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# Networked Learning

## Reflections and Challenges

Springer

# Research in Networked Learning

Series Editors
Vivien Hodgson
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# Foreword

This is the sixth book in the Springer Series on *Research in Networked Learning* and it is based on selected papers from the tenth International Networked Learning Conference held in Lancaster in 2016. The series focuses on contemporary issues and concerns in networked learning theory, pedagogy and practice, and this book is another excellent contribution to the series.

The Networked Learning Conference itself was established in 1998, and some 20 years later we may ask the question – as indeed this book does – to what extent has the discourse of networked learning influenced educational practice? The success of the Conference and the associated Springer Book Series on *Research in Networked Learning* have undoubtedly led to networked learning making a significant contribution to thinking about the purpose of higher education in a digitally connected world. As the editors of this latest contribution to the book series point out, networked learning continues to position itself within current discussions and debates, and is now seen to be a distinct and important area of higher education research.

This latest addition to the book series helps us recognise that networked learning continues to contribute to our understanding of what learning mediated and supported by technology looks like in both formal and informal learning situations. The key values and characteristics of networked learning of learning community, connections, reflexivity, criticality, collaboration and relational dialogue persist as key areas of interest in many of the chapters. They are the source of inspiration for many networked learning researchers and practitioners, as well as being the focus for the examination of the practice of networked learning.

This latest book helps us characterise the field of networked learning today, and presents some challenges for future research and practice. Collectively, the chapters situate networked learning within contemporary ideas on learning and teaching, and within the broader field of higher education research and practice. This book provides an opportunity to reflect and look back at some important concerns that have occurred over the past 20 years, and to consider some of the potential future challenges. In the concluding chapter, the editors of this book take the opportunity to provide a critical analysis of the contents and identify significant emerging issues

for future research and practice, including learning spaces; mobility; forms of openness; difference in student learning experience; social justice; and criticality.

In reading the chapters, it is clear to see that there is a healthy diversity of opinion on some of the details and perspectives of networked learning, which continue to be critically debated. However, it is equally evident that those values that underpinned networked learning in the early conferences endure and suffuse the fabric of this book. We recommend this book to all researchers and practitioners of networked learning and beyond.

Vivien Hodgson and David McConnell
Series Editors

# Contents

# About the Author

**Alexander Fink** is a Research Fellow in Youth Studies at the University of Minnesota, School of Social Work. His work – through participatory program evaluation, training, technical assistance, and university teaching – examines and supports the involvement of young people in the political, social, and cultural life of their communities. His current research focuses on the ways the helping professions' (including education) increasing collection, sharing, and use of (big) data often further marginalize and exclude young people from having a voice in their communal life. His research on higher education and networked learning with colleague and mentor Ilene Alexander seeks to counter these trends by exploring contexts for networked learning that promote deep, inclusive, and meaningful participation.

**Apostolos Koutropoulos** "AK" is the Program Manager for the online MA program in Applied Linguistics at the University of Massachusetts Boston. He is also a part-time Lecturer in the Instructional Design MEd program. Over the past few years, he has participated in many massive online open courses (MOOCs) and open learning opportunities, and has co-authored research papers on topics around open learning. AK is currently a doctoral candidate at Athabasca University and holds a BA in Computer Science, an MBA with a focus on Human Resources, an MS in Information Technology, an MEd in Instructional Design, and an MA in Applied Linguistics. His research interests include open education, social learning, educational technology, and languages.

**Chris Jones** is an Emeritus Professor at Liverpool John Moore's University (LJMU). His research focuses on the application of the metaphor of networks to the understanding of learning in higher education. Chris has led and participated in a number of UK and international research projects and was the principal investigator for a UK Research Council-funded project "The Net Generation encountering e-learning at university." He has published over 70 journal articles, book chapters, and refereed conference papers connected to his research. He is the author of *Networked Learning: An Educational Paradigm for the Age of Digital Networks*,

Springer, 2015. Chris has also edited two books on this subject – *Networked Learning: Perspectives and Issues* published by Springer in 2002 and *Analysing Networked Learning Practices in Higher Education and Continuing Professional Development* published by Sense Publishers, BV, in 2009.

**Cristina Garduño Freeman**  is an academic in the fields of heritage, architecture, and digital media. Her research is focused on social value, participatory culture, and place attachment of World Heritage properties and Industrial Heritage. Currently, she is a Postdoctoral Research Fellow in the Australian Centre for Architectural History, Urban and Cultural Heritage (ACAHUCH) at The University of Melbourne. She has published in leading international journals and conferences and in 2014, received the International Visual Sociology Association Rieger Award for an Outstanding Doctoral Thesis. In 2017, she published her first research monograph titled *Participatory Culture and the Social Value of an Architectural Icon: Sydney Opera* House with Routledge. Prior to entering academia, she practiced professionally in architecture, landscape architecture and urban design, and in visual communication design.

