CHAPTER 1
DEFINITIONS, HISTORY, AND LEGAL ASPECTS OF ASSISTIVE TECHNOLOGY

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INTRODUCTION

For people without disabilities, technology makes things easier; for people with disabilities, technology makes things possible. – Mary Pat Radabaugh, a former employee with the IBM Disability Support Center. (IBM, 1991)

Over 49 million individuals in the United States present with an ongoing disabling condition. About 5.3% of them, over 13 million people are users of assistive technology (AT) (Olson & DeRuyter, 2003). Another 1.3% of all individuals, more than 3.5 million Americans, have such significant communication disorders that they cannot meet their daily communication needs through natural speech (Beukelman & Mirenda, 2005). These individuals are either users of or candidates for augmentative and alternative communication (AAC). AAC helps to compensate for the loss of speech and regain important communication skills. Both AAC and AT enable their users to cope better with their disabilities and to maintain or recapture participation in critical areas of daily life such as education, employment, family, and community. Although some of the available technology tools are highly sophisticated and expensive, many others are low technology and rather inexpensive but still have large potential for the
individual with a disability. As technology advances and new developments and applications constantly emerge, the basics about AAC and AT are not always common knowledge to caregivers, clinicians, educators, rehabilitation professionals, or the person who could benefit from AAC and AT.

The purpose of this chapter is to familiarize the reader with a basic understanding of the fundamental aspects of AAC and AT. An overview of technology definitions will distinguish AAC and AT from related types of technology. Major application areas of AT will be presented followed by a thorough discussion of the relationship between AAC and AT. A comprehensive historical perspective will highlight the most significant milestones in each field. The chapter concludes with an outline of the major United States federal legislation that forms the mandate for AAC and AT.

DEFINITIONS, HISTORY, AND LEGISLATION

Assistive Technology and Augmentative and Alternative Communication

Definitions of Technology

Dictionaries define technology as the “the science or study of the practical or industrial arts” (Webster, 1984). Although technology is traditionally associated with the use of machines or computers for specific purposes, there are actually several distinctive types of technology commonly used by individuals with disabilities, their family members and service providers. These include assistive technology, informational technology, instructional technology, and medical technology.

Assistive Technology. AT typically concentrates on the special needs of people of all ages who may exhibit a variety of disabilities, limitations, and/or challenges that limit their participation in daily life so that special assistance in sensory, motor, cognitive, and/or linguistic domains becomes necessary (King, 1999). More specifically, assistive technology can be defined as “the applications of science, engineering, and other disciplines that result in processes, methods, or inventions that support people with disabilities” (Bryant & Bryant, 2003, p. 2). An assistive technology device is described by Public Law (PL) 100-407, the Technical Assistance to the States Act in the United States, as “any item, piece of equipment, or product system whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain or improve functional capabilities of individuals with disabilities.”