Chapter 1
Introduction

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People have always created and maintained networks. Family networks provide us with love and security, supply networks provide our homes with water, gas and electricity, road networks connect our cities, social networks determine our social mobility, information networks provide our access to communication, knowledge and leisure, and learning networks enable us to share skills and knowledge. Throughout the history, human networks have been maintained by languages, religions, trade, and other means of creating connections (Malkin, Constantakopoulou, & Panagopoulou, 2013). During the past few decades, however, information and communication technologies coupled with economic and cultural globalisation have brought into the fore a radically new type of network. In words of Manuel Castells,

> the Internet is the fabric of our lives. If information technology is the present-day equivalent of electricity in the industrial era, in our age the Internet could both be linked to the electrical grid and the electric engine because of its ability to distribute the power of information throughout the entire realm of human activity. (Castells, 2001, p. 1)

Learning in the contemporary society has been rapidly transformed by digital information networks, and the emerging field of networked learning aims at making sense of these transformations. While analogue networks still play various important roles in human learning, therefore, contemporary networked learning is strongly focused to information and communication technologies. On that basis, Peter Goodyear and Lucille Carvalho show that "networked learning will eventually

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come to be best understood as something that predates the computer age, takes on a particular character and salience in the period from about 1980 to 2020, and becomes normal and invisible thereafter" (2014, pp. 444–445).

Learning and the Network: A Critical Encounter

Inspired by rapid development of the Internet, Goodyear, Banks, Hodgson and McConnell have provided an early definition of networked learning as "learning in which information and communication technology (ICT) is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources" (2004, p. 1).

During the past decade, this definition has been taken up by the networked learning community in numerous ways. Networks have been distinguished from communities (McConnell, 2006), machines and humans have been represented as equals (Michael, 2004; Thompson, 2014), and networked learning has been defined in terms of theory, practice and pedagogy (Hodgson, McConnell, & Dirckinck-Holmfeld, 2012, p. 291). At the abstract level of modelling, however, contemporary networked learning always relates to the same three elements: people, computers, and their mutual connections. Material connections usually refer to technical infrastructure such as wiring between remote computers, and human connections refer to exchange of information between people. While these two types of connections can be viewed separately, networked learning is primarily interested in their dialectical relationships (Goodyear & Carvalho, 2014, pp. 421–423).

As an abstract model of reality, the network is fairly politically neutral. While they inevitably carry some in-built values such as egalitarianism and horizontalism (Illich, 1973; Stallman, 2002), generic network models can provide almost equal service to various worldviews and ideologies such as neoliberalism, libertarianism, and religious fundamentalism. However, human learning is always political (Freire, 1972). In relation to this essential human activity, therefore, the (nearly) value neutral model of the network requires adequate political and ethical underpinning and guidance. Conceived within the spirit of emancipation and radicalism characteristic for early development of information and communication technologies (i.e. Himanen, 2001), the contemporary field of networked learning has been firmly interlocked with the tradition of radical education and critical theory (McConnell, Hodgson, & Dirckinck-Holmfeld, 2012, p. 15; Hodgson et al., 2012, p. 292).

Since the beginning of the twentieth century, Frankfurt School theorists and their successors have produced a significant body of research regarding the relationships between technologies, human beings and the society. They have also placed a lot of attention to various aspects of teaching and learning, which has—roughly since the English translation of Paulo Freire's *Pedagogy of the Oppressed* (1972)—developed into a strong global critical pedagogy movement. From a historical point of view, therefore, networked learning could be conceived as a trajectory of critical theory.

At an abstract level of modelling, however, learning is a generic networked process which consists of two (or more) nodes and one (or more) tie(s) (Goodyear, 2014). Following this line of argument, critical theory could be conceived as a fairly recent trajectory of networked learning.

Contemporary networked learning, therefore, is a research paradigm based on the marriage between an abstract model of the network and critical theory. Like in any chicken-and-egg problem, it is pointless to argue which theoretical framework predates the other. However, it is important to notice that contemporary networked learning is simultaneously a generic research method and a consciously chosen research paradigm, a product of nature's structure and a product of its members' ideological decisions. Networked structure of human learning is an abstract mathematical category, but one's position in that network is always a product of political choice. In their *Summary of the development of networked learning* published in the preceding book in *Research in Networked Learning Book Series*, Hodgson, McConnell & Dirckinck-Holmfeld have clearly outlined the main choices shared by networked learning community and demarcated the research area.

