CHAPTER 15

EPILOGUE: THE FUTURE OF ASSISTIVE TECHNOLOGY

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INTRODUCTION

The past 30 years have seen tremendous growth in the development of technology applications to address the needs of individuals with disabilities. This type of technology has become known as “assistive technology” (AT). By current estimates, more than 20,000 AT products have been created to enable individuals with disabilities to be mobile, communicate with others, control their immediate physical environment, and be fully included in educational and work settings (Bazinet, 1995; De Jonge, Scherer, & Rodger, 2007). To a large degree, these immense developments are the direct result of strong advances in computer technologies and the computerization of many aspects of society. Because of computerization, individuals with disabilities can nowadays participate in many educational and employment opportunities they previously had no access to. By making use of the latest technological advancements, they can be more competitive on the labor market and have better chances to benefit from the same educational opportunities as their able-bodied peers (Robinson, 2000; Schneider, 1999). Huge developments in mainstream technology following the principles of Universal Design (Okolo, 2008) have already leveled the playing field for many users with special needs, whereas others have
benefitted from AT devices particularly developed to remediate their functional impairments (De Jonge et al., 2007).

This chapter aims to look at some of the most significant current and future movements related to advancing AT development. Drawing and expanding upon the issues raised in the chapters of this text, the discussion of future issues and directions focuses on the topics of (a) current advances in technology, (b) future trends, and (c) importance of universal principles and evidence-based practice (EBP).

FUTURE ISSUES AND DIRECTIONS

*Current Advances in Technology*

Although high technology is only one particular component of AT, it has assumed a dominant role over the recent decades. This technological revolution already began at the end of the 20th century when dedicated devices were assembled in isolated research centers and progressively transformed into multifunctioning, computer-based, information systems benefitting users in the broader community (Stephanidis & Emiliani, 1999). Technological breakthroughs initially occurred in aerospace research, army intelligence, and university research and from there expanded into family homes and businesses around the world. As described in Chapter 2 of this volume, computer technology continues to develop at an incredibly fast pace. The power of computer technology has made tremendous strides over the past two decades. Modern computers have become much more compact, faster, and cheaper, constantly creating new fields of application. Whereas in the early days a computer system would fill an entire room, the same processing power can nowadays be integrated into a device that fits the palm of a hand (De Jonge et al., 2007). Processing speeds have increased to turn calculations that once lasted days when done by hand into a matter of milliseconds. Simultaneously, computer technology became more and more affordable; once a major purchase only few could make, computers are now part of a regular household budget. The most influential development on the high-technology sector in recent decades is considered to be the Internet. Chapter 3 illustrates how the globalization of information enables users to gain instant access to all types of resources; the Internet allows communication from one’s desktop with communication partners everywhere. The ease and speed of Internet communications and interactions constantly improves and has made a major impact for users with disabilities. Workplaces, for example, have undergone