How can digital media literacy be further integrated in team and distance work structures and practices in order to support effective, stimulating and meaningful ways of working ?

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Chapter 7: How can Digital Media Literacy be Further Integrated in Team and Distance Work Structures and Practices in Order to Support Effective, Stimulating and Meaningful Ways of Working?

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Based on the analyses conducted in the LITME@WORK project we will now turn to the question of how digital media literacy (DML) can be further integrated in team and distance work structures and practices in order to support effective, stimulating and meaningful ways of working. In this chapter, we therefore provide a range of recommendations for policy and practice. The recommendations formulated here are in the first instance meant for those who seek to foster DML at work – no matter whether they inscribe themselves in a classic celebratory NWOW discourse or not. These recommendations are:

1) treat competences as abilities to perform particular practices rather than abstract values;
2) use the DML matrix 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.

In formulating our recommendations on how to integrate DML in team and distance work, we will also consider the voices of those who take issue with actual or imagined perverse effects of transitioning to NWOW culture. Doing so, we seek to give voice to our more critical interviewees as well. Critique is part of a meaningful and reflexive stance on work-related competences. In fact, the introduction and elaboration of digital media competences can only be meaningful if integrated into wider interpretive logics.

1.Treat Competences as Abilities to Perform Particular Practices rather than Abstract Values

Our first recommendation for those who seek to develop DML further is to make a clear distinction between competences conceptualized as abilities to perform particular work practices on the one hand (see Chapter 2) and competences conceptualized as work-related values such as autonomy, flexibility or sociability on the other hand (see Chapter 5). A clear definition and understanding of competences as abilities enabling specific practices is important to a HRM policy that values DML. The matrix developed in Chapter 2 provides a sound basis for developing such an understanding.

The fact that many managers and/or employees talk about competences in abstract rather than concrete terms can lead to confusion. We therefore suggest that HRM should work with clear definitions of competences that allow for measurement and evaluation of concrete abilities and practices. Notions such as “autonomy” and “trust” will continue to play a role in organizational culture but as long as these values are not linked to a more concrete set of indicators they will remain a potential source of confusion.

Unqualified use of such terms can lead to contradictions in job descriptions and job requirements because it hinders an objectified account of what a job entails. It may also lead to an inconsistent division of responsibilities between individual and collective levels of organization. For instance, what does it mean to work autonomously if one is asked to collaborate at the same time? Also, hiring based on competences understood in terms of values rather than unambiguous job descriptions are more likely to lead to arbitrary evaluations of employees as well as to inaccurate expectations on the part of job seekers.

2.Use the DML Matrix in a Reflexive Way

In order to face the current developments in work practices and environments – for example, more teamwork, more distance work supported by digital tools and more cooperative tasks – digital media competences required for distance and collaborative work need to be defined more precisely. They should also be taught to improve

employability, effectiveness and creativity. The DML matrix proposed in Chapter 2 provides an exhaustive and precise understanding of digital media competences. It identifies the range of activities involved in *articulation* and *cooperation* work as well as their constitutive dimensions, which can be used to take on contemporary collaboration challenges in their full complexity.

The main advantage of this matrix is its complex and integrated representation of digital media competences implied in teamwork and distance work. It veers away from approaches that focus solely on digital tools and functionalities, as well as from approaches that associate competences exclusively with ill-defined concepts such as flexibility, digital health, trust – where "competences" are often disconnected from the tasks and work situations that workers engage in on a daily basis.

At the same time, by stating that the DML matrix should be used in a reflexive way, we mean that managers and policy makers should use it as a map rather than as a recipe. It is a map that can help to plan for training or evaluation purposes, but it also implies that workers, teams and management should create their own itineraries, adapt the matrix to their specific work contexts and objectives. This adaptation should prevent three pitfalls: a reductionist, a context-blind, and a compartmentalized application of the matrix. First, the matrix can help identify aspects of competences that are not fully covered in theory and practice and that may need particular attention. We do not propose a "one size fits all" approach which would assume that in every situation, every worker or team should be able to perform all the activities listed in the matrix and integrate all six dimensions in the way they frame the associated work situation. Second point, we suggest that the adequacy of these activities and dimensions should be assessed on a case-by-case basis, taking the specific work situations and the objectives of the workers into account. Third, in adapting the matrix to specific work situations, one should not adopt a compartmentalized approach that considers each cell in the matrix as disconnected from the others. Competences are by nature integrative and rely on connections between multiple activities and dimensions. Higher levels of competence translate in the ability to combine different activities and dimensions in a meaningful way. In any case, this matrix should be used as a tool for both practitioners and co-workers to increase their reflexivity with respect to collaborative work situations. Creating this shared reflexivity is a key factor in the process of developing DML at work.

