Chapter 1: Scope and Objectives of the LITME@WORK Research Project

Anne-Sophie Collard[1], Jerry Jacques[1] and Jan Zienkowski[2]

[1] CRIDS/NaDI – Université de Namur
[2] PReCoM – Université Saint-Louis – Bruxelles

Digital technology has become ubiquitous in the workplace, especially for office workers. Processes and services are more and more digitalized, allowing paperless work and changing ways of working. The digitalization of organizations implies a wide diffusion of Information and Communication Technologies (ICT) like mobile devices, multimedia content, groupware, cloud computing and big data technologies (Holtgrewe, 2014). It also enables the implementation of distance work. Furthermore, work spaces change as organizations try to find ways to reduce building costs, deal with energy issues or implement organizational change projects. In NWOW projects (New Ways of Working, or "New World of Work" as Microsoft has called it), spaces are reduced, diminishing the number of workstations and suppressing desks allocated to individuals in open spaces or flexible workspace configurations. These changes imply the development of mobile work inside workspaces but also outside, in coworking spaces, for example, or at home. Such transformations are grounded in new ways of thinking about organizations but also in contemporary concerns with mobility. Working at a distance, supported by digital tools, is seen as a possible answer to the difficult question on how to resolve mobility problems (Marzloff, 2013).

So-called "new ways of working", practiced both individually and collectively, gradually emerge, enabled by technological, organizational and social evolutions. For example, workers have to deal with increasing quantities of information and need to develop strategies to avoid information overload. They have to coordinate with multiple people through synchronous and asynchronous computer-mediated communication. This has become commonplace and workers are now often equipped with mobile technologies that may be necessary to perform at least a part of their professional activities in these increasingly mobile contexts. Collaboration at a distance has become more and more common over the years but it also raises questions regarding the evolution of the infrastructures provided by organizations, the changing ways through which work is achieved by individuals and teams, the complex relationship between one's professional activity and private life, and the new set of competences that workers need to have. These transformations cross all sectors and are visible in both public and private organizations.

This book addresses these changes through the lens of digital media literacy[1] (DML) for office work (from clerical work to managerial tasks), focusing specifically on teamwork and distance work. Changing ways of working require a new range of technical, social and communicative competences. For instance, office workers are expected to engage in collaborative writing, to manage personal and shared information, to re-create and maintain one's personal work environment in multiple contexts of work, and/or to manage teams at a distance. These competences have been the focus of the LITME@WORK project, entitled "Digital and media literacy in teamwork and distance work environments", funded by BELSPO[2] during four years (2015-2019). This lens has allowed us to gain insights into the ways office workers use ICTs. We were also able to shed light on the job demands as well as on the needs and the fears regarding DML. It has also provided information about workers' expectations, for instance in terms of opportunities for using and learning DML competences.

Competences are often approached on the basis of a concern with efficacy and performance. The LITME@WORK project also explored other dimensions of competence in organizations undergoing a digital turn. First, being competent is a factor of inclusion not only within the organization but also in the broader work environment, as today's collaborations within and across organizations are sustained through diverse ICTs. A related point is that DML has implications for well-being at the workplace: a lack of competence can create stress and frustration, and ultimately lead to demotivation and isolation. A third issue is the redefinition of time and space. ICT-supported work practices such as distance collaborative writing tend to blur the boundaries between work time and leisure time, professional life and private life, workplace and home. These new conditions also require a range of competences in order to be handled in an effective and meaningful way.

LITME@WORK asked the following research questions: (1) how is DML addressed and practiced in today's office work and (2) how can DML be further integrated in emerging distance teamwork structures and practices in order to support effective, stimulating and meaningful ways of working. Starting from these questions, LITME@WORK has pursued four objectives: (i) to understand changing work environments and their DML requirements, (ii) to develop a systemic approach to DML in office distance teamwork, (iii) to provide resources for societal and policy stakeholders, and (iv) to contribute to research efforts in relevant fields of research.