> Our shared view of networked learning comes from an ontological position that assumes an understanding of the world and view of the world, including learning and teaching, is socio-culturally influenced and constructed. It is a view that aligns with the critical and humanistic traditions of the likes of Freire (1970), Dewey (1916) and Mead (1967), including the belief in the importance of focusing on making sense from one's own personal experiences and view of the world—or indeed one's own practice. (Hodgson et al., 2012, p. 292)

Within this theoretical framework, we shall briefly introduce chapters in this volume and identify their main contributions.

Structure of This Volume

This edited volume consists of three interlocking parts which have spontaneously arisen from contributors' response to our Call for Chapters: *In, Against and Beyond the Network*, *Virtual Worlds, Networked Realities*, and *Towards a Networked Revolutionary Praxis*. Each part contains three chapters that might easily function as stand-alone pieces. However, during 3 years of engagement in production of this edited volume, we did not merely read and write about networked learning. Instead, we did our best to embody its spirit in our everyday editorial praxis, and insisted on creating deep connections between editors, authors and reviewers. Following common academic practice, we extensively used services of external reviewers listed in the front pages and asked authors to review each other's work. Conceived in the best spirit of peer review—egalitarian, horizontal and networked—these connections are echoed in chapters which talk to each other and build on each other's ideas. While individual chapters can indeed serve as valuable stand-alone resources, therefore, their full message arrives into being only in relation to each other.

Part II: In, Against and Beyond the Network

The second chapter, *Counting on Use of Technology to Enhance Learning* by Sarah Hayes from *Aston University*, critically analyses global policy documents and reflects on the use of language in the educational technology community in terms of externality, desubjectivisation and closure (Lieras, 1996). Sarah Hayes finds out that the language of *Technology Enhanced Learning* structures a deterministic view towards technologies, thus subsuming the terms such as *Networked Learning*, and *e-Learning*. However, an impression that the use of technology, as an external application, will always yield an "exchange value" (Marx, 1867) for learning, misses out the people involved. It desubjectivises us, and closes space for critical social interactions and pathways to new knowledge about multiple understandings of technology in our lives. On that basis, Sarah Hayes proposes that the return to *Networked Learning* may more readily permit a multi-directional conversation that acknowledges the convergence (Jones, 2001) of technology, language and learning.

This chapter raises critical consciousness about the language used in our everyday practice, reveals mechanisms that perpetuate the underlying power dynamics, and places networked learning in direct relation to critical theory. It analyses linguistic construction of the position of networked learning in, against and beyond the discourse of technology-enhanced learning and offers opportunities for emancipatory critical action. While most chapters in this volume might easily function as stand-alone articles, *Counting on Use of Technology to Enhance Learning* provides a much needed point of reference for placing them in the wider context of networked learning.

The third chapter, *Free Information: Networked Learning Utopia* by Katarina Peović Vuković from the *University in Rijeka,* explores relationships between freedom of information and convivial features of peer-to-peer networks, and seeks opportunities for egalitarian, emancipatory, critical networked learning. The chapter analyses horizontal distribution of knowledge characteristic of information networks through the lens of critical theory and shows that it represents a form of "radical democratic politics". On that basis, it contrasts commodified institutionalized practices commonly defined as *e-Learning* with the notion of *Networked Learning* as the authentic alternative culture conceived in terms of social practice which insists on critical thinking and emancipation. This line of argument confirms Sarah Hayes's conclusions based on critical discourse analysis, and expands them into several important directions including politics and ideology.

The chapter reaches deep into the dialectical relationships between networked learning and critical thinking, and arrives to the conclusion that alternative modes of distributing knowledge require deconstruction of various naturalized relations such as copyright and knowledge. Analysing disturbances caused by networked learning in the common understanding of the relationships between education, technologies and profit, it shows that the paradigm of networked learning represents a form of de-territorialization and discusses the meaning of knowledge within that paradigm. However, these disturbances can easily be re-territorialized and replanted within the

existing ideological paradigms. In order to avoid hegemonic subversions, therefore, networked learning requires constant engagement with critical theory.

The last chapter in this section, *Getting It Out on the Net: Decentralized Networked Learning Through Online Pre-publication* by Shane J. Ralston from *Pennsylvania State University-Hazleton*, asks fairly similar questions using a different research methodology. Based on personal experience, Shane J. Ralston explores challenges related to online prepublication of scholarly work in the field of humanities and social science. He shows that pre-publication networks represent a bottom-up, decentralized networked learning alternative to business-modelled e-learning. In order to provide a wider perspective, Shane J. Ralston links pre-publication networks with open source and open access, thus creating an appropriate theoretical background for radical democratic politics.

