

# Chapter 50

## Augmentative and Alternative Communication Devices: The Voices of Adult Users

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### ABSTRACT

*Over the last 30 years, significant advances have been made in the technology supporting augmentative and alternative communication devices. However, technology often brings with it as many problems as solutions. This chapter reports on data collected in interviews with adults who use aided communication. In these interviews, they discuss aspects of their communication world and the opportunities and barriers they face. The chapter highlights some of the diversity of individuals who use, or who choose not to use, aided communication. It also considers the complexity of factors that may critically influence communication experiences and discusses some of these factors within the framework of the International Classification of Functioning, Disability and Health (ICF).*

### INTRODUCTION

Over the last number of decades, technological developments have increased exponentially, impacting on all aspects of life. Within the field of disability and rehabilitation, the positive impact of these developments has been great. For individuals with communication impairments,

new opportunities afforded by technological advances have been revolutionary. However, the value of technology lies not so much in its latent potential, but in its implementation as a solution to specific problems. The initial excitement about the potential of technology is now maturing to an evaluation of the impact of these developments in a rehabilitation context. Attention has shifted from the tools to an emphasis on the end goal of intervention and rehabilitation – successful

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communication. The objective in this chapter is to share the insights of adults with significant physical disabilities, who are finding their own models for integrating aided communication into their communication world. The data within the chapter are drawn from interviews with adults who use communication aids. As is clear from the interview data, these adults consider not only the benefits of aided communication, but also note why they do not always use their communication aids. Their insights into both the power and the pitfalls of aided communication remind us of the complexity of communication. They also highlight the crucial importance of support networks if communication is to work well and allow aided communicators to be fully integrated into the social world in which they live.

## **BACKGROUND**

Many individuals with severe congenital physical impairments do not develop sufficient motor control to allow them to use speech that is sufficiently functionally intelligible to meet their communication needs. Often these difficulties are associated with an underlying diagnosis of cerebral palsy, where not only speech, but also many aspects of motor control are affected. Other impairments including sensory and cognitive difficulties may co-occur, creating a profile of multiple disabilities. If speech is not functional for most communication purposes, augmentative or alternative communication modes may be harnessed to supplement or support natural speech abilities. Some of these modes may be 'unaided', that is, draw on the physical resources of the communicator and require no additional supports or props. Examples of unaided communication modes are facial expression, manual signing, gesture and eye gaze. By contrast, aided communication refers to the use of communication supports or props that are external to the individual, including communication boards and

voice output devices (Smith & Connolly, 2008). The remainder of this chapter will focus primarily on aided communication systems. The use of aided communication also implies a system of access to the aided mode. Access refers to the method by which an individual selects the specific symbol or symbol element (e.g., a letter of the alphabet). While some individuals may be able to access a target symbol directly, using perhaps a finger or an optical head pointer, others may rely on using switches to scan and select particular symbols. In general, the goal is to achieve an effective marriage of an individual's motor, perceptual, sensory, cognitive and linguistic abilities with a communication system, including a physical means of accessing that system. The physical access also incorporates issues such as seating, mounting or placement of the communication aid and mounting of any switches that may be needed. As individuals grow, develop and acquire new skills, changes may be needed to any of these components, the communication aid, the access system, the switch, the mount or the seating support. In addition, system developments such as changes in communication software or support technologies inevitably mean that models of specific communication aids change in regular cycles over a period of a short number of years.

The impact of advances in speech synthesis and computer technology in the field of Augmentative and Alternative Communication (AAC) emerged largely in the 1980s and has steadily increased its influence since that time (Beukelman & Mirenda, 1998) Individuals who were first introduced to speech output technology at that time are now adults, with up to twenty years' experience of using communication aids. Over that time span, most have experienced several changes of aid type, as well as of seating, switch technology and communication software. Often such changes are not driven by their own desire for innovation, but more by market developments, changes in their own motor skills, sometimes changes in their cognitive and linguistic skills and often by the

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