Preface

This book is a multidisciplinary endeavor, a collection of chapters by philosophers, psychologists, sociologists, computer scientists, medical researchers, and theologians united in the common goal of sharing scholastic-based insights on virtual learning from their disciplines. The challenge facing the reader is to consider insights from a lens beyond one’s academic specialty and ideological frameworks typically employed to interpret phenomenon occurring at the intersections of disciplines. Virtual reality is such a phenomenon since its features and applications make use of capabilities originating from a variety of disciplines. Virtual reality offers the means for a person to experience an immersive environment offering dimensional multi-sensory input. The level of sensory engagement plays a significant role in the suspension of disbelief for producing perceptions in the mind similar to real-life experiences. Virtual reality, by offering close proximity to reality via levels of sensory engagement, can convince the human mind that experiences and interactions with objects and other people in virtual spaces are just as meaningful as those in real life. The medium in which people interact, whether virtual or physical, can augment and alter how the mind perceives, interprets, and associates current views of selfhood to evolving views being shaped by new experiences. The blending of human experiences across physical and virtual spaces introduces new forms of selfhood creatively expressed in digital identities that can, and often, span both.

Against this backdrop, interest is growing in researching the interconnectedness of selfhood, virtual reality and learning. Virtual learning environments can lead to reduced isolation and rapid formation of social groupings independent of geography. This phenomenon can be seen as positive or negative depending on the beholder’s perspective when interpreting its impact on identities, social structures, group formations, and the “art-of-the-possible” for designing and shaping the future with virtual learning. Overall, the consequences are likely to be positive and to include improved prospects for accessibility, diversity, geographic independence, and shrinkage of isolation.

The reader is encouraged to not read for a “right” interpretation about how selfhood and society ought to be developed and integrated in closer ways through virtual learning. The contributing authors are not attempting to convince readers about the “rightness” of a specific viewpoint, but are introducing new ways of thinking and reflecting on the connections between selfhood, society, and learning from various perspectives from which interdisciplinary insights are offered for embracing the art-of-the-possible. The perspectives are offered as lines of thought to stimulate receptivity and inquisitiveness on the variety of meaningful ways people can perceive, think, interact, and learn across physical and virtual spaces. Closer ties between selfhood and society through virtual learning offer prospects not from the basis of a future delivered by clever use of technology advances but rather from artfully crafted forms of transformative learning communities made possible by advances in new ways of thinking for bridging and using physical and virtual spaces.
The reader will discover a variety of ways educators can co-create, as artists of reality, across landscapes spanning physical and virtual learning spaces. Virtual learning landscapes can be crafted to offer aesthetic delight to a sojourner from which the interiority and exteriority of private and public expressions of selfhood can be bridged for transversal journeys for the common good. The opening stanza to Schiller’s poem Ode to Joy captures this aesthetic delight when educators weave allelomorphs together through artful practices (*modified):

Joy, beautiful spark of divinity,
Daughter from Elysium,
We enter, drunk with fire,
Heavenly, thy sanctuary!
Your magics join again
What custom strictly divided;
All people become brothers,
Where your gentle wing abides.

New forms of community and society, made possible with virtual learning, transforms not only symbolic order of constructs for what is possible in the mind, but also in society for the common good. The allelomorphs of virtual and real, theory and practice, and art and life no longer need to stay opaque and suspended in realms of provisional constraint for the educator. The art-of-the-possible for weaving closer ties between selfhood and society through virtual learning is neither entirely utopian nor dystopian in origin or outcome. Rather, virtual learning landscapes beckon the educator to map and navigate ways to bridge physical and virtual spaces for discoverable, translucent, and shareable learning passages for the common good in society. The editors of this book call and invite the undecided educator to consider the insights offered by the contributing authors who are reporting back from their own selfhood and society transformational experiences with virtual learning.

The reader will find bold conjectures offered by authors from which progressive advancement is made possible with virtual learning. The book begins with chapters offering theoretical underpinnings supporting virtual learning on the basis of traditional philosophical claims about selfhood shaped by community and society social relationships. Major philosophical claims are introduced at the beginning of the book and, in many cases, threaded through chapters addressing organizational behavior, leadership, sociology, cognitive and assessment sciences, computer engineering, and transdisciplinarity efforts with virtual learning. Each chapter is introduced below.