In the best critical tradition of praxis, Shane J. Ralston shares two stories of own experience with pre-publishing, identifies three main reasons to pre-publish—exposure-networking, feedback-improvement and dialogue-discovery—and the associated drawbacks. In this way, the chapter offers practical networked learning alternatives to traditional academic publishing, links them to broader critical resistance against institutionalisation of learning (Illich, 1970), and identifies the key areas for further inquiry. The utilized research methodology is of particular interest, as it provides very personal insights into issues pertaining to pre-publication while maintaining the highest level of generalizability.

Part III: Virtual Worlds, Networked Realities

In the fifth chapter, *Literally Virtual: The Reality of the Online*, Christine Sinclair and Hamish Macleod from the *University of Edinburgh* draw on own dialogues within a tutor–student dyad as well as dialogues with their students on the *M.Sc. in Digital Education* and develop the research methodology of collaborative or community autoethnography (Ellis, Adams, & Bochner, 2011, p. 279). The chapter explores why networked learning seems to be positioned as an inferior alternative to working in the real classroom, and arrives to the more fundamental review of the ways people refer to the real and the virtual both in practice and in the relevant literature. On that basis, it puts together the table which defines various forms of reality—virtual reality, artificial reality, constructed reality, simulated reality, alternate reality and augmented reality—and analyses their mutual relationships.

This chapter shows that the terms "the real" and "the virtual" have become intrinsically interconnected. While some people still hold the view that the virtual is in some ways inferior, alternative perspectives seem to be rapidly gaining ground—particularly amongst more experienced Internet users. Consequently, the chapter shows that networked learning activities are augmentations of off-line teaching practices rather than totally new roles, argues that networked learning has explored complexities in the role of teachers that have always been there, and

concludes that students, whether online or not, should come to be regarded as junior colleagues.

In the sixth chapter, *Virtuality and Critical Design Thinking: An Exploration of the Possibilities Through Critical Theory, Design Practices and Networked Learning*, Caroline Newton from *University College London* and Burak Pak from the *University of Leuven* move the spotlight of attention from individual superstar architects—creatively dubbed "Starchitects"—to their social roles. This chapter identifies imbalance between the importance of architects' social roles and the predominantly individualist design studio pedagogy as it is being employed in most schools of architecture. However, it shows that technical development offers fresh opportunities for networked learning that might provide adequate counterbalance. In order to systematize these opportunities, Caroline Newton and Burak Pak apply similar methodology as Christine Sinclair and Hamish Macleod and position various tools for networked learning in the reality–virtuality continuum.

In this way, the chapter links the social turn in architecture practice and education with networked learning, and claims that critical thinking connecting back to Schön's (1983, 1986) conceptualisations and theorized possibilities of studio-based learning can be successfully tackled using information and communication technologies. These conclusions confirm and expand on Christine Sinclair's and Hamish Macleod's insights into the relationships between the real and the virtual. However, the conducted analysis of networked learning in the fields of design and architecture brings into the fore another important conclusion: while theoretical disciplines easily shift from face-to-face to virtual learning environments and back, studio-based disciplines necessarily consist of very different dynamics between the two.

The last contribution in this section steps out of the Ivory Tower of (more or less) formal education directly into the streets of Athens, New York and Philadelphia. Free from institutional boundaries, the relationships between the real and the virtual, the tangible and the intangible, the abstract and the applied, acquire their purest forms in the field of community arts. Authored by Konstantinos Avramidis from the *University of Edinburgh* and Konstantina Drakopoulou from *Hellenic Ministry of Culture and Tourism,* the seventh chapter entitled *Moving from Urban to Virtual Space and Back: Networked Learning Through and from Signature Graffiti* explores challenges associated with networked learning in the context of signature graffiti subculture, and explores the ways various educational and communicational practices are being mediated by information and communication technologies. Here, the accent is again on horizontal, non-hierarchical connections: this time between one writer and other writers, between apprentices and mentors, and between the graffiti community and its learning resources.

The transition from the physical to the digital reveals educational and subcultural implications in three interlocked domains: interactions between individual graffitists, the graffiti media, and the city. Through mutual relationships between those domains, the chapter examines expansion of the graffiti milieu—simultaneously enabled and facilitated by the pervasive presence of the Internet—and the role of networked learning in these processes. Despite its roots in a fairly specific community gathered around signature graffiti, this chapter offers deep generic insights into

the position of community arts in virtual worlds and networked realities. On that basis, it examines practical opportunities for bottom-up, non-institutional, socially engaged, subversive networked learning, and analyses its relationships with graffitists' institutionalized mainstream careers.