**Deirdre Hynes**  PhD, is a Senior Lecturer at Manchester Metropolitan University, Great Britain, in the field of Digital Media and Communications. Her research interests include football research, gender, and technological domestication and everyday life. She has edited two books on football and community and published several articles in media, technology, and anthropology journals.

**Gale Parchoma**  is an Associate Professor of Educational Technology and Design (ETAD) in the Department of Curriculum Studies at the University of Saskatchewan, Saskatoon, Canada; an Adjunct Associate Professor in Educational Studies in the Learning Sciences at the Werklund School of Education, University of Calgary, Canada; an Associate Research Member in the Centre for Technology Enhanced Learning in the Department of Educational Research at Lancaster University in the UK; and the Program Coordinator for Canada's Collaboration for Online Higher Education Research. She has been a member of the Networked Learning Conference review committee since 2008.

Her research focuses on the intersections where people and technologies interact in the processes of teaching, learning, and working. Her research has particular interests including socio-material assemblages, distributed cognitions, and technological affordances. Her work has been published in peer-reviewed books, research journals, and presented at national and international conferences.

**Ilene D. Alexander**  is a teaching consultant and Preparing Future Faculty instructor at the Center for Educational Innovation, and serves also as affiliate faculty in the College of Education and Human Development's Higher Education Graduate Program, and as an assistant faculty coordinator mentoring high school teachers of the "University Writing" course via the high school based College in the Schools program. She is a co-facilitator of four online faculty development seminars. Her

research, presentation, and writing endeavors, as well as consulting and teaching practice focus on multicultural, inclusive, accessible learning and teaching as these intersect with learning science, diversity science, and networked learning. Ilene is co-editor of *Innovative Learning and Teaching: Experiments Across the Disciplines*, to be published during Fall 2018 as the first volume of the Centre's "Making a Difference" biennial monograph series; the second volume will focus on inclusion and accessibility in higher education teaching and learning.

**Julie-Ann Sime** is a Lecturer in Technology Enhanced Learning in the Department of Educational Research at Lancaster University, U.K. She is an experienced online educator who has been tutoring postgraduates in networked learning communities for over 25 years. She researches online and networked learning in professional development focusing on how new technologies (such as games, simulations, and virtual learning environments) can be designed and used to support online educators; how learners can develop an understanding of complex dynamic systems; and how to design for personalized learning experiences so that education is more inclusive. In 2016, she was on the steering committee of the tenth International Networked Learning Conference. With a wide range of experience of European industry/academia collaborative research projects (ETIOLE, A-TEAM, VirRad) and networks (Kaleidoscope, MONET, MONET2), she is currently researching into visual and video literacies of educators and the pedagogy of massive open online courses with funding from ERASMUS+ Strategic Partnership in Higher Education: https://www.viliproject.eu/

**Kyungmee Lee** is a Lecturer in the Department of Educational Research and co-Director of the Centre for Technology Enhanced Learning at Lancaster University. She earned her doctorate from the Ontario Institute for Studies in Education, University of Toronto, in 2015, where her work involved developing a *Double-Layered Community of Practice* model for online higher education. This model conceptualizes online learning as interlinked processes of participation and socialization in multiple communities across online and offline "layers" of learners' lives. It proposes pedagogical strategies to connect those two layers and support learners' simultaneous presence across the layers. Her current research program aims to develop more comprehensive understanding of learning in increasingly digitalized and internationalized educational contexts. Utilizing methodological strategies informed by Critical Discourse Analysis, her work examines and unpacks dominant discourses of online education that serve to obscure issues of accessibility and equality and that produce both practical and theoretical challenges in higher education.

**Laura Czerniewicz** The Director of the Centre for Innovation in Learning and Teaching (CILT) at the University of Cape Town in South Africa, Laura Czerniewicz is an Associate Professor in the Centre for Higher Education Development, committed to equity of access and success in higher education. Her research interests include the technologically mediated practices of students and academics, the nature of the changing higher education environment, and the geopolitics of knowledge,

underpinned by a commitment to surfacing the expressions of inequality within and across contexts. She is the South African PI on a project on the Unbundled University: Researching emerging models in an unequal landscape (http://unbundleduni.com/) together with colleagues at Leeds University. Laura is involved with policy work, is a contributor to national and global conversations in varied formats, and serves on the advisory boards of a variety of international higher education educational and technology publications. Much of her work is available online at https://uct.academia.edu/LauraCzerniewicz

**Lucila Carvalho**  is a Senior Lecturer in e-learning and digital technologies in the Institute of Education, at Massey University (Auckland, New Zealand), where she teaches in the Master of Education and in the Bachelor of Arts programs. Lucila's research interests are in *design for learning* and *technology and new media*. Lucila has published in international journals and conference proceedings in the fields of education, sociology, systemic functional linguistics, and design and software engineering. Her most recent publications include *Place-Based Spaces for Networked Learning* (co-edited with Peter Goodyear and Maarten de Laat, Routledge, 2017) and *The Architecture of Productive Learning Networks* (co-edited with Peter Goodyear, Routledge, 2014).

