

Review: James K. Luiselli & Aaron J. Fischer (eds.): Computer-Assisted and Web-Based Innovations in Psychology, Special Education, and Health

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**Review of
“Computer-Assisted and Web-Based Innovations
in Psychology, Special Education, and Health”
edited by James K. Luiselli & Aaron J. Fischer**

Ladan Fathi

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Computer-Assisted and Web-Based Innovations in Psychology, Special Education, and Health edited by James K. Luiselli & Aaron J. Fischer. London & San Diego: Academic Press, 2016. 408 pp., \$74.95 (hardcover), ISBN 9780128020753.

Keywords: computer-assisted technology, special education, psychology, telehealth, computerized interventions.

The acceleration of progress in computer technologies and their prevalence have increased the importance of investigation of their application in some of the most important aspects of people’s lives. Educational and healthcare professionals use different technical terms than technology innovators, and there is a gap between researchers and practitioners in these disciplines in the use technology as many technologies remain in the laboratories while they can facilitate practitioners’ assessment or interventions, particularly because not all the experimental results are applicable in real contexts. As solution by providing a source that professionals of different disciplines can use, the book adopts a multidisciplinary perspective and serves as a mediator between the experts who are involved in the related disciplines. The book is an exploration of technologies involved in three areas that are clearly

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indicated in the book's topic, including psychology, special education, and health. The content consists of a combination of literature reviews, conceptual and background descriptions, practice considerations, and further research directions for each subject. The emphasis of the book is on the application of technologies in real-life settings, educational and clinical practices. Consequently, it starts with a comprehensive literature review on the utilization of technological innovations in the academic researches and laboratory settings and continues with suggestions for employing those methods and technologies into practice. Therefore, as it is mentioned in the preface of the book, it is clear that it intended for a broad spectrum of audiences, including scholars, practitioners, students, and trainees in various fields of psychology, psychiatry, counseling, health, education and related disciplines. However, the book has a great potential for those who work on the design and development of technologies. Specifically, it is a comprehensive introduction for scholars of computer science and interdisciplinary fields such as interactive technologies, human-centered computing and virtual reality who are interested in the design and examination of new applied technologies in health, psychology, and education.

The book is structured in four sections with different focuses including technology for monitoring, assessment, and evaluation, technology for intervention, technology for special education, and technology for training, supervision, and practice. Each chapter starts with explicating the fundamental concepts about the subject that are required to understand the technological needs, functions and related concerns. Moreover, in each chapter, the authors provide a background for the concepts and the technological progression in their field. These introductions facilitate the translation of knowledge from a specialist point of view to the language of designers, educators, and the broader readership. Each chapter ends with future directions for practice, recommendations for future studies or innovations. Thus, the book is specifically a valuable source for scholars and graduate students. They can use the book as the preliminary source for their studies.

The first section consists of four chapters; the focus of the first two chapters and chapter four is on describing methods, criteria, and technologies for the measurement, assessment and evaluation of behavior, affection, physiological parameters, and physical activities. They elucidate measurable behavioral and physiological features by the current methods and devices. They also provide a good guidance for data gathering, data analysis, interpretation and meaning extraction from the collected data. one part of each chapter in this section describes the use of technology

in real life and clinical practice settings. These chapters appropriately placed at the beginning of the book. Familiarity with research and practice possibilities is essential for students and researchers, who are new to the field. As a result, they are specifically beneficial for those who need an overview of the measurable parameters and related criteria to design a study, and it can be used as an educational source. Although the third chapter is also about utilization of technology in the assessment of students, it focuses on specific learning problems consists of learning disabilities and attention-deficit hyperactivity disorder (ADHD) that are discussed in the third section. On the other hand, a large part of this chapter discusses assistive technologies, which are more related to interventional technologies of the second section. These features separate the third chapter from other ones in the first section.