Andrew Stricker (Chapter 1) introduces major philosophical claims underpinning the transformation of human experiences with virtual learning for enabling new forms of selfhood and society. The author describes the ways people can perceive, think and interact across virtual and physical spaces from which fundamental changes occur to the mind, identity, social interactions, intellectual boundaries, and ways of knowing and learning in society.

Andrew Stricker and Cynthia Calongne (Chapter 2) continue with the philosophical claims by describing ways to reconstruct stronger ties between an educator’s professional identity to Aristotle’s held view of the importance played by “civic friendship” to the common good of democracies nurtured and sustained by education. The authors highlight the ways virtual environments can offer benefits for supporting the development of an educators’ professional identity around the common good by means of sustained “in situ” deliberations and engagement with virtual learning.
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Fil Arenas and Daniel Connelly (Chapter 3) build upon the insights offered in Chapters 1 and 2 by extending the broader concept of civic friendship to conviviality practiced in social interactions necessary for supporting beneficial face-to-face and virtual experiences. The educational context is introduced as one of many that can benefit from both types of experience. Impairment of the components of a shared learning experience (self, others, teacher) does not have to occur if educators understand the unique combination produced by the content to be learned plus the markers of the type of learning experience selected. The authors conclude that conviviality in a specific application is not only possible, but, potentially highly productive in cyberspace, minimizing the logistical, high-risk, and cognitive constraints that can impair other forms of communication and specifically non-cyber learning experiences. This chapter contributes to new era of human interaction literature in the age of virtuality.

Fil Arenas (Chapter 4) takes up the impact of virtuality on leadership development in cyberspace and outlines new challenges encountered within an abstract interactive environment. The flexibility and versatility of virtual spaces offers many freedoms from ordinary rules and restrictions. The author addresses the development of individual character and provides guidance for virtual leadership. A case is made for aspiring authentic transformational leaders to continue their awareness of selfhood and society in cyberspace milieus by opening their human apertures while leveraging their signature character strengths.

Valerie Hill (Chapter 5) extends understanding of virtuality’s impact on a global scale whereby a participatory digital culture can provide collaborative learning opportunities beyond physical walls and without time constraints. Learners connect across the planet in real time. The virtual representation of self requires understanding of personal responsibility for digital citizenship and information literacy. Both presentation of self and evaluation of content in all formats are new challenges for learners of all ages, including the youngest students born into an age of sharing and connecting. The author offers a transparent perspective on the ways virtual learning environments may transform education while also presenting challenges and potential disadvantages for educators and learners. Understanding personal responsibility for digital citizenship is imperative to best practices of education in virtual spaces. Overall, this chapter focuses on digital citizenship and information literacy in virtual worlds, virtual reality, and immersive learning environments.

Shahnaz Kamberi (Chapter 6) outlines how and why virtual worlds are the best gaming environments for female game players. The chapter explores strategies for using this information through a case example wherein a mass multiplayer online game environment is offered to improve the negative perceptions of computer science and programming by teenage girls. The author shares insights from a case study involving workshops, utilizing a 3D virtual world called Gamher World to teach Java programming to forty nine 13-17-year-old girls. The chapter concludes with recommendations for using virtual worlds to improve the methods used to introduce STEM to girls.

Ayse Kok (Chapter 7) suggests methods for data analysis using a social network analysis tool, such as NodeXL. The author offers a framework of analysis for various roles of social participation in mobile social media: (i) lurkers; (ii) gradually mastering members/passive members; (iii) recognized members; and (iv) coaches. This chapter draws attention to the fact that learners can inter-change roles of social participation – becoming more central or less central in learning discussions. From these insights the author proposes a continuum model for understanding social participation with the use of mobile social media for learning. Suggestions are also offered for future research to investigate whether the continuum offers benefits across a wide range of cultural contexts.

Francisca Yonekura (Chapter 8) highlights the ways virtual learning, in the third dimension, presents many opportunities for meaningful learning to occur. The author addresses learning in which the
learner’s self and the collective self immerse in the co-creation of authentic experiences. The virtues of these 3D environments are best appreciated holistically through the visual and the spatial perspectives. For meaningful learning many variables interact; however, of great importance is the role selfhood plays. Arguments are offered for the ways the learner can learn by doing, as the center of a learning event, made possible by advances in virtual reality.