Relying mainly on qualitative analyses, LITME@WORK has investigated DML from three different but complementary perspectives, each corresponding to one work package (WP) in the research project structure: (1) a critical discourse analysis focusing on the sense-making processes office workers rely on when they conceptualize (DML) competences in organizations transitioning to new ways of working; (2) an organization

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[1] Digital media literacy is defined as a set of interrelated informational, technical and social competences (Fastrez, 2010; Fastrez & De Smedt, 2012) involved in digital media practices (see chapter 2).

[2] Belgian Science Policy, Brain-be program, <http://www.belspo.be/>.

design analysis focusing on the relationship between work organization, workplace design and structural conditions for (DML) competence utilization and learning; and (3) a practice-oriented perspective focusing on the relationship between digital media uses and competences in employees' new work practices. As is shown in Figure 1.1, these three perspectives treat different levels of analysis.

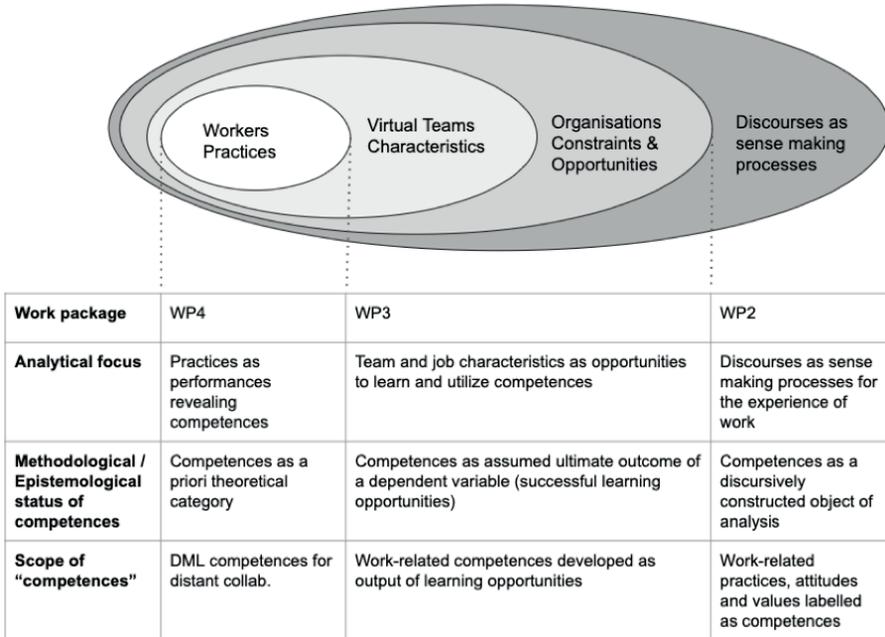| Work package	WP4	WP3	WP2
Analytical focus	Practices as performances revealing competences	Team and job characteristics as opportunities to learn and utilize competences	Discourses as sense making processes for the experience of work
Methodological / Epistemological status of competences	Competences as a priori theoretical category	Competences as assumed ultimate outcome of a dependent variable (successful learning opportunities)	Competences as a discursively constructed object of analysis
Scope of "competences"	DML competences for distant collab.	Work-related competences developed as output of learning opportunities	Work-related practices, attitudes and values labelled as competences

Figure 1.1: The work packages of the LITME@WORK project
and their approaches.

Firstly, WP4 focused on workers' practices as performances revealing competences. Competences are therefore considered as a priori theoretical categories. Observation and analysis of work practices lead to the identification of DML competences required by distance collaboration. The WP4 team was composed of researchers and academics in information and communication sciences from UCLouvain[3] and Université de Namur[4]. Secondly, WP3 studied the characteristics of virtual teams and the organizational constraints and opportunities. Specifically, it has analyzed team and job characteristics as opportunities to learn and utilize competences. Competences are considered as the ultimate outcome of a dependent variable, defining successful learning opportunities. The results aim to reveal learning opportunities from which work-related competences can be developed. The WP3 team was composed of sociologists from HIVA, KU Leuven[5].