The second section with three chapters discusses interventional technologies in the treatment of psychological disorders. While the first two chapters focus on specific technologies in the treatment of common mental health disorders such as telehealth and virtual reality therapy (VRT), the third chapter focuses on addiction as a psychological disorder and overview helpful technologies for its treatment. All chapters provide a review of the existing literature and devote some space to practice recommendations. Chapter 5 which is the first chapter of this section explain the employment of telehealth technologies in evidence-based psychotherapy and discuss each disorder separately. Chapter 6 focuses on virtual reality therapy as an innovative technology to be used in the treatment of psychological disorders and reviews the related research. It explores the paradigm behind its usage and discusses alternative approaches. The authors list the researches in this field but do not provide an in-depth example of experiments or therapies, and do not explicate the related therapeutic concepts. Consequently, the chapter does not fill the gap between therapists and technology innovators and do not serve the role of translator adequately. Chapter 7 which is the third chapter of interventional technologies, focuses on addiction and substance abuse as the main subject. It extensively discusses different interventions and explains the findings of relevant studies. Further, considerations related to the recognition of the best patient for using interventional technologies are mentioned. On the contrary of the previous section that was generally useful for researchers, the second section is a valuable source for researchers, practitioners, and trainees in related areas.

The third section is about technologies for Special Education that includes four chapter. Each one of them exclusively discusses one method for one group of individuals with special needs. Chapter 8 is about

video modeling (VM) and focuses on children with autism spectrum disorder (ASD). It explains the employment of VM in diverse settings for skill improvement of children with ASD and discusses teaching each of the required skills under a separate subtitle. It also briefly discusses utilization of video modeling as an “effective instructional strategy for other neurodevelopmental disorders” (p. 203). Learning disabilities for the second time in the book becomes the focus of chapter 9 as a big group of individuals who need special education. The chapter gives an extensive background of computer-based instruction (CBI) and learning disabilities. Then, it explains priorities, concerns, and challenges in research about CBI. A large section of this chapter is dedicated to various techniques and technologies for special education. It also provides extended practice recommendations. Chapter 10 is dedicated to the use of augmentative and alternative communication (AAC) as an interventional and instructional technique to improve communications with individuals with intellectual and developmental disabilities (IDD). It describes research findings related to the design and use of AAC technologies, priorities, and compares the modalities. Practice recommendations, including guidance to recognize the suitable technology for each person is provided at the end of the chapter. Chapter 11 also focuses on individuals with profound intellectual and developmental disabilities and discusses the assistive technologies that can improve their quality of life. It mostly focuses on the microswitches for intervention and elaborates on different conditions and combinations of them in various studies.

The final section of the book consists of three chapters that are devoted to technologies for training, supervision, and practice in mental and physical health. However, it devoted one chapter to related legal and ethical issues. It begins with chapter 12 and discussion about telesupervision. It explains different technologies and methods, their limitations and concerns. Chapter 13 looks at telehealth technologies from a different perspective and focuses on their legal, regulatory, and ethical issues. The content is divided into three main topics of practice guideline concerns, privacy, confidentiality, and informed consent issues, and concerns about financial reimbursement from third-parties. This chapter is particularly useful for practitioners who provide mental health services. Chapter 14 which is the last chapter of the book is devoted to technologies for clinical practice. Smartphones and video games comprise the main discussed technologies in this chapter. The use of smartphones in assessment, intervention, treatment, and monitoring is discussed. Likewise, the interventional role of video games is explained. It also briefly looks at the sensory and wearable technologies that are

discussed in detail in the first section.

One of the specific features of the book is that its viewpoint is not limited to either laboratory or clinical setting. Rather, it provides the information about research in both laboratory and real-life setting, also clinical practice recommendations and employment of the technologies. Since the content of each chapter is independent of the other ones, readers do not require to read the whole book. They can read the sections that are more related to their interest or work. Each chapter contains considerations and important issues corresponding to the specified technologies. This information helps the researchers and practitioners to have well-informed decisions. As the content of the book supplies a literature review for each subject and even provide an expanded bibliography, it is a resourceful reference for the prominent studies related to the field and facilitates finding the gaps in the knowledge. The content of the chapters overlaps each other in some cases like video modeling and learning disabilities, but they are mostly discussed from different perspectives and in varied context. The most important drawback of the book is that the speed of technology progress determines how fast the content of the book will become outdated. However, the book can still be a good source of background information for scholars and researchers for a long time.



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