**Maarten de Laat**  is the Director of the Learning, Teaching & Curriculum division at the University of Wollongong. His expertise concentrates on social learning strategies, networked learning relationships, and technologies to facilitate teaching, learning, and innovation in agile learning environments.

Maarten's research addresses networks and social capital development, with a specific interest in informal learning, professional development, and knowledge creation through (online) social networks and communities and the impact technology, learning analytics, and social design has on the way these networks and communities work, learn, and innovate. He has published and presented his research on networked learning, professional development, and learning analytics extensively in international research journals, books, and conferences. He has given several invited keynotes at international conferences. He has been appointed a Visiting Professor at the University of South Australia in Adelaide. Finally, Maarten is co-chair of the International Networked Learning Conference (NLC).

**Magdalena Bober**  was a Lecturer at Manchester Metropolitan University at the time of writing. Her research focused on media audiences and users, children and young people's use of digital media, digital research methods, and technology enhanced learning. She has published and presented her work in research journals, books, and conferences. She previously taught at Leeds University and was a researcher at the London School of Economics. Magdalena recently moved into market research, specializing in the education sector and international research.

**Maria Cutajar**  holds a PhD in e-Research and Technology Enhanced Learning by Lancaster University. She is a Lecturer with the Faculty of Education of the

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**Nina Bonderup Dohn** is an Associate Professor in Humanistic Information Science at the Department of Design and Communication, University of Southern Denmark. She holds an MA in Philosophy and Physics from Aarhus University, a PhD in Learning Theory from Aalborg University, and a Higher Doctorate Degree in Applied Philosophy from University of Southern Denmark. She is a member of the Steering Committee of the International Networked Learning Conference. She has been a Visiting Scholar at the Centre for Research on Computer Supported Learning and Cognition, University of Sydney (2013–2014) and at the Department of Philosophy, University of California, Berkeley (2009–2010 and 2000–2001). She currently holds a research grant from the Danish Council for Independent Research on the project *Designing for situated knowledge in a world of change.* Her main research areas integrate epistemology, learning sciences, web communication, and technology-mediated learning with a focus on the role of tacit knowledge. She has published extensively in Danish and English on philosophical and pedagogical issues within knowledge theory, web 2.0, ICT-mediated learning, and teaching and learning in higher education. Nina's webpage is found here: http://www.sdu.dk/staff/nina

**Sue Cranmer** is a Lecturer in the Centre for Technology Enhanced Learning, Department of Educational Research, Lancaster University, UK. She teaches on the Doctoral Program in E-Research and Technology Enhanced Learning. Her main research interests are in digital technologies, social justice, and in/equality. Sue's innovative research on disabled children's uses of digital technologies is becoming increasingly recognized and she is currently working on a monograph entitled *Disabled Children and Digital Technologies*: *Everyday Practices in Childhood* for Bloomsbury Academic. Sue has led a number of research projects including "Expert Perspectives on Creativity and Innovation in European Schools" for the Institute of Prospective Technological Studies (IPTS) in Spain, and a major work package designing pedagogical scenarios for engaging classrooms as part of the EU-funded iTEC project (http://fcl.eun.org/itec). Other projects have included research into digital inclusion, digital pedagogy, inclusive pedagogical design, digital literacy, digital innovation, and universal design. Sue has been widely published in leading journals in the field including *Technology, Pedagogy and Education*, *Learning, Media and Technology*" and *Studies in Higher Education*. In 2010, she co-authored "*Primary Schools and ICT: Learning from Pupil Perspectives*" (Continuum) with Neil Selwyn and John Potter.

**Suzan Koseoglu** is an Academic Developer in Technology Enhanced Learning at Goldsmiths, University of London. She holds a PhD in Learning Technologies, Curriculum, and Instruction from the University of Minnesota. Suzan's area of expertise is online learning with an emphasis on open and networked scholarship and socio-cultural aspects of learning in further and higher education contexts. Before joining Goldsmiths, Suzan has worked as an online instructor in the Learning Technologies program area at the University of Minnesota, teaching undergraduate and graduate level classes on technology and ethics, youth's use of social media, and online learning communities.