[3] Valèria Ligurgo, Thibault Philippette, Thierry De Smedt and Pierre Fastrez (coord. WP4).
[4] Jerry Jacques and Anne-Sophie Collard (coord. WP1).
[5] Yennef Vereycken, Arne Vanderstukken, Irina Nikolova, Annelies Antheunis, Laurianne Terlinden

Thirdly, WP2 focused on discourse as a sense-making process structuring the interpretative experience of work. Competences were analyzed as discursive constructs whose meanings emerge in close articulation with work-related identities, practices, attitudes, values and other relevant discursive elements. The team in media and communication studies at Université Saint-Louis – Bruxelles[6] was in charge of WP2. Finally, the team from the Université de Namur was in charge of the overall coordination of the LITME@WORK project (WP1).

Each approach has used specific methods, adapted to its particular focus and theoretical framework, but the WPs did work with a shared data set of case studies. The LITME@WORK project studied ten Belgian organizations that took measures to enhance ICT supported teamwork and distance work. The selected cases represent a variety of work contexts that can be distinguished on the basis of parameters such as the public/private distinction, the sector of activity and/or the size of the organization. This diversity is represented in the nicknames attributed to these organizations that will be used throughout this book to ensure the anonymity of these companies and their workers. Each nickname combines a clue about the size of the organization with a clue about its activity sector:

- SmallBusiness – private sector
- SmalIT – private sector
- BigEmp (for big Employment) – private sector
- BigTransport – public sector
- BigHealth – public sector
- MediumTerritory – public sector
- MediumHealth – private sector
- MediumIT – private sector
- BigInsuranceOne – private sector
- BigInsuranceTwo – private sector.

As presented in Figure 1.2, the data collected in each organization included interviews with managers, union representatives and HR managers. We collected organizational documents relevant to the organizational transition. We also conducted interviews with team members and team leaders, supplemented by observations made in their respective work environments. Each worker in each organization also participated in a two-waves quantitative survey, the first wave at the beginning of the data collection process and the second six months later. Finally, the WP2 perspective required interviews with additional stakeholders such as politicians and unionists without direct affiliations with any of the ten cases chosen for the research.

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and Monique Ramioul (coord. WP3).
[6] Jan Zienkowski, Marie Dufrasne, Sabri Derinöz and Geoffroy Patriarche (coord. WP2).

Figure 1.2: Summary of the data collected by the work packages of the LITME@WORK project.

The research provides an up-to-date, encompassing knowledge of DML in teamwork and distance work, which will enhance stakeholders' understanding of DML and their capacity to take action. Specifically, LITME@WORK delivers as main research results: a research framework for analyzing the many aspects of DML in distance teamwork practices and environments, ranging from the broader context of organizational structures to the point of view of individual workers themselves; an in-depth analysis of the ways in which organizations understand and negotiate the "(digitally) competent worker"; an up-to-date description of the changing office work competences, practices and structures, with a focus on teamwork and distance work trends; and a conceptual map of DML competences aimed at serving as a resource for societal and policy stakeholders in terms of defining, evaluating, monitoring, recognizing and supporting DML in office work.

Book Structure

This book is divided into seven chapters. Each chapter can be read independently. Nevertheless, readers are encouraged to read the whole volume to come to terms with the complexity of the problematic nature of DML competences in team and distance work. Following this first introductory chapter, the three teams of LITME@WORK present their perspectives, methods and results in four chapters.

Chapter 2 answers the following question: what are the digital competences needed by workers to collaborate in distance work environments? This question is addressed from the perspective of digital media literacy (DML), defined as a set of interrelated informational, technical and social competences (Fastrez, 2010; Fastrez & De Smedt, 2012) involved in digital media practices. The authors develop a perspective that goes

beyond a technology-centered approach to DML competences. They consider how workers integrate the use of ICT into meaningful activities that articulate tools, contents and relationships.

For this reason, the authors adopted an interpretive approach that allowed them to define these competences from the point of view of workers, by documenting how they conceive their work situations of distant collaboration, and to what extent they are able to deal with them in meaningful and appropriate ways. Sixty-one interviews were conducted with managers and workers which took the form of guided tours of the informants' workspaces.