Kara Bennett (Chapter 9) discusses educational projects for learning problem-solving strategies in virtual worlds for encouraging people to respect human rights. The discussion includes philosophical issues addressing the need to design new models for virtual learning for engaging a person’s unique ways of thinking and interacting with educational content. The author describes an instructional design for her virtual world projects based on adapting the Think Aloud and Means-End analysis research methods for the evaluation of how learning about human rights in virtual environs might transfer to the real-life community.

Mary Kay Clennen and her colleagues (Chapter 10) apply work in virtual learning to address the rise in the prevalence of overweight and obesity in American youths. This chapter describes the rationale for the virtual world features of an ongoing obesity prevention project that engages middle school aged girls in a 3-week summer science enrichment program. For the project, the authors created the “The Get in the GROOVE!” program to promote self-efficacy for healthy behavior change, increase health knowledge, facilitate healthy behaviors related to physical activity and nutrition, encourage a healthy body image, and promote the development and consolidation of a health self-identity. The virtual world component of the program supplements experiences and reinforces curriculum and concepts learned in the physical world component of the program. Preliminary findings suggest that “The Get in the GROOVE!” program is a promising social environment to motivate healthy habits.

Rachel Umoren and Natalia Rybas (Chapter 11) describe the benefits of interprofessional education, via virtual learning, in context to how the U.S. healthcare delivery system relies on the formation of ad hoc teams of highly-trained, experienced, providers of various specialties. The authors discuss the nature of work performed by medical providers as members of interprofessional teams that converge to address situations around acute patient care. Various models of virtual training provide structured opportunities for interprofessional education, whereby learners engage with roles and responsibilities essential for their professions and active collaboration with other team members. This learning is transformative as it influences the development of professional identity and teamwork skills needed for successful collaborative practice in interprofessional teams. Overall, the chapter explores the role of training health care professional students using virtual simulations and the emerging potential of virtual and augmented reality for health professional education.

Robert Poole (Chapter 12) offers an intriguing insight for new directions with virtual learning through comparisons with the travelogue concept. In the U.S., travel writing and the travel novel have historically held important positions in the literary landscape – not only as self-help guides and conveyances for empirical information but also as vehicles for satire, social commentary and analyses of the human condition. John Steinbeck, Jack Kerouac and William Least Heat-Moon are just a few of the important 20th century authors who have made insightful use of this genre. The author highlights how increasingly realistic virtual reality environments have been sculpted, imbued with creative content and populated with both artificial agents and real avatars on a scale that can be measured in hundreds of virtual square miles. In some cases the content is thematic and designed; in others it has grown up spontaneously through the individual contributions and creativity of users and small groups. It is this spontaneous blossoming of art, culture and ideas sprawling across increasingly spacious and interconnected virtual
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landscapes that presents us with the opportunity to continue the tradition of the epic travel story across new virtual territory.

Cynthia Calongne, Andrew Stricker, Barbara Truman, and Fil Arenas (Chapter 13) offer insights to educators for the value of virtual learning using the lens of appreciative inquiry. The author examines ten years of virtual learning and reflects on the impact of presence, and explores how learning communities can develop when students assume roles while learning as part of their cognitive apprenticeship experience. The examples offered in the chapter reinforce the value of deep immersion and identity in situated learning. The software design learning activities illustrated in the chapter highlight the benefits experienced when students assume ownership and structure their activities. The authors advocates for why educators need to engage learners in self-reflection, to explore shared values, form into groups, and make personal discoveries. From their own experiences the authors offer examples to illustrate the power of design thinking during individual and group work. Applications to computer science education are also offered by Cynthia Calongne from her observations obtained by mentoring 400 8th graders.

Kae Novak (Chapter 14) makes a case for educators to understand how virtual learning has advanced outside of institutional learning management systems and how people think, interact and perceive themselves in virtual spaces that are not tied to traditional learning. This chapter is a case study of an educator’s gaming guild as it evolved in the exploration of virtual learning when transitioning from a social guild that participated in casual raiding to embarking on progressive raiding. Guild leaders and members approached this as an opportunity to use their knowledge of learning strategies to develop the group’s social metacognition. From the insights of Guild members the author addresses the importance of educators, wanting to move past the limitations of learning management systems in predominantly text based courses, to understand and appreciate the identity and roles taken on by learners in virtual environments and to appreciate the benefits from networked presence available to learners such as found among guild members.