3. (Re)consider the Organizational Design of Teams as a Strategic Factor for Organizations

In order to support learning in virtual teams, and to foster an effective, meaningful and stimulating working environment, it is essential to assess the tasks of team members explicitly and critically. It is also important to consider the design and assignment of tasks to team members. Our detailed analysis of the division of labor in a range of virtual teams (see Chapters 3 and 4) demonstrates a high variety in the organizational design of virtual

teams. This variation leads to a similarly high variation in the learning opportunities and psycho-social risks for the workers involved. The communication about their work, the execution of their tasks, the sharing of knowledge, the trust building and the mutual support all become more complex when workers have to collaborate over distance. Due to the division of labor between and within teams and the use of ICT at a distance, the risk of disturbances in the workflow increases. At the same time the scope and means to solve these disturbances decrease. In other words, the *coordination* of the work of virtual teams becomes more important as well as more complex. Our analysis showed that the coordination requirements and the possibilities to respond to these are determined by a team's division of labor.

In addition, it appeared that technology used to enable distance collaboration is not by default supportive, but can also add to the complexities of coordinating work. Technical systems are indeed prone to technical errors and can hinder rather than improve a team's coordination. This seems to be an underestimated problem. To go further, it appeared that it is important to discuss the tools to be used when settling down a team, and the roles (access, ownership, function) gravitating around the tools. It is an illusion to think that implementing tools will automatically create team spirit and collaborative work. It could even be the opposite: unadapted tools can create tension and hinder collaboration. It is thus crucial to implement meaningful tools, with a careful coordination that considers workers practices, work situations and contexts. Within such conditions, tools might support team construction and collaborative work. Tools need humans to work, humans need coordination of the tools with people in mind.

In spite of the obvious role of both the division of labor and the actual function and use of technology for learning opportunities, management as a rule does not consider these factors when introducing virtual teams. In other words, as argued earlier, management should take a more reflexive stand towards the development of new teamwork practices. The recommendations stemming from our analysis in Chapters 3 and 4 can be formulated rather unambiguously on that basis. First, it is necessary to take the time to critically assess the actual division of labor between and within teams and to reconsider it if necessary. Two questions should play a key role in this assessment: (1) Who does what, and (2) Who needs to collaborate when with whom? Low levels of division of labor are most conducive to support team members in coping with the increased complexity and coordination requirements. We therefore advice to grant team members sufficient autonomy to organize their work and to deal with the problems they are confronted with. This can be achieved by integrating tasks of preparation, support, production and regulation into the jobs of the team members instead of separating them and distributing these tasks over teams or between team members and team leaders. Based on the objective to increase the autonomy of team members, technical systems should be designed on the basis of the "minimal critical specification" principle. This principle stipulates that one should interfere only minimally with team members' control capacity. It also suggests a standardization of the procedures crucial to the workflow. Further, we

recommend paying attention to the support and feedback team members enjoy in their team, both from colleagues and superiors, as this is also an important source of learning opportunities. Finally, the analysis presented in Chapters 3 and 4 showed that trust and knowledge sharing benefit when teleworking arrangements are fairly consistent within a team.

4. Acknowledge the Value of Articulation Work in Hiring and Career Development

Chapter 2 introduced the distinction, within collaborative work, between *production work* (working together towards the production of goods or services) and *articulation work* (establishing the conditions of collective production work by meshing together the tasks, the actors and the resources involved), which includes *coordination work* and *contingent articulation work*. *Coordination work* is dedicated to designing (or redesigning) coordination mechanisms (typically ahead of the time of the production work) that set stable rules and procedures for collective production work (and materialize them into technological artifacts). *Contingent articulation work* is about adapting the procedures in context, as work unfolds, to get work "back on track".

