Preface

This book represents an intellectual partnership between the authors that began in the year 2000 with the Pilot Projects in the Virtual Learning Environment – AVA-UNISINOS. It was here that Eliane Schlemmer, concept maker of this digital technology, and Luciana Backes, as a participant of the pilot-project, through the postgraduate program in applied social sciences, effectively began an intense interaction process. Their partnership evolved into “Construção de Mundos Virtuais para a Capacitação a Distância” (“Construction of Virtual Worlds for Distance Capacitation”) and intensified with the creation of the Digital Education Research Group – GPe-dU UNISINOS/CNPq in 2004. It subsequently developed further with Luciana Backes entering the Masters in Education, followed by the Doctorate in Education, both Programs of the Postgraduate in Education at UNISINOS, under Eliane Schlemmer’s mentoring. During this period, the authors have taken part in several research projects, which are theoretically systematized in this book and presented in Chapter 15, “Brazilian Experiences in Metaverse.”

Within this context, and in the flow of our constitution as professor-researchers, we exchange and share interests, ideas, knowledge, experiences, and construct research practices (in a movement of experiencing the research) related to Education in Digital Culture, more specifically regarding Web 3D technologies – Metaverses, under the perspective of Hybridism and Multimodality. This collaboration between the researchers is based on the perspective of nomadic hybridism and multimodality, in the coexistence of physical face-to-face worlds—analogue and digital virtual worlds—in an extension of culture that reaches Digital Virtual Culture – or even a (meta)culture. From this context emerge actions, relations, and interactions between subjects that share their living and sharing in Metaverses, through the creation of Digital Virtual Worlds in 3D. In this way, more intense theoretical-practical-methodological connections and closeness are translated into a collaborative and cooperative construction, and this work is an example of its results.

This book represents a turning point that consolidates our research in the context of the Digital Education Research Group – GPe-dU UNISINOS/CNPq, which up until the present has mainly been concerned with the theme of “Metaverse Learning” in higher education and postgraduate settings. It is important to note that when developing Metaverse research, especially with Second Life, there are many aspects, regarding the basic educational context, that deserve the attention of researchers. These were not dealt with in this work as they did not match the target group for the research we have been carrying out in the Digital Education Research Group – GPe-dU UNISINOS/CNPq so far. One such aspect refers to the presence of adult content on a different island, which is easily reachable the moment an avatar logs in.

The theme of “Metaverse” arose at the end of the 20th century, at the heart of the movement and of techno-scientific dynamics, with the development and the power of network connection systems, and is therefore associated with a virtualization process. In order to better understand how Metaverses arise,
we need to look at history. Metaverse technology currently constitutes new possibilities for the teaching and learning processes, including telepresence and digital virtual presence (through an avatar) of their members in shaped spaces in three dimensions, in a timeless time and in a space of flow of digital virtual nature. This new possibility can configure itself as innovation, linked to pedagogical practices that contribute to the teaching and learning processes.

In this sense, we demonstrate that pedagogical practices based on an epistemological interactionist/constructivist/systemic conception provide experiences in living and collaborating, disturbances and problematization, socialization of representation of perceptions, and the construction of knowledge in a collaborative and cooperative way, fostering the development of a new network learning. Within this movement, we have identified newly emerging paradigms that are coming to the fore. From movement and dynamic perspectives, we have developed an interdisciplinary reflection, based on the theories developed by sociologists such as Castells, Sousa Santos, Maffesoli, Lemos; by biologists in the field of human development, such as Piaget, Maturana, Varela; geography professors, represented by Santos; philosophers, represented by Lévy; educators, such as Freire, Becker, and Moraes; physicists, such as Capra; educators in informatics, like Primo; among many others quoted in this book.

We consider it important to highlight that this interdisciplinary context has been configured because when we started the research in this area there were almost no theories investigating learning in Metaverses using the perspectives of Genetic Epistemology developed by Jean Piaget, the Biology of Learning by Humberto Maturana and Francisco Varela, and the Biology of Love by Humberto Maturana. The use of these epistemologies/theories as our main theoretical grounding is due to their conceptual strength and the fact that they appeared before theories on Metaverse Technology in Education, and therefore need testing in current contexts.

We do not therefore mean to disregard epistemologies/theories so far constructed, but to give them new meaning, through research, aiming to comprehend the changes in learning, when human beings form their thoughts from a new language, the digital language. It is about understanding how living and collaborating take place, including learning, on a daily basis.

More and more often, we understand the movements of humanity from a holistic view, through systemic thinking, from the self-eco-organizing conception, based in the complexity paradigm. As a result, we need to reflect on the educational context embedded in the social context. Castells has contributed to a reflection on currently established relations between people constituted through digital technologies present in the network society.