Part IV: Towards a Networked Revolutionary Praxis

The next chapter, *Teacher Heutagogy in the Network Society: A Framework for Critical Reflection* by Maarit Jaakkola from the *University of Tampere*, examines the changing roles and competencies of networked teachers and maps the key areas of their individual expertise. Based on self-direction, autonomy, and critical theory, the chapter outlines a heutagogical approach that invites teachers and students to take ownership of their own professional and personal development. In practice, it classifies key areas of technological expertise using four dialectically intertwined roles: teacher as pedagogical user, teacher as managerial user, teacher as communicative user and teacher as social user. Finally, the chapter arrives to the conclusion that teacher autonomy in the contemporary society requires deep critical reflection coupled with decentralized networked connections between teachers, learners, professional bodies and the whole society.

In her analysis of various roles pertaining to network technologies in teacher heutagogy, Maarit Jaakkola identifies three key areas of reflective inquiry for action learning—instrumental, operational and strategic—and identifies barriers and potential tensions within each area. In this way, the chapter examines some ways to enhance development of teachers' agency in self-constructed virtual environments independent of technology and type of communication. Conceived in the conceptual framework of critical theory, however, the chapter does not claim to represent a definitive or exhaustive model of teacher heutagogy in the network society. Instead, it asks some important questions, and seeks opportunities for contextualized heutagogical professional development.

The ninth chapter, *Subversive Epistemologies in Constructing Time and Space in Virtual Environments: The Project of an Emancipatory Pedagogy* by Lydia Rose of *Kent State University*, combines critical and poetic methodology (Brown, 1977) by using the practice of articulation and speculation through "symbolic action" (Jay, 1973). The chapter compares the ways in which learning and knowing are negotiated in physical classrooms as compared to virtual environments, and shows their strong dependence on the control and construction of time, space, the body and the mind. Conceived within the framework of critical theory, it focuses to power structures and relationships to explore the complex interplay between hegemony and subversion.

The chapter analyses accreditation, monitoring and regulation in various learning environments and links the found differences to epistemology. On that basis, it shows that the structure of the network (including, but not limited to, the horizontal, de-institutionalized and non-hierarchical nature of networked connections) offers

various novel potentials for both hegemonic and subversive epistemologies. Understanding that subversive ways of knowing can easily become absorbed and co-opted by superstructures, it arrives to the need for linking subversive epistemologies to suitable networked emancipatory pedagogies. Finally, it shows that the "anytime, anywhere" construction of virtuality might limit outside hegemonic control over our space, time, body and mind, thus offering potentials for epistemic and pedagogical subversions that would result in true empowerment.

The last, tenth chapter in this edited volume, is a written conversation between Petar Jandrić from the *Polytechnic of Zagreb* and Peter McLaren from *Chapman University* entitled *The Critical Challenge of Networked Learning: Using Information Technologies in the Service of Humanity.* As Peter McLaren's first dedicated commentary on networked learning, this conversation has special historic and scientific relevance. Due to large amount of gathered material, the text is published in two complementary parts, and the other part is published in McLaren and Jandrić (2014).

This conversation assesses the current understanding of networked learning in the contemporary discourse of critical education, with an accent to common themes in Peter McLaren's work such as the relationships between the global marketplace, personal information and the state. It places networked learning in relation to some major themes in Marxist theory such as the dichotomy between capital and labour and the structure of production. It explores the role of contemporary technologies in social struggle, analyses digital cultures, and places the dichotomy between education and schooling into the context of virtual reality. Finally, it calls for a networked revolutionary critical pedagogy which utilizes digital technology in the service of humanity.

Contributions and Challenges

This book uses various approaches under the broad umbrella of critical theory to explore social, pedagogical and epistemological challenges pertaining to networked learning. The book's theme has a long history, as it concentrates on the relationships between networked learning and critical theory that have always been there. However, in the context of contemporary economic, social, and political crisis coupled with strong dominance of neoliberal ideologies, we feel that critical learning in digital networks requires as much dedicated attention as it can get. As it has increasingly become clear that contemporary educational systems tailored for during the peak of industrial society require serious reinvention, we do hope that this line of inquiry might contribute to steering theory and practice of networked learning away from ruthless paws of global neoliberal capitalism. In the last chapter of this volume, Peter McLaren says that "critical pedagogy flouts the frontier between scholarship and activism". Firmly situated within this tradition, our research efforts are located in the area of critical praxis aimed directly at social transformation.