Lauren Reinerman-Jones, Martin Goodwin, and Benjamin Goldberg (Chapter 15) review how education in general has transcended boundaries of a physical classroom and given rise to the phenomenon of ubiquitous learning (u-learning) and the ability to access knowledge on-demand. To understand the effect of learning as it is evolving, the chapter puts forth a framework of formal, non-formal, and informal virtual learning environments discussed on the basis of nine components. The authors present compelling arguments for why the role of assessment within this new learning paradigm must be reconsidered as the learning environment changes. The chapter concludes with a discussion of integrating assessment into intelligent tutoring systems and the importance of designing such systems as open architecture for accommodation of a variety of domains.

Barbara Truman and Jaclyn Truman (Chapter 16) discuss the uniqueness of personal learning as an ability to master with self-determination. The authors highlight how personal learning also involves constructing representational learning artifacts that are used across life into work and society. The use of avatars, to foster identity within collaborative virtual environments (CVEs), is also discussed from the viewpoint of the representative expressions of selfhood they offer for participating in diverse communities. In interesting ways, the authors draw connections between the Internet of Things (IoT) and the evolving human abilities by providing a spectrum of emerging technologies that can connect physical and virtual world activities. Interconnected smart devices automate services and provide timely information resulting in safety, security, and efficiencies, especially for vulnerable populations such as persons with disabilities. The relationship is explored when IoT applications are combined with use of CVEs, avatars, and a discipline of presencing. The authors argue how inclusivity is not only possible,
but becomes probable. Future research is described how individuals, organizations, and communities can be impacted by personal learning influenced by the inevitable growth of IoT and virtual learning.

Themba Ngwenya (Chapter 17) examines the future identities of the self among learners across physical and virtual spaces and attempts to explain how these roles could flourish across the tech-centric learning environments. The study described in the chapter offers insights on the origin of identities, how they relate to current and future models of education, and what future identities and roles are possible. Challenges mentioned by the author include those associated with evaluation and assessment of the virtual spaces, as well as new ways of capturing the environment feedback by utilizing sensors and wearable technology. Highlights involve virtual environment design using gamification techniques and security aspects of the future identities. The conclusion summarizes factors and stakeholders that need consideration when creating adequate physical and virtual spaces for the future identities of self.

Cynthia Calongne (Chapter 18) discusses how magic in virtual learning can occur when discoveries lead to personal triumphs. This chapter explores selfhood and society from the lens of the virtual pioneers and educators as settlers who nurtured the development of sustainable communities. It draws a modest portrait of the people who shaped these communities as they explored the unfamiliar landscape. Amid public criticism and considerable risk, what drove them to persevere? At the heart of virtual world education is an ecosystem comprised of thousands of educators, curriculum designers, librarians, technology evangelists, and administrators who provided the infrastructure and environment for teaching and learning. The background introduces the early work and the chapter closes with a reflective look at the pioneering spirit.

Barbara Truman (Chapter 19) explores transformative personal growth through use of advanced forms of virtual learning and application of concepts from systems thinking, presence research, and Transdisciplinarity. The result is a practice of a technology-enabled, embodiment of hope. The author advocates when thriving is likely, the implications of increased individual and collective consciousness enables development of a fusion of Gemeinschaft and Gesselschaft. The harmonization of such a fusion of community and society creates a new form of society, where space, place, and relationships interact like a blended urban village. As communities shift to incorporate and extend the Arts and culture in this new Society, complexity is appreciated from its reciprocity with Nature. Awareness of selfhood and society is more integrated through Being providing new possibilities to co-create the future.

The editors are pleased to offer the reader rich and wide-ranging topics on virtual learning from a juxtaposition of academic domains and applications. The transcendent greatness of imagination, more than any other insight offered by our authors, illuminates the unfinished, yet unfolding nature of the work ahead for educators. Virtual learning, like the unfinished Michelangelo sculpture depicting the human body emerging from stone, the elements that imprison it; the left arm of the “art-of-the-possible” is raised representing the will to evolve towards ever greater beauty in form and expression of selfhood in society.

The Editors