The results presented in Chapter 2 show that *articulation work* is an important part of collaborative work, which is not necessarily recognized as such. While work is often reduced to "productive" work, the importance of articulation work is neglected. We especially noted that even if team leaders continue to play an important coordination role, articulation work is increasingly, implicitly or explicitly, expected to be performed by team members as well, especially in its contingent form. A consequence of the relative invisibility of such articulation work is that the value of the competences to perform it is seldom acknowledged. Hence, we argue that it is important to take into account articulation work for all HRM strategies and practices, from job descriptions to hiring processes, to career development initiatives.

5. Focus the Team Leader's Role on Facilitating a Shared Understanding of Teamwork and Supporting Distributed Articulation Work

The role of the team leader is another key factor for integrating DML further in team and distance work environments and practices. Our research suggests that team and distance work requires team leaders who (1) foster a shared understanding of teamwork among team members and implement the required conditions for it, (2) support the distribution of articulation work among the team members, and (3) play an active role in the adoption and implementation of ICTs within the team.

Concerning the issue of fostering a shared understanding of what teamwork entails, the analysis of team members' NWOW discourse suggests that office workers may have different understandings of what it means to be a team, depending on the interpretative logics at play (see Chapter 5). To put it differently, the meaning of "being a team" is likely to change depending on the logic used to make sense of NWOW. Different and even contradicting logics can coexist within a team, creating misunderstandings in what it means to do teamwork. Each logic also creates specific expectations regarding the "ideal" team leader. As a recommendation, we therefore suggest that team leaders should take potential misunderstandings into account and allow team members to negotiate a shared understanding of what it means to work as a team.

Furthermore, the role of the team leader has changed as remote teamwork cannot be coordinated and controlled using the same processes and tools as those of the past (see Chapters 2, 3 and 4). The responsibility of effective collaboration has evolved to a distributed phenomenon where team members have gained autonomy and participate in the definition of their collaborative framework (see recommendation 4 in this chapter). We observed a porosity between leaders and team members in doing *articulation work*. In this context, control has not disappeared, rather it has changed to the way members work together, with trust becoming a key component in task assignments, feedback to colleagues, collective awareness, etc. The role of team leaders is therefore to support coordination, secure consistency within the team (e.g. in terms of teleworking arrangements), identify problems (e.g. the issues of disconnection and work/life balance) and foster the collective construction of solutions.

Team leaders also have an important role to play regarding the tools used by team members. They have to be able to assess the usefulness of the tools in relation of the team and to organizational functioning more generally, assessing the social impact of the adoption of a particular tool. One has to keep in mind that individuals might adopt a tool in different ways depending on their specific competences, backgrounds and preferences. In fact, technology and its uses require explicit reflection and should be acknowledged as a potential problematic factor rather than as an uncriticized solution.

6. Re-design Training and Evaluation Initiatives beyond Individual Practices, Operational Skills and Digital Tools

Contrary to the myth of the digital native, the digital media competences identified in our matrix (see Chapter 2) are not automatically mastered by younger generations. Youngsters are not necessarily more competent than their elders when we talk about collaborating through digital media. The development of digital media competences for collaboration should not be seen as a generational issue, but as a matter of dedicated

training and/or education that is not necessarily provided at school today, although it affects everyone.

Our results provide some insights as to how such a training should be designed. First, digital media competences implied by collaboration have a social dimension (see Chapters 2, 4 and 6). Training and evaluation initiatives should therefore not be designed for individuals alone but also for teams as a whole. Teams need to demonstrate their ability to understand situations and organize team work collectively. Although training team leaders and managers is important, attention should be paid to team members as well.

A second implication of our research (see Chapter 2) is that evaluation and training initiatives should be based on a definition of digital media competences as *observable* performances (see also recommendation 1). In that sense, digital media competences differ from "soft skills" defined as values, mindset or personality traits (see Chapter 5).