**Thomas Ryberg** is a Professor of Digital Learning in the Department of Communication and Psychology at Aalborg University (AAU), Denmark. He is part of the research center: "E-Learning Lab – Center for User Driven Innovation, Learning and Design" (http://www.ell.aau.dk). His primary research interests are within the fields of Networked Learning, Problem Based Learning (PBL), Computer Supported Collaborative Learning (CSCL), and Technology Enhanced Learning (TEL). In particular, he is interested in Problem Based Learning, and how new media and technologies transform our ways of thinking about and designing for Networked and Hybrid Learning. He is co-chair of the International Networked Learning Conference (http://networkedlearningconference.org.uk/) and editor of *Journal of Problem Based Learning in Higher Education* (JPBLHE). He has participated in European and international research projects and networks (EQUEL, Kaleidoscope, COMBLE, PlaceMe, EATrain2), and in development projects in South East Asia and Latin America (VISCA, VO@NET, ELAC). Currently, he is engaged in the EU-funded knowledge alliance: Innovative Open Data Education and Training based on PBL and Learning Analytics.

# Chapter 1
# Celebrating the Tenth Networked Learning Conference: Looking Back and Moving Forward

**Maarten de Laat and Thomas Ryberg**

**Abstract** The chapters in this book are based on a selection of papers from the Networked Learning Conference 2016 which was the 10th anniversary conference in the series. In acknowledgement of the anniversary, the authors of this Introduction look back and reflect on past networked learning conferences with the aim to describe some general trends and developments in networked learning research as they emerge and fade out over the years. In order to do so the authors use the proceedings of each networked learning conference (from 1998 till 2016) as a compiled dataset. This dataset forms a text corpus that has been analysed with Voyant tools (Sinclair and Rockwell 2016) specifically designed for analysing digital texts. Voyant tools are used to generate a set of word clouds (Cirrus) in order to visualise networked learning research-related terms that feature most frequently in each set of proceedings and conduct a trends analysis of these terms to generate a visual representation of the frequencies of these terms across the proceedings over the years. The outcomes have been thematically organised around the following topics: learning theory (e.g. cognitivism, constructivism, social learning, actor network theory), learning environments and social media (e.g. LMS, MOOC, Virtual Worlds, Twitter, Facebook), technologies (e.g. phone, laptop, tablet), methodology (e.g. quantitative, qualitative) and related research in the domain of e-learning (e-learning, CSCL, TEL). The findings are placed in their historical context to understand how research presented in the domain of networked learning has developed over the years and influenced our work. Towards the end of the Introduction, the two main sections of the book are presented. The overview discussion of individual chapters is deferred to the Conclusion chapter.

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**Fig. 1.1**  Tag cloud of 10 year Networked Learning

To celebrate the tenth anniversary of the biennial Networked Learning Conference, the conference chairs Maarten de Laat and Thomas Ryberg presented an overview of emerging and trending themes that have been featured at the conference series over the years. The selection of topics and trends was based on semantic analysis drawing on a dataset that comprised the full conference proceedings published from 1998 to 2016, see Fig. 1.1. The statistical material underpinning the presented graphs was created using the text- and data-mining tool Voyant Tools.[1] Voyant Tools is an open-source web-based text reading and analysis environment where all PDF versions of the conference proceedings were uploaded and processed. Voyant Tools can – amongst other things – be used to count, for example, how many times particular words or phrases occur in a body of text. In the analysis presented in this chapter, each conference proceeding featured as a data point creating a timeline presentation showing the development or decline of networked learning research trends over the years.

In this introduction, we have expanded the trend analysis initially presented at the Networked Learning Conference held in 2016 in Lancaster and discuss the findings we see from analysing the textual material. We will reflect on the limitations of

[1] https://voyant-tools.org/

our approach, the value and biases of statistical treatment of word occurrences, and what we can meaningfully draw from such analyses. For example, our analysis suffers from an inability to meaningfully explore the concept of 'networked learning' itself as it occurs so often in the proceedings (e.g. in headers and footers) that it is rendered meaningless. Similarly, it proved difficult to generate sociographs to map social interaction or author networks based on paper publications around the identified topics.

In this chapter we present our findings grouped into a number of themes, representing the areas in which networked learning has had most traction. We start with theoretical perspectives that have been used to understand and frame networked learning practices. We then reflect on the dominant research methods that have been used, followed by various modes of delivery or designing for networked learning, and we wrap it up with a presentation of the technological devices that have dominated networked learning research over the years. Within each of these themes, we discuss in more depth how we have approached the analysis and our rationale for the words chosen after we provide an analysis and reflection and ponder what the findings might suggest in terms of moving forward.