It is with great satisfaction, then, that we present our book, *Learning in Metaverses: Co-Existing in Real Virtuality*, in which we share our daily living and sharing with some temporary certainty we have been constructing along our path as researcher-professors, and equally some temporary doubts arising from this process. We therefore invite you to join us in this research space, reflecting, dialoguing, along with other researchers we quote throughout the work who have helped us to better understand this new learning universe in Metaverse. We hope your reading will bring you moments of satisfaction, unease, and the desire to know more, opening up the imagination and creating and innovating activity.

To start with, the teaching and learning processes in the Network Society context are approached in Chapter 1, “Teaching and Learning in the Networked Society.” We present and discuss subtopics such as: Networked Society; Information and Knowledge; Teaching, Learning, and Development; and the “Homo Zappiens” Generation; with a brief conclusion to the chapter.

In Chapter 2, “Network Learning Culture and the Emerging Paradigm,” we approach the need for developing a network learning culture from the perspective of an emerging paradigm in relation to Teach-
ing and Learning in the Network Society. We present and discuss subtopics such as: Emerging Paradigm: Reflections on Reality; Systemic Thinking and Complexity: The Emerging Paradigm; Epistemological Conceptions; The Culture of Network Learning, as well as a brief conclusion to the chapter.

In Chapter 3, “The Metaverse: 3D Digital Virtual Worlds,” we approach the arousal of Metaverse technologies in their 3D Digital Virtual World as a possibility that arises in the context of network learning culture, from the perspective of an emerging paradigm, linked to Teaching and Learning in Network Society. We present and discuss subtopics like: Metaverse Technology and the Nature of 3D Digital Virtual Worlds; Second Life Metaverse; Open Source Metaverse; Metaverses on Mobile Devices: Potentials for Mobile Learning; as well as a brief conclusion to the chapter.

In Chapter 4, “Avatar: Building a ‘Digital Virtual Self,’” we approach the emergence of the technologicized body, from the perspective of the constitution of a digital virtual identity, the avatar, which appears linked to Metaverse technology, in the construction of 3D Digital Virtual World. We present and discuss subtopics such as: Avatar: A Technologicized Body; The Construction of a Digital Virtual Identity; Avatar: The Representation/Action of the “Digital Virtual Self” through the Technologicized Body; as well as a brief conclusion to the chapter.

In Chapter 5, “Immersion, Telepresence, and Digital Virtual Presence in Metaverses,” we approach Immersion, Telepresence, and Digital Virtual Presence in Metaverses (this latest one being a theoretical construction coming from the context of the research developed by GPe-dU UNISINOS/CNPq), possibilities that come from the action and interaction of avatars in 3D Digital Virtual Worlds constructed in Metaverses. We present and discuss subtopics such as: Presence and Proximity; Relational Presence and Social Presence; Telepresence and Digital Virtual Presence; Immersion and Tele-immersion; as well as a brief conclusion to the chapter.

In Chapter 6, “Interaction and Interactivity in Metaverse,” we approach the perspective of the interaction potential that appears from the interactivity provided in the Metaverse technology, which is connected to Immersion, Telepresence, and Digital Virtual Presence in Metaverses. We present and discuss subtopics such as: Conceptualizing Interaction and Interactivity; Mutual Interaction and Reactive Interaction; Type of Interaction; Languages and Interaction/Interactivity Forms in Metaverse; as well as a brief conclusion to the chapter.

In Chapter 7, “Autopoietic Machines and Alopoietic Machines: The Structural Coupling,” we discuss the context of autopoietic and alopoietic machines, from the perspective of structural coupling that appears in interaction and interactivity in Metaverse. We present and discuss subtopics such as: Autopoietic Machines: Human Beings; Alopoietic Machines: The Nature of the Metaverse; Structural Coupling; Language: The Mode of Speech and Emotion; as well as a brief conclusion to the chapter.

In Chapter 8, “Cognition and Socio-Cognition in Metaverse,” we approach different cognitive and socio-cognitive mechanisms that appear in the interaction between subject-avatars and the 3D Digital Virtual World constructed in Metaverses. We present and discuss subtopics such as: Human Cognition; Perception and Representation; Doing, Understanding and Awareness in Metaverse; Collaboration and Cooperation; as well as a brief conclusion to the chapter.

In Chapter 9, “Online Education in Metaverse: Novelty or Innovation?” we approach the perspective of Online Education in Metaverse, from the tensioning between what characterizes a novelty and what characterizes an innovation in education. We present and discuss subtopics such as: Learning Contexts in Metaverse; Methodologies in Metaverse; Pedagogical Intervention in Metaverse; Novelty or Innovation? as well as a brief conclusion to the chapter.
In Chapter 10, “Digital Virtual Communities in Metaverse,” we approach the process of constituting Digital Virtual Communities in Metaverse. We present and discuss subtopics such as: Communities: Historical and Conceptual Aspects and Characteristics; Digital Virtual Learning Communities; Digital Virtual Communities of Practice; Digital Virtual Learning and Practice Communities; Digital Virtual Learning and Practice Communities in Metaverses; as well as a brief conclusion to the chapter.