The main findings consist of a definition of the competences which takes the form of a matrix crossing activities involved in distance collaborative work with dimensions workers take into account when they think about and engage in these activities. This chapter ends with a detailed description of these activities and dimensions followed by a complementary look at the qualitative data presented in the form of aggregated quantitative indicators.

Chapter 3 revolves around the organizational structure of virtual teams. Although increasingly popular, virtual teamwork is often associated with communication and collaboration challenges. Studies identify a multitude of coordination challenges that negatively impact on team members' autonomy. Such factors include knowledge barriers or losses in communicative richness. Research often focuses on managerial (e.g. trust and leadership) and technical factors to solve coordination problems within virtual teams, and overlooks the fact that virtual teams are embedded within a larger organizational structure. In this chapter, we examine whether the organizational structure utilized in virtual teamworking matters for the coordination challenges outlined above. Interviews were conducted with human resources managers as well as with team leaders and team members. The findings outline a strong relationship between the organizational structure of virtual teams and coordination issues present in these teams. We found two types of teams. A first type includes teams working in silos with high levels of division of labor work. This division creates a lot of interdependencies between team members and results in higher levels of coordination requirements. The virtual environment makes everything even more complex to organize. In such teams, centralized information and communication technologies are often used to constrain team members' control capacity by imposing standardized procedures. A second type includes teams working in autonomous cells with low task interdependencies and coordination requirements. Such teams can therefore absorb the complexity related to working in a virtual environment. This chapter contributes to the literature by showing that the organizational context in which virtual teams are embedded matters. The manner in which tasks are divided across team members in virtual teams explains whether organizations have few or many coordination problems.

In *Chapter 4*, the authors ask under which circumstances teleworking and virtual teamwork lead to learning outcomes for team members (i.e. developing skills, acquiring

technical and communication literacy to deal with virtual teamwork). Indeed, despite advances in information and communication technologies, there are still challenges attached to teleworking and virtual teamwork, most of which pertain to lower communication frequency and worsened professional relationships. Because of these challenges, learning outcomes for team members are not obvious and only occur when these challenges have been overcome. The authors therefore investigate which circumstances can help in safeguarding these learning outcomes. Specifically, they focus on knowledge sharing within a team, on team trust, and on consistencies among team members (i.e. in terms of use of communication channels, hours of teleworking per week, and learning climate perceptions), three circumstances that many experts consider to be important for successful team and distance work but currently lack empirical evidence. Hypotheses were tested with a two-wave survey study involving a sample of employees (N1 = 1297, N2 = 564) nested in nine Belgian organizations among the ten chosen for the research. The results of this study showed that trust and consistency in hours of teleworking are indeed needed to ensure learning outcomes such as skill development, technical literacy and communication literacy. Knowledge sharing, consistency in use of communication channels and consistency in learning climate, on the other hand, did not show the expected results.

In *Chapter 5*, the issue of (DML) competences is addressed as part of a wider analysis that focuses on the interpretive frameworks office workers rely on in order to make sense of so-called New Ways of Working (NWOW). The authors name and identify the logics constitutive of celebratory accounts of NWOW, while also exploring the logics office workers who criticize and even resist aspects of the associated techno-managerial apparatus.

The authors base their analysis on principles derived from Critical Discourse Analysis (CDA) and Poststructuralist Discourse Theory (PDT) (Fairclough, 1992; Glynos & Howarth, 2007; Zienkowski, 2017). They analyze interviews conducted with employees (managers, team leaders and team members) working in a selection of public and private enterprises where NWOW are being or have been implemented. The authors show that celebrations and critiques of NWOW are both marked by complex articulations of norms, values, practices, and identities that follow specific interpretive logics. The analysis shows that even though office workers generally use several logics to embrace celebratory NWOW discourse, many of them are able to engage in a limited form of critique regarding real or potential perverse effects of NWOW. At times they even rely on certain logics in order to develop micro-resistances to specific aspects of the NWOW apparatus without calling its *raison d'être* or constitutive logics into question. Nevertheless, truly oppositional critiques remain rare and do not necessarily lead to actual practices of resistance. Overall the analysis demonstrates the extent to which celebratory accounts of NWOW enjoy a relatively high degree of hegemony on the work floor.