A third implication of our research is that collaborative digital media competences should be reduced neither to operational skills, nor to mere technical abilities. Indeed, training programs all too often focus on digital tools and the technical ability to operate them. As stated in Chapter 2, skills are only one aspect of the resources mobilized when being competent, and technical skills are also only one part of these skills. Hence trainings should focus on competences and on their multiple dimensions. Our results (see Chapter 2) show that tools constitute only one of the six dimensions of the ten activities implied in distance collaboration. It is therefore necessary to develop training programs firmly anchored into activities and practices, which include (digital and non-digital) tools but are not reduced to this dimension. In addition, training programs also need to consider collaboration in relation to team structure (see Chapter 3). This is why we recommended to design teams *before* tools rather than choosing tools first and structuring and training teams afterwards (see also recommendation 3 in this chapter). In addition, training programs should strike a balance between integrating organizational rules (e.g. meeting schedules, file sharing protocols, etc.) and encouraging forms of inventivity in the development of collaborative practices, which could lead to organizational innovation.

Another point relates to the risk of identifying and recommending so-called "good practices" conceived as general guidelines that could be properly applied to all situations. As all practices are situated and contextual, such an approach could result in an oversimplified representation of collaborative practices and competences. "Good practices" should rather be seen as resources that can be used in certain contexts and should therefore be adapted depending on the context. From our perspective, a good practice should be defined as an adequate framing of the situation or as a relevant conduct, rather than as an operational skill that can function in any situation. To put it differently, rather than aiming at good practices, we recommend that training and evaluation initiatives focus on *reflexive* practices that allow for an adequate framing of specific situations. In turn, this allows the identification of relevant responses to specific problem situations.

7. Integrate the Development of DML in a more Balanced Discourse about Organizational Change

Celebratory NWOW discourse projects a very positive image of the objectives and consequences of team and distance work (see Chapter 5). As such it glosses over critiques and worries commonly expressed by office workers and managers. For instance, many office workers point at potential or actual negative effects of NWOW measures on social, psychological and physical well-being, as well as on the realization of public service values. Likewise, some interviewees are critical about the actual contribution of NWOW to a more participatory work culture. Nevertheless, such critiques and worries are part of the way people give meaning to their work. Ignoring them could lead to discontent in organizations. We therefore recommend that managers and policy makers who seek to foster DML develop a more balanced discourse about organizational change.

In a more balanced discourse the critiques and worries about the perverse effects of NWOW are explicitly recognized. This recognition of critiques and worries should not only show in HRM and management rhetoric but also inform the actual implementation of organizational change. If management persists in a 100 per cent celebratory NWOW discourse without engaging dialogically with the concerns, worries and problems articulated by critics of NWOW, and if management does not adopt a more pragmatic stance in response, chances are that it will be accused of wielding a pseudo-participatory discourse.

There is also an organizational risk that comes with a disconnect between high management ideals and the realities of day-to-day work. From a managerial point of view, it is important not to consider micro-resistances to specific NWOW principles as a matter of bad will and/or resistance to NWOW as a whole. Quite often these resistances rest on ways of thinking that people rely on in order to make sense of their work. In environments where critique circulates, it is important to allow for debate, for a problematization of NWOW practices, as well as for a diversity of standpoints.

Critique has to be taken seriously. If not, management and policy making risk being inconsistent with the participatory ideals that are supposedly part and parcel of NWOW. From the perspective of Chapter 2, it can even be argued that being critical is actually *a competence*. Criticizing implies an ability to frame situations adequately and to consider alternative scenarios – be it for maintaining the status quo and/or (re-)imagining organizational change.

Appendix I : Instrumented Practices

Cautionary statement about the list of instrumented practices presented here:

The described instrumented practices are extracted from our data and are not meant to represent an exhaustive image of all possible practices. They rather show potential and alternative ways to operationalize the actions to which they relate. Furthermore, these practices may reflect both fruitful and problematic uses, depending on the context in which they appear. The brand names mentioned here are not meant to endorse any commercial product, but serve as indications to help the reader, who might be unfamiliar with these kinds of tools, to better understand our point.