As an initial caveat, we should say that we do not ourselves consider our analysis an authoritarian analysis or solid, sturdy anchoring point from which we can say that we have attained a 'god's eye' overview of the past and future of networked learning. We see the analysis as a first attempt to provide a preliminary analysis of trends in a manner that we do not think has previously been attempted within networked learning. In the spirit of recognising the limitations and preliminary nature of this analysis and approach, we lay our material open for others to explore as open datasets, so that other researchers – within or outside the networked learning community – can consult and work with the data to debate, dismiss, or enrich the findings of our analysis. Thus, we see the analysis as a first preliminary attempt to understand the field of networked learning through the lenses and techniques of data-mining and textual analysis of corpora.

## The Field of Networked Learning

> Networked learning is learning in which information and communications 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. (Goodyear et al. 2004, p. 1)

The quote above is the often-used definition for networked learning as proposed initially by Goodyear et al. (2004). It stresses the importance of both human and digitally mediated interactions through the notion of 'connections' and underlines that interactions with technologies and resources in isolation are not sufficient to constitute networked learning.

At the first Networked Learning Conference in 1998, the aim was to bring networked learning research and praxis together, and there was a strong focus on
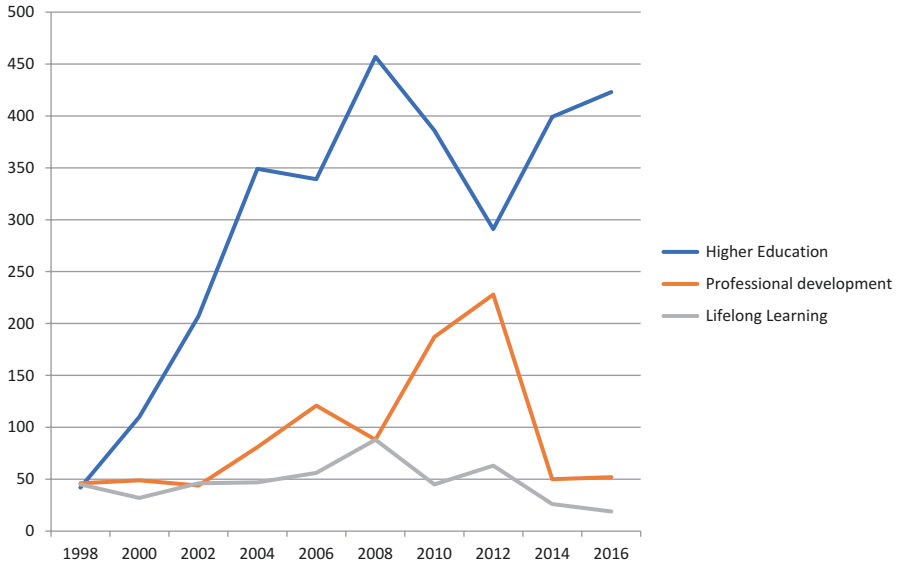
**Fig. 1.2** Focus of networked learning research

lifelong learning, professional development and implications for educational theory and the current paradigm shift from traditional learning to distributed and distance learning (Banks et al. 1998) – in fact the proceedings were titled 'Networked Lifelong Learning'. This early broad orientation of networked learning is visible in Fig. 1.2, but over the years, it has become clear that a lot of the research has been driven by exploring particularly the potential of networked learning for higher education.

In Fig. 1.2, one can see how frequently the words 'higher education', 'professional development' and 'lifelong learning' have been used in the networked learning conference papers over the years. From this, it becomes quite clear that the predominant focus has developed to become the area of higher education. The attention to lifelong learning and professional development has always been present with a pronounced peak in 2012 for 'professional development' when the conference was hosted in Maastricht in the Netherlands. The interest in lifelong learning seems to be gradually fading, which perhaps is part of a wider trend, as the same pattern holds true if one looks up 'lifelong learning' in Google Trends (from 2004 to 2017, there is a decline in interest from index 100 to approximately 30).