As it usually happens in the framework of critical theory, this edited volume can be interpreted at various interlocking levels. At the one hand, its contributions are located in various specific contexts pertaining to contemporary Western-style higher

education. At the other hand, they concentrate to eternal struggles between profit and human rights, inculcation and critique, oppression and emancipation, unequal social relationships and freedom. Conceived in diverse fields including, but not limited to, community arts, architecture, philosophy and teacher education, chapters in this volume seek balance between the individual and the social, the local and the global, the particular and the general, and focus to two main tasks. First, they develop critical perspectives to important and urging problems within the field of networked learning. Second, they employ the developed perspectives to provide in-depth, often generalizable critiques of the relationships between information and communication technologies and human learning.

References

Brown, R. H. (1977). *A poetic for sociology: Towards a logic of discovery for the human sciences*. Chicago: University of Chicago Press.

Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford, England: Oxford University Press.

Ellis, C., Adams, T., & Bochner, A. (2011). Autoethnography: An overview. *Historical Social Research, 36*(4), 273–290.

Freire, P. (1972). *Pedagogy of the oppressed*. Harmondsworth, England: Penguin Education Specials.

Goodyear, P. (2014). Productive learning networks: The evolution of research and practice. In L. Carvalho & P. Goodyear (Eds.), *The architecture of productive learning networks*. New York: Routledge.

Goodyear, P., Banks, S., Hodgson, V., & McConnell, D. (2004). Research on networked learning: An overview. In P. Goodyear, S. Banks, V. Hodgson, & D. McConnell (Eds.), *Advances in research on networked learning* (pp. 1–10). Boston: Kluwer.

Goodyear, P., & Carvalho, L. (2014). Introduction. In L. Carvalho & P. Goodyear (Eds.), *The architecture of productive learning networks*. New York: Routledge.

Himanen, P. (2001). *The hacker ethic*. London: Random House.

Hodgson, V., McConnell, D., & Dirckinck-Holmfeld, L. (2012). The theory, practice and pedagogy of networked learning. In L. Dirckinck-Holmfeld, V. Hodgson, & D. McConnell (Eds.), *Exploring the theory, pedagogy and practice of networked learning* (pp. 291–307). New York: Springer.

Illich, I. (1970). *Deschooling society*. New York: Harper & Row.

Illich, I. (1973). *Tools for conviviality*. New York: Marion Boyars.

Jay, M. (1973). *The dialectical imagination: A history of the Frankfurt School and the Institute of Social Research 1920–1950*. Boston: Little Brown.

Jones, C. (2001). Do technologies have politics? The new paradigm and pedagogy in networked learning. In *Technology, pedagogy and politics—What Next?* 3–6 May 2001, Calgary, CA. Retrieved November 11, 2013, from http://oro.open.ac.uk/33381/

Lieras, E. (1996). Is it possible to develop an emancipatory approach to technology? *Systematic Practice and Action Research, 9*(4), 333–338.

Malkin, I., Constantakopoulou, C., & Panagopoulou, K. (Eds.). (2013). *Networks in the ancient Mediterranean*. London: Routledge.

Marx, K. (1867). Capitalism and the modern labour process (from Capital, vol. 1, Ch. 7). In R. Scharff & V. Dusek (Eds.), *Philosophy of technology: The technological condition—An anthology*. Oxford, England: Wiley Blackwell.

McConnell, D. (2006). *E-learning groups and communities*. Maidenhead, England: Open University Press.

McConnell, D., Hodgson, V., & Dirckinck-Holmfeld, L. (2012). Networked learning: A brief history and new trends. In L. Dirckinck-Holmfeld, V. Hodgson, & D. McConnell (Eds.), *Exploring the theory, pedagogy and practice of networked learning* (pp. 3–24). New York: Springer.

McLaren, P., & Jandrić, P. (2014). Critical revolutionary pedagogy is made by walking—In a world where many worlds coexist. *Policy Futures in Education*, *12*(6), 805–831.

Michael, M. (2004). On making data social: Heterogeneity in sociological practice. *Qualitative Research, 4*(1), 5–23.

Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.

Schön, D. (1986). *The design studio: An exploration of its traditions and potential*. London: Royal Institute of British Architects.

Stallman, R. M. (2002). *Free software, free society: Selected essays of Richard M. Stallman*. Boston: Free Software Foundation.

Thompson, T. L. (2014). The uncodings of ANT: Mobilities of digital data. In S. Bayne, C. Jones, M. de Laat, T. Ryberg, & C. Sinclair (Eds.), *Proceedings of the 9th international conference on networked learning 2014* (pp. 431–433). Edinburgh: University of Edinburgh.