The two final chapters address key dimensions and challenges for DML in collaborative and distance work. In these chapters, the authors of this book create bridges between

their respective approaches. As such, the final two chapters constitute an integration effort whereby the different contributors to this volume provide a number of reflections on key issues in contemporary debates about office work, collaboration, technology and competences, based on their respective observations.

In *Chapter 6*, authors of this book therefore address the following themes: (1) DML in collaborative and distance work; (2) the concept of "newness" in discussions about DML and NWOW; (3) DML as a social construct; (4) implications of collaborative and distance work for well-being; (5) the issue of digital (social) inclusion; (6) the role of technology; and (7) management in team and distance work.

Finally, *Chapter 7* asks the question how digital and media literacy can be further integrated in emerging team and distance work structures and practices, in order to support effective, stimulating and meaningful ways of working. In this chapter, the researchers of the LITME@WORK project then formulate seven recommendations for policy makers and practitioners: (1) treat competences as abilities to perform particular practices rather than abstract values; (2) use the DML matrix presented in Chapter 2 in a reflexive way; (3) (re)consider the organizational design of teams as a strategic factor for organizations; (4) acknowledge the value of articulation work in hiring and career development; (5) focus the team leader's role on facilitating a shared understanding of teamwork and supporting distributed articulation work; (6) re-design training and evaluation initiatives beyond individual practices, operational skills and digital tools; (7) integrate the development of DML in a more balanced discourse about organizational change.

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Contributors to this Book

Anne-Sophie Collard: Professor, Université de Namur, Research Center in Information, Law and Society (CRIDS) member of the Namur Digital Institute (NaDI), <anne-sophie.collard@unamur.be>

Sabri Derinöz: Researcher, Université Saint-Louis – Bruxelles, Pôle de Recherches sur la Communication et les Médias (PReCoM), <sderinoz@gmail.com>

Marie Dufrasne: Associate Professor, Université Saint-Louis – Bruxelles, Pôle de Recherches sur la Communication et les Médias (PReCoM), <marie.dufrasne@usaintlouis.be>

Pierre Fastrez: Senior Research Associate, Fund for Scientific Research – FNRS, and Professor, Université catholique de Louvain, Groupe de Recherche en Médiation des Savoirs (GReMS), <pierre.fastrez@uclouvain.be>

Irina Nikolova: Assistant Professor, Open University of the Netherlands, Faculty of Management, Science & Technology, <irina.nikolova@ou.nl>

Jerry Jacques: Postdoctoral Researcher, Université de Namur, Research Center in Information, Law and Society (CRIDS) member of the Namur Digital Institute (NaDI), <jerry.jacques@unamur.be>

Valèria Ligurgo: Doctoral Fellow, Université catholique de Louvain, Groupe de Recherche en Médiation des Savoirs (GReMS), <valeria.ligurgo@uclouvain.be>

Geoffroy Patriarche: Professor, Université Saint-Louis – Bruxelles, Pôle de Recherches sur la Communication et les Médias (PReCoM), <geoffroy.patriarche@usaintlouis.be>

Thibault Philippette: Assistant Professor, Université catholique de Louvain, Groupe de Recherche en Médiation des Savoirs (GReMS), <thibault.philippette@uclouvain.be>

Monique Ramioul: Associate Professor, KU Leuven, HIVA Research Institute for Work and Society, <monique.ramioul@kuleuven.be>

Arne Vanderstukken: Senior Researcher, KU Leuven, HIVA Research Institute for Work and Society, <arne.vanderstukken@kuleuven.be>

Yennef Vereycken: PhD Student, KU Leuven, HIVA Research Institute for Work and Society, <yennef.vereycken@kuleuven.be>

Jan Zienkowski: Senior Researcher, Université Saint-Louis – Bruxelles, Pôle de Recherches sur la Communication et les Médias (PReCoM), <jan.zienkowski@usaintlouis.be>

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