1. Interdependent Tasks

Interdependent tasks
Collectively allocating tasks (coordination work)
Identifying coworkers working time and work responsibilities
Sharing a text document on an internal server listing everyone's working time and role
Sharing a text document on an internal server listing tasks and their deadlines
Sharing a spreadsheet listing tasks on an online file storage system (e.g. Google Sheets)
Collectively authoring one's job description
Identifying the nature of tasks
Sharing a text document specifying the nature of tasks (e.g. Word document)
Reading the content of tickets in a ticketing tool (e.g. Track)
Display tasks in a digital Kanban board
Presenting a project on a corporate digital social network
Sharing a spreadsheet listing tasks on a shared server (e.g. Excel sheet)
Collectively checking tasks in a project management software (e.g. Odoo)

Making the team's tasks and deadlines visible
Recording tasks in one's shared calendar (e.g. Outlook)
Recording tasks in a colleague's shared e-calendar
Sending an e-mail to team members
Using shared spreadsheets (e.g. Excel sheets)
Identifying the workload related to tasks treatment
Indicating the duration of a project in a shared spreadsheet
Indicating the amount of needed work hours in a ticket
Ensuring a balanced collective workload
Collectively completing a shared spreadsheet during team meetings
Automatically filtering tickets order of appearance
Sending an automatic e-mail from a ticketing tool to the team leader
Ensuring one's individual balance toward collective workload
Listing one's tasks in an online project management tool (e.g. Trello)
Listing one's tasks in one's shared calendar (e.g. Outlook)
Identifying constraints of media apparatus for interdependent tasks allocation
Working successively in a shared spreadsheet
Accessing a shared spreadsheet
Using 2 different task management tools (e.g. Google Sheets and Track)
Using a shared spreadsheet on an online collaborative platform (e.g. SharePoint)
Using a project management software (e.g. Odoo)
Implementing tasks interdependency (cooperation work)
Making content of tasks available for team members
Sharing a spreadsheet on a common server (e.g. Excel)
Maintaining one's shared calendar up-to-date concerning tasks

Sharing tasks lists on an online collaborative platform (e.g. SharePoint)
Tagging one's coworkers on tasks in a project management tool (e.g. Odoo)
Inquiring about collective progress on tasks
Sending each other's messages concerning tasks by mail or by instant messaging
Collectively checking a spreadsheet (e.g. Excel)
CCing one's coworkers with e-mails concerning tasks
Indicating when a task has been done and its duration in a ticket
Creating a shortcut in one's internet browser linking to the tickets of a colleague
Sending a report by e-mail to the team leader listing carried out tasks
Displaying digital task management boards on screens
Sending a recap of carried out tasks during a given period by e-mail to team members
Simultaneously displaying one's coworkers shared calendars (e.g. Google Agenda)
Checking a ticketing service's homepage (e.g. Track)
Collectively checking a tasks' list on a shared online spreadsheet (e.g. Google Sheets)
Collectively checking a project management system (e.g. Odoo)
Identifying changes in a collective task progress
Adding a comment on a shared online spreadsheet to receive a notification by e-mail
Creating a new ticket containing the nature of the task to receive a notification by e-mail
Dating tasks' statuses in a Kanban task management board
Identifying other's degree of availability to exchange about tasks progress
Identifying unavailability of others through their IT equipment (e.g. headphones)
Checking one's colleague status on an instant messaging system (e.g. Skype)
Receiving an automatic "out-of-office" e-mail from one's coworker
Informing other on one's own availabilities to exchange about tasks progress
Sending an automatic "out-of-office" e-mail

	Indicating one's tasks in a shared calendar (e.g. Outlook)
Collectively evaluating tasks progress	
	Collectively filling in an online shared team evaluation form (e.g. Google Forms)
Identifying daily collective work load	
	Sharing a common mailbox
Identifying coworkers' work overload	
	Collectively checking a shared spreadsheet listing everyone's tasks
	Dating tasks' statuses in a Kanban task management board
Balancing time dedicated to collective and individual tasks	
	Identifying the priority of a collective task through e-mail exchanges
	Indicating one's tasks in a shared calendar (e.g. Outlook)
Making oneself localizable for coworkers	
	Sharing one's activities through a shared calendar
Identifying a convenient moment to work together at a distance	
	Identifying other's location in their shared calendars
Identifying constraints of media apparatus to work synchronously	
	Modifying parameters of a digital accounting tool (e.g. Winbooks)
	Keeping track verbally about coworker's carried out tasks