From the beginning of the conference series, there was a very broad understanding of networked learning, and the *space of possibilities for networked learning was seen as vast*[2] (Jones et al. 2001). This is still true today, as illustrated in Goodyear et al. (2016a) where a number of cases from different domains are presented. But it is also clear that the conference series bends strongly towards higher education and professional development, over, for example, primary or secondary education or
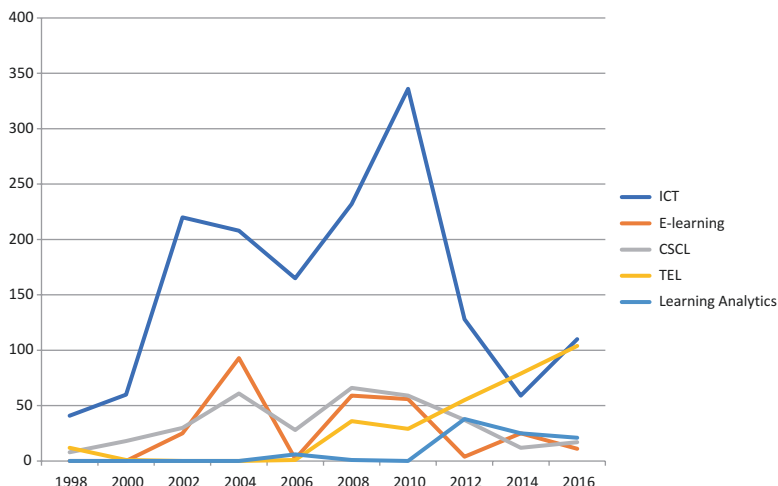
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[2] http://csalt.lancs.ac.uk/jisc/definition.htm

**Fig. 1.3** Related areas of research

informal learning (these were all terms we searched for, but they returned only a few results). This, of course, is hardly surprising as the conference has always been understood and promoted as a conference addressing higher education, professional development and lifelong learning (but has always been open to incorporating papers lying outside of this scope). While we were not surprised that higher education features prominently over the years, we were a bit surprised to see the comparatively smaller uptake in 'professional development'. This, as we believe it, will increasingly become an area of political interest and one where the field of networked learning has a lot to contribute to in terms of critical, dialogical and collaborative perspectives over a more individualised trajectory of microdegrees.

With the domain of inquiry being firmly settled within higher education and to some extent professional development, we were also interested in looking further into what constitutes the field of networked learning more broadly. We have therefore made searches into particular neighbouring research fields such as technology-enhanced learning (TEL), computer-supported collaborative learning (CSCL), learning analytics and knowledge (LAK) and more broadly information and communication technology (ICT) and e-learning. The results can be seen in Fig. 1.3.

What is immediately notable from Fig. 1.3 is the gradual rise of interest in the term ICT with a steep decline in 2012 and 2014. This, most likely, does not suggest that the interest in ICTs has waned, but probably that the term ICT is gradually and more broadly being replaced by other terms, e.g. digital technologies. Again a Google Trends search for ICT does seem to confirm that this term is losing traction over the years from 2004 till now.

Quite interestingly, the term 'e-learning' seems to live a bumpy life, peaking at some conferences (2004, 2008 and 2010) and being almost non-existing at other times (2000, 2006, 2012). There is no immediate good explanation for this, other

than the term 'e-learning' in general is a broader (and less precise) term than networked learning, which would therefore often be the term chosen at NL conferences over e-learning.

We further queried into specific fields of research, such as TEL, CSCL and learning analytics. In general, as we shall return to in the concluding chapter, the area of learning analytics seems little explored within the networked learning community, which does not seem to reflect a wider trend within educational technology. The term had a small surge in 2012 and has been explored further – though to a lesser degree – in 2014 and 2016. Comparing to Google Trends, this is markedly different from the broader interest, as since 2012 the interest in learning analytics has risen (from index 11 in 2012 to nearing a 100 in 2017). In contrast the use of the term TEL has risen since 2008 in the NL conferences, and it seems that this is generally a term that has become increasingly popular amongst national governments, the EU and other funders (which has also provoked criticism of the term (e.g. Bayne 2015; Hayes 2016)). Finally, we queried into the term CSCL, which has gathered a relatively stable amount of interest within networked learning over time, though with a slight decline in the recent years. As argued by Jones et al. (2015), there are strong overlaps between CSCL and networked learning, as well as some areas where they follow different paths:

> Networked learning has a close relationship with computer-supported collaborative learning (CSCL), in that both fields have a keen interest in collaborative orchestrations of learning. However, CSCL tends to focus on smaller groups, including dyads, whereas networked learning extends to medium- to large-scale groupings. Also CSCL has a strong connection with formal learning in education, whereas networked learning has been picked up in a wider context, for example, lifelong learning, professional development, and organizational learning. (Jones et al. 2015, p. 2)

CSCL when compared to networked learning has a stronger anchorage in education more generally including a strong presence in primary and secondary schools, whereas networked learning, as illustrated in Fig. 1.2, extends further into professional development and lifelong learning, although this to a lesser degree than we had actually expected (see Fig. 1.2).

