and developmental psychologists may also find this information useful in their overall program planning. Portions of this book could serve as background information for others working with people with communication problems, such as social workers and rehabilitation specialists. Augmented communicators themselves, and their families, should also find portions of the book useful, particulary the appendices.

Terminology

Terminology selection is often a controversial issue. Publications in the field of augmentative communication frequently print articles or letters concerning terminology, especially as it relates to labeling individuals or populations. The International Society for Augmentative and Alternative Communication (ISAAC) is currently working to standardize terminology across a diverse range of professionals and countries. The definitions in Appendix A are from a preliminary set of terms proposed by Lloyd (1985) in an ISAAC publication, and Vanderheiden and Yoder (1986) in an ASHA publication.

There are many terms to choose from in describing people who do not communicate through oral language (e.g., *nonspeaking, nonoral, nonverbal, nonvocal*). Each of these terms focuses on what the individual does *not* do, while the terms *augmented speaker* or *augmented communicator* focus on how the person *does* communicate. Therefore, we have chosen to use these posi-

TABLE A
Categories of Impairment Frequently Accompanied by Severe Communication Disorder

Cognitive Impairment	Sensory Impairment	Neurological Impairment	Emotional Impairment	Structural Impairment	Other
Developmental disabilities	Deafness	Cerebral palsy	Elective mutism	Glossectomy	Autism
Mental retardation	Deaf-blind	Aphasia	Childhood psychosis	Laryngectomy	Attention deficit disorders
		Apraxia			
		Dysarthria			
		Progressive disorders (e.g., myasthenia gravis, multiple sclerosis, amyotropic lateral sclerosis)			
		Dysphonia (e.g., head trauma)			

tive labels. To the extent that labels shape the way we think about people, it is possible that use of positive terms may increase listener expectations.

The term *nonspeaker* will refer to people who are not yet using augmentative strategies. We have selected the term *instructor,* rather than the limiting title of "teacher" or the sterile title of "trainer," to refer to the person providing direct instruction across different environments. It is our view that a variety of professionals and other caregivers will serve as instructors.

We feel strongly that naturally occurring communication opportunities are the most powerful learning situations. However, several factors may reduce the effectiveness of this type of learning:

- Insufficient number of naturally occurring opportunities
- A pattern of passivity or noninteraction on the part of the nonspeaker
- Failure to capitalize on opportunities due to logistic constraints (e.g., instructor occupied by another student).

Therefore, structured opportunities must be planned to supplement situations that occur naturally. A distinction can be made between *naturally structured techniques* — focusing on events that are, or at least appear to be naturally occurring — and *artificially structured techniques* — using rote instruction apart from context. Clearly, naturally structured training events should have the added advantages of context and intention. Musselwhite (1986a) presented numerous examples for adapting tasks from artificially to naturally structured.

As to our opening quote from Rick Creech, it is our hope that this revised edition will help professionals to better serve the needs of augmented speakers so that we may expect more from them, and they may experience greater self-fulfillment in the future. It must also be a goal of professionals and augmentative system users alike to educate the public to recognize the communication capabilities of people with severe handicaps, even though they may not be expressed through traditional modes.

Contents

Dedication

This book is dedicated to women who are pursuing their professional goals while juggling families, homes, jobs, continuing education, and other personal responsibilities.

Part I: Preliminary Issues

Chapter 1

The Decision Process

Developing and implementing a communication program for individuals with severe communication impairments involves making a series of decisions. The initial decision to introduce communication augmentation leads to a number of related, increasingly fine decisions. Even if very little time and thought go into the decision process, the resulting communication plan reflects a number of crucial decisions. It is critical that this process be brought to a high level of awareness so that decisions are based on the best information available about the individual, about persons with severe communication impairments generally, and about available augmentative systems and techniques.

Recent authors (Beukelman, Yorkston, & Dowden, 1985; Vanderheiden & Lloyd, 1986) have pointed out that decisions can best be based on the needs of individuals with severe communication impairment. This need-based matching of users with communication systems promotes individualization and ensures that decisions are based on the individual and his or her environment, rather than on preconceived ideas of systems that are "right" for specific populations. The diversity of needs for a single individual dictates that a single technique (for example, pointing to pictures) or aid will not be sufficient for meeting all of the communication needs of that individual. Vanderheiden and Lloyd (1986) speak of the need for a multi-component communication system, which includes "not only provision of the techniques (and any specific symbols and aids needed to implement them), but also the development of the skills in the individual and the teaching of strategies that promote effective use of aids and techniques in varying situations and environments" (p. 52).