2. Team Meetings

Team meetings
Organizing team meetings (coordination work)
Scheduling team meetings
Creating a meeting and inviting participants in a calendar (e.g. Outlook)
Recording a meeting in one's colleagues' shared calendar (e.g. Outlook)
Limiting coworkers' write permission to one's shared calendar (e.g. Outlook)
Sending each other's a message in an instant messaging system (e.g. Slack)
Identifying coworkers availabilities
Checking team's shared calendars (e.g. Outlook)
Filling in an online meeting planner (e.g. Doodle)
Using a meeting planner from one's calendar (e.g. FindTime plugin for Outlook)
Defining one's status in an instant messaging system (e.g. Skype)
Informing coworkers about one's own availabilities
Indicating busy time slots in one's calendar (e.g. Outlook)
Making information available for the meeting participants
Sending documents to the participants of the meeting by e-mail
Using the meeting planner to update the agenda of the meeting (e.g. Outlook)
Posting information on a corporate online social network (e.g. Yammer)
Sharing a standardized spreadsheet on a shared server (e.g. Excel sheet)
Sending an e-mail to the colleague in charge of the agendas of meetings
Identifying appropriate media apparatus for team meetings
Using a videoconference system (e.g. Skype)
Selecting a suited room for a remote meeting

Using an instant messaging system (e.g. Slack)
Adapting oneself to coworkers media preferences
Avoiding videoconferencing systems for remote meetings (e.g. Skype)
Meeting with the team members (cooperation work)
Recalling the chosen moment to meet
Recording team meetings in a calendar (e.g. Outlook)
Keeping meeting's invite at sight in a mailbox
Interacting with coworkers
Using videoconferencing systems for remote meetings (e.g. Skype)
Distributing collective tasks and workload
Sharing a document on an online file storage system (e.g. Google Docs)
Sharing a spreadsheet on a shared internal server (e.g. Excel sheet)
Sending a recap e-mail to team members after the team meeting
Collectively checking a project management system (e.g. Odoo)
Checking an online project management system (e.g. Trello)
Scheduling team's collective tasks
Writing a shared backwards scheduling (e.g. Excel sheet)
Sharing a spreadsheet on an online file storage system (e.g. Google Sheets)
Collectively checking a team's calendar (e.g. Outlook)
Collectively checking a digital task management board (e.g. Kanban, Odoo)
Establishing collective authoring processes
Creating a shared slideshow (e.g. PowerPoint)
Inquiring about each other's progress
Collectively checking a shared spreadsheet listing the team members' tasks (e.g. Excel)

Collectively checking a spreadsheet on an online file storage system (e.g. Google Sheets)
Collectively checking a digital accounting tool (e.g. Winbooks)
Collectively checking an online digital task management board (e.g. Kanban, Odoo)
Collectively filling in an online evaluation form for collective tasks (e.g. Google Forms)
Managing interruptions
Putting on hold one's distant coworkers
Warning verbally one's colleagues about the meeting's conduct
Keeping track of shared information during the meeting
Writing personal notes in a digital notepad (e.g. OneNote)
Sending e-mails including the information about the team meeting
Writing reports following the team meeting

3. Remote Communication

Remote communication
Organizing means of communication (coordination work)
Accessing one's communication tools
Activating the sound of one's messaging applications notifications
Connecting remotely to one's company network through one's laptop
Avoiding interruptions
Physically isolating oneself from others by teleworking
Setting up one's instant messaging status (e.g. Skype)
Filling in one's shared calendar (e.g. Outlook)
Keeping one's mailbox continuously open
Identifying an e-mail overload in one's mailbox

Controlling information load to be treated
Keeping a low rate of unprocessed e-mails in one's mailbox
Keeping a low number of groups and information to follow on a corporate social network
Writing an automatic "out-of-office" e-mail
Segmenting private and professional life
Avoiding telework
Using 2 different internet browsers
Digitally clocking in
Limiting phone deviation (e.g. Skype)
Avoiding sending e-mails outside of office hours
Identifying appropriate media apparatus for communication means organization
Using a messaging mobile application
Using an instant messaging system (e.g. Skype, Slack)
Using the e-mail
Meeting in a room with specialized equipment for remote meetings
Interacting with one's coworkers through a webcam
Communicating with coworkers (cooperation work)
Identifying coworkers availabilities
Checking a coworker's shared calendar
Checking a coworker's instant messaging status (e.g. Skype)
Locating one's coworkers
Identifying a coworker's instant messaging status (e.g. Skype)
Making one's activity visible for coworkers
Using instant messaging systems (e.g. Skype)
Setting up one's instant messaging status (e.g. Skype, Slack)