In Chapter 11, “The Real Virtuality of Metaverses,” we approach the Real Virtuality theme that appears in the construction processes of 3D Digital Virtual World in Metaverses. We present and discuss subtopics such as: Virtuality and Reality: Virtual Reality Experiences and Real Virtuality Experiences in Immersive Learning; The Simultaneity of Worlds: Spaces of Digital Virtual Association, Spaces of Association, and Multimodal Hybrids; The Culture of Real Virtuality; as well as a brief conclusion to the chapter.

In Chapter 12, “Digital Virtual Sharing Spaces,” we approach the constitution of the Digital Virtual Coexistence Space that happens from the digital technological hybridism and the interaction processes between subject-avatars themselves, and with 3D Digital Virtual Worlds constructed in Metaverses. We present and discuss subtopics such as: Digital Virtual Life? Digital Virtual Space of Sharing and/or Sharing of a Digital Virtual Nature? Configuration of the Digital Virtual Sharing Space: Society Networking in the Era of Avatars; as well as a brief conclusion to the chapter.

In Chapter 13, “Digital Virtual Culture in Metaverse: The Metaculture?” we approach the theme of Culture in Metaverse as a Digital Virtual Culture and as the Metaculture. We present and discuss subtopics such as: Digital Virtual Culture; Digital Virtual Culture in Metaverse; Metaculture Formation in Virtual Digital Coexistence in Metaverse; as well as a brief conclusion to the chapter.

In Chapter 14, “Nomadic Hybridism,” we approach the perspective of Nomadic Hybridism that appears from the interaction of subject-avatars as digital technologies, mainly with the Metaverse technology, in a space of flow. We present and discuss subtopics such as: Space of Flows, Nomadism and Interculturalism; Digital Virtual Nomadism or Metanomadism; as well as a brief conclusion to the chapter.

To finish, in Chapter 15, “Brazilian Experiences in Metaverse,” we present and discuss some experiences, linked to the research, which were developed in Brazil from the use of different technologies in Metaverses. We present and discuss subtopics such as: AWSINOS: A World of Learning; UNISINOS Island; RICESU Island; as well as a brief conclusion to the chapter.

In this way, we would like to call your attention to the fact that we, professors, constitute our ontogeny from our action and interaction within a physical presentational world, analogical, and therefore we are part of the “analogical generation” in a process of naturalization into the digital world. Therefore, it is natural that for us it seems quite strange to create an avatar and with it make part of the 3D Digital Virtual World, acting and interacting with others avatars present in this same world (belonging to the Metaverse domain) and through this discover new forms of social organization. However, for the current digital, hybrid, and nomadic generation, this common practice is part of their routine, where they use different digital technologies, among them several types of Metaverses. In this new possibility, we also discover that it is possible to meet friends, search information, and share interests, ideas, experiences, live challenges, in other words learn and live.

It is also important to reflect on the fact that a little more than two decades ago we could never have imagined what the Internet has become and what it represents to the current society. Today, the Web 3D is already a reality and is becoming an interface as common as the 2D interface was; however, it allows us, among many other things, something that is our main interest: learning experiences and immersive and interactive practice of another nature.
Within this context, you might have thought, What should I do? We understand that observing tendencies, as an augmented reality, a mingled reality, the Internet, experimenting with the Web 3D (both in fixed and mobile devices), participating in meetings and digital virtual events using avatars, is a good initiative for those willing to learn more about these “new worlds.” Paraphrasing Maturana and Varela (2002), living is learning and knowing.

We believe that these technologies and the emergent paradigm, being constructed in living through the Web 3D, represent a significant contribution to this generation’s education, a generation that is digital, hybrid, nomadic, and that is currently at university, and in a short time will also be in the labor market.

This new reality, which is constituted based on the way of being in this generation’s world, its necessities, new ways of learning, building relationships, working, thinking, which develop with and from the use of different digital technologies, represent to us a significant challenge in educating, forming, training, and qualifying, as well as providing new ways of working. This challenge implies combining the archaic and the contemporaneous: for Maffesoli (2012), based on Morin (2007), when they suggest we dialogue about the new and the old without exclusion.

3D Internet is opening doors to a new world of experiences in learning and professional practice, connected to new ways of social organization, possible through living and sharing in digital virtual spaces. Everything is being constructed at this very moment by millions of people spread throughout the world.

Beyond platforms like ActiveWorlds, Second Life, OpenSimulator, OpenWonderland, Could Party, Minecraft, among many others, which are transitory, there are the concepts of Web 3D, Metaverse, 3D Digital Virtual World, Digital Virtual Collaborating Space, Hybrid Living and Sharing Spaces (which integrate different digital technologies, including the Mobile, Wireless, and Analogical ones), and Multimodal (involving the physical presential and digital virtual modalities – mobile learning, ubiquitous learning, immersive learning), Gamification, ARG (Alternate Reality Game), Mixed Reality, and Augmented Reality. These are precisely the concepts we need to dedicate our attention to and from them construct new possibilities for education in this historical time and social space.

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REFERENCES