The concept of a "multi-component system" is reminiscent of "total communication" for hearing-impaired persons. However, in common usage, the total communication (TC) concept may be inappropriately restricted to only unaided modes. For example, Wilbur (1987) described TC as "loosely, the simultaneous use of signs and speechreading." The introduction of the multi-component system concept allows for the use of a wider variety of techniques, aids, skills, and strategies. For example, Shirley, an adult with severely dysarthric speech might quickly specify the following communication needs, for which a multi-component system would be required: (1) conversing with her adult, literate children; (2) communicating with her pre-reading grandchildren; (3) preparing messages for use in public ordering (restaurants, stores); (4) writing letters to her sister in another town; and (5) sending emergency messages via the telephone. Structured use of a needs assessment form, such as that developed by Beukelman, Yorkston, and Dowden (1985, pp. 209–211, and summarized in Chapter 6 of this book), can assist a communication team in determining the array of needs that a multi-component system must address. Vanderheiden and Lloyd (1986) have developed a checklist of needs that should be met by an overall multi-component communication system. That checklist, reprinted as Figure 1–1, covers general needs, with specific needs further defined for individual users. As the authors stressed, a combination of components will be required to enable a given individual to achieve all of his or her communication goals.

A three-stage decision process model is presented as a framework for making the major decisions. Figure 1–2 illustrates this model, which is referred to throughout this book. The first stage involves determining candidacy for an augmentative communication system. The second stage involves symbol system selection decisions for choosing aided systems (such as Blissymbolics) and unaided systems (such as Signed English). The third stage considers implementation features such as content, access, method of training, and developing environmental support. A previous model (Musselwhite & St. Louis, 1982) included an additional stage for choosing between aided and unaided modes, with the caution that individuals will often need both modes. The present three-stage model reflects current thinking that a multi-component system, including multiple modes, will typically be required. To avoid promoting an either/or approach, the aided/unaided stage has been omitted.

Stage I: Candidacy for an Augmentative System

This stage of the decision process involves determining both who is a candidate for augmentative communication, and when augmentative intervention should begin.

Checklist for Client's System

	Yes	No

A. PROVIDES FULL RANGE OF COMMUNICATIVE FUNCTIONS
- — Communication of basic needs
- — Conversation
- — Writing and messaging
- — Drawing
- — Computer access (electronic communication, learning, & information systems)

B. COMPATIBLE WITH OTHER ASPECTS OF INDIVIDUAL'S LIFE
- — Seating system & *all* other positions
- — Mobility
- — Environmental controls
- — Other devices, teaching approaches, etc., in the environment

C. DOES NOT RESTRICT COMMUNICATION PARTNERS
- — Totally obvious yes/no for strangers (from 3–5 feet away) — Promotes face-to-face communication
- — Useable with peers/community
- — Useable with groups

D. USEABLE IN ALL ENVIRONMENTS AND PHYSICAL POSITIONS
- — Always with the person (always working)
- — Functions in noisy environments
- — Withstands physically hostile environments (sandbox, beach, travel, classroom)

E. DOES NOT RESTRICT TOPIC OR SCOPE OF COMMUNICATION
- — Any topic, word, idea can be expressed
- — Open vocabulary
- — User definable vocabulary

F. EFFECTIVE
- — Maximum possible rate (for both Quicktalk & Exacttalk)
- — Very quick method for key messages (phatic, emergency, control)
- — Yes/no communicable from a distance

— Basic needs communicable from a distance
— Ability to interrupt
— Ability to secure and maintain speaking turn (e.g., override interruptions)
— Ability to control message content (e.g., not be interpreted)
— Ability to overlay emphasis or emotion on top of message
— Low fatigue
— Special superefficient techniques for those close to individuals

G. ALLOWS AND FOSTERS GROWTH
— Appropriate to individual's current skills
— Allows growth in vocabulary, topic, grammar, uses
— New vocabulary, aspects, easily learned

H. ACCEPTABLE AND MOTIVATING TO USER AND OTHERS
— Individual
— Family
— Peers/friends
— Education or employment environment

I. AFFORDABLE
— Purchase
— Maintenance

Figure 1-1

A checklist of the requirements of an overall multi-component communication system. A multi-component system is one of different symbols, techniques (with aids as required), and strategies that are used together to meet an individual's overall needs and constraints. This checklist is useful in evaluating the systems of individual clients. Remember that the questions apply to the overall system of symbols, techniques, and strategies, not just to a single symbol or technique. From Vanderheiden, G., and Lloyd, L. (1986). *Communication systems and their components.* In S. Blackstone (Ed.), *Augmentative communication: An introduction.* Rockville, MD: American Speech-Language-Hearing Association. Reprinted with permission.