## Theoretical Perspectives: Theory and Focus of NL Research

Within the area of networked learning, it seems particularly worthwhile to understand what theoretical perspectives are underpinning ideas of networked learning. As several authors have explored, networked learning is not a unison theoretical perspective but rather is a theoretical perspective that is composed by or underpinned by a range of other theoretical outlooks (Hodgson et al. 2014; Jones 2015; Jones et al. 2015; Ryberg et al. 2016).

In analysing these trends, it is important to understand that the mention in a paper of a theoretical perspective does not necessarily translate to a positive stance towards or preference for that theory. Just as much as citation counts in isolation do not show

that an author or perspective is agreed upon, popular, or found worthwhile. For example, one might find – within the networked learning literature – quite a few references to Prensky (2001), but the majority of those might be critical to or debate the notions of 'digital natives' proposed initially by Prensky (e.g. Bennett et al. 2008; Kennedy et al. 2008). Likewise, people might mention activity theory, but disagree with or dismiss it. Therefore, what follows from the trends analysis cannot, in isolation, be taken to mean that authors subscribe to the theory. Establishing just an approximation of positivity or negativity towards the theory mentioned would require a substantially more complex and detailed data-mining technique looking, for example, for adjacent words in sentences that could unearth positive or negative stances. This goes far beyond our capabilities and intentions, so we should remind the reader that the trend mapping merely signals attention/awareness. However, that a theory merits attention and is on the radar of the community is also an important measure of its impact on a community; whether for good or bad, it does show that it is or has been a topic of interest.

We should also mention that different words may often be used for the same theory. For example, some differ between social constructivism and constructivism, whereas others take it for the same. Likewise, the term social constructionism is a term that has also featured in the conference over the years and one that should not be confused with constructionism. Another term that is frequently used in this context is social constructivism. Both terms follow a similar curve over the years (see Fig. 1.4). Although these terms have a slight different meaning, they have also been used in substitution of one another.

Actor-network theory might be spelled in a number of ways, with or without hyphens, and might more recently be phrased as a sociomaterial perspective (or perhaps socio-material or social material), and, for example, activity theory could also be referred to as socio-cultural, sociocultural, or cultural historical perspective. These ambiguities or even little differences in spellings (dash or no dash) make it difficult to assess the occurrence of a theoretical perspective.

In the following, we discuss the selection of the overall concepts we have chosen to include. The main concepts we have explored are cognitivism, constructivism, communities of practice, social learning, actor-network theory and activity theory.

While, from an experiential point of view, we did not expect there would be strong mentions of 'cognitivism', we included this perspective nevertheless, as it is often positioned as an overarching learning theoretical perspective together with behaviourism and constructivism (Jones 2015). As networked learning is more often associated with relational, social and non-dualists views of learning, we expected that cognitivism, understood as particularly associated with cognitive science/psychology, or cognitive theory would be a more fringe perspective within networked learning. This is not to say that a cognitive perspective is strange to networked learning; indeed Peter Goodyear (e.g. 2002) has explored this topic extensively, and in Chap. 2 by Gale Parchoma in this volume, she explores the notion of distributed cognition. However, the work grounded in cognitive science/cognitive psychology seems less pronounced in networked learning as Jones puts it:
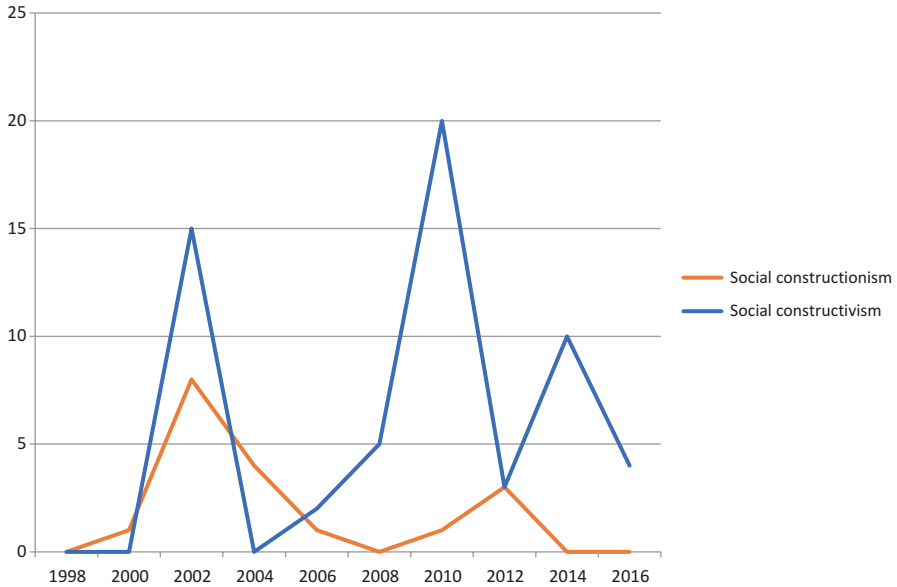
**Fig. 1.4** Social constructivism and social constructionism

> For networked learning the influence of cognitivism has been limited but there are some
> elements that have a continuing relevance. Firstly there is a concern with the thinking and
> intentions of learners. Networked learning still has an interest in what happens in the brain
> and an interest in what can be called the mind (Carvalho and Goodyear 2014; Goodyear and
> Ellis 2010). (Jones 2015, p. 52)

The notion of constructivism was included as it is often positioned as an overarching learning theoretical perspective along with, for example, behaviourism and cognitivism. It is a term that has broad meanings, but usually refers to the idea that knowledge is constructed by the learners, rather than being transmitted to the learner by, for example, a teacher:

> The central ideas of constructivism are that knowledge is created by people, either as individuals or as part of groups, through experiencing the world and reflecting upon those
> experiences. In this view knowledge is constructed by the knower and as a consequence it
> does not exist externally and independently of the knower(s) and knowledge cannot simply
> be transmitted and received. (Jones 2015, p. 52–53)

Under the hood of constructivism, however, a number of different theories are often subsumed, for example, Piaget and Vygotsky, as well as ideas such as radical constructivism and constructionism. So, constructivism is a rather broad term that can cover quite a spectrum of different meanings. Finally, we have added three theoretical frameworks that we know/assumed from experience might be widely adopted (activity theory, actor-network theory and community of practice), as well as the broader term 'social learning'.
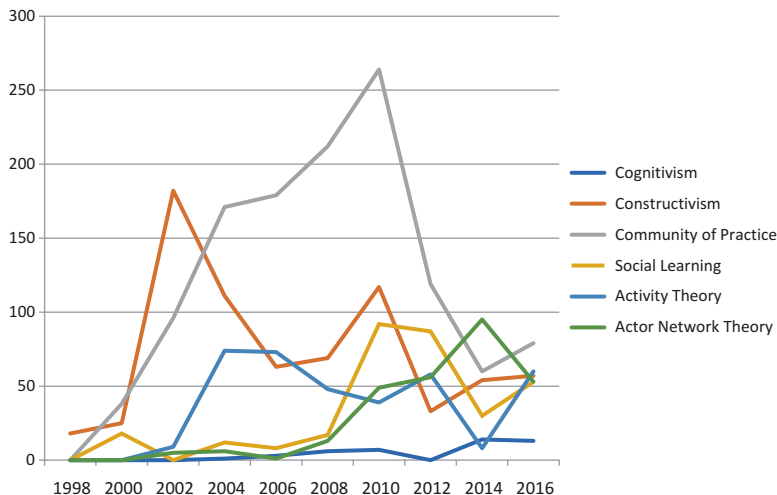
**Fig. 1.5** Theoretical perspectives within networked learning

Looking at the graph (Fig. 1.5), we see that the broad label of 'constructivism' has generally featured quite extensively throughout the years, with a steep rise around 2002, but seems to have gradually lost popularity in the recent years (from 2010 until now). Similarly, the notion of community of practice has been extensively popular and rising for every conference peaking at 2010, where after the term seems to decrease in popularity quite significantly from 2010 and onwards. Similarly, it seems that the notion of social learning follows a similar pattern to that of 'communities of practice'. This could be explained by the fact that since 2004 Wenger began more intensively to refer to communities of practice (CoPs) as a 'social theory of learning'. This term was mentioned in Wenger (1998), but became more widespread with the publication of the research agenda 'learning for a small planet' (Wenger 2004). The decline in the number of mentions of CoPs from 2010 and onwards could indicate that the popularity of the theory maybe has started to 'wear out', but it is also interesting, as there have been a number of discussions (and critiques) of the notion of community. For one thing, the notion of 'community' (not necessarily community of practice) has been critiqued to ignore the darker sides of hierarchy, oppression or 'the tyranny of participation' (Fox 2005; Roberts 2006; Ferreday and Hodgson, 2008), and also there have been discussions of communities versus networks and what the ideas of community might overlook (e.g. the strength of weak ties (Granovetter 1973)) (Wenger et al. 2011; De Laat et al. 2014; Vrieling et al. 2016). Thus, the notion of community has always played the role of both an ideal and a contentious, problematic notion within networked learning, and this double role might also be an explanation of why it has held such a strong role as a topic of discussion. It is also well worth noting that the interest in 'communities' within networked learning preceded the popularity of communities of practice as a distinct concept. The interest in community-oriented and community-collaborative