Filling in one's shared calendar (e.g. Outlook)
Avoiding disturbing others' work
Avoiding remote meetings supported by videoconferencing systems (e.g. Skype)
Using instant messaging systems (e.g. Slack, Skype)
Turning off the sound of one's messaging applications on one's laptop
Looking for information on one's own before asking coworkers
Forwarding information to coworkers
Sending coworkers e-mails with content that may be of interest to them
Posting information on a corporate social network (e.g. Yammer)
Filing documents on online collaborative platforms (e.g. SharePoint)
Identifying information coming from coworkers
Sorting out e-mails automatically with filters selecting e-mails coming from coworkers
Sorting out one's e-mails automatically with assigned colors
Checking discussions of one's workgroup on an instant messaging system (e.g. Slack)
Checking contributions to a common project on a collaborative development platform (e.g. Github)
Checking messages on a corporate social network
Avoiding coworkers' information overload
Avoiding answering to e-mails with multiple recipients
Separating private and professional information in a shared calendar (e.g. Google Agenda)
Setting up an automatic "out-of-office" e-mail
Relying on the competent e-mail management of coworkers
Avoiding sending e-mails out of office hours
Avoiding sending unnecessary e-mails containing attached documents
Communicating with coworkers to find information
Using the telephone

Sending an e-mail
Posting a message on an instant messaging system (e.g. Slack)
Working in co-presence with coworkers
Sending a message on an instant messaging system (e.g. Skype)

4. Information Spaces

Information spaces
Organizing shared information spaces (coordination work)
Adopting procedures for collective file management
Sharing rules for using shared information spaces
Sorting documents according to coworkers access to the shared information space
Identifying people who need access to documents in an intranet database
Placing all documents indiscriminately on an online storage space (e.g. Google Drive)
Sharing task lists on an online collaborative platform (e.g. SharePoint)
Avoiding coworkers' information overload
Using common and individual information sharing spaces differently
Reminding team members of the common rules for managing shared document storage spaces
Limiting the access of the information space to coworkers strictly concerned by a document on an online storage space (e.g. Google Drive)
Identifying constraints of media apparatus for information spaces organization
Lacking criteria to access a document through the research function of a database
Identifying competing documents sorting logics among coworkers
Lacking a pleasant presentation of the files on an online collaborative platform (e.g. SharePoint)
Facing a too complex files classification
Using competing file storage spaces

Not being able to understand technical requirements of shared file storage spaces
Identifying appropriate media apparatus for information spaces organization
Adapting one's use of file storage spaces to have a compatibility between different kinds of users
Collectively deciding on the folder structure to adopt on an online collaborative platform (e.g. SharePoint)
Adopting a systematic file naming system in a file storage space (e.g. Windows File Explorer)
Sharing information in dedicated spaces (cooperation work)
Finding information
Sending each other the links of shared documents (e.g. Outlook, Slack)
Recording information on a personal storage space on one's computer
Creating shortcuts from one's file explorer, web browser or desktop
Searching information on an online collaborative platform (e.g. SharePoint)
Creating a folder in one's mailbox containing the answers of coworkers
Sorting one's e-mails into sections (e.g. Outlook)
Searching information in one's mailbox
Classifying one's e-mails in the folders of an internal shared database
Downloading shared information from an corporate social network to one's personal storage space
Informing coworkers of shared information space's update
Posting a message on a corporate social network
Sending an automatic e-mail after sharing a document on an online collaborative platform (e.g. SharePoint)
Sending an instant message to coworkers (e.g. Slack)
Sending an e-mail to coworkers with the document's link
Sharing up-to-date versions of documents
Creating a local folder and only sharing it at the end of the project

Designating different types of storage space for work in progress and for finalized documents
Sharing documents on an online file storage space allowing synchronous authoring (e.g. Google Drive)
Avoiding sending attached documents in e-mails
Systematically naming document versions in a file storage space
Preventing data loss
Saving data on an internal shared server

5. Document Production

Document production
Organizing the collective authoring of a document (coordination work)
Making a document available for its collective authoring
Placing a document in an intranet folder accessible by all team members
Requesting the sharing of a document in an online storage space (e.g. Google Drive)
Defining the document's authoring roles
Agreeing orally on responsibility for a shared document via a videoconferencing system (e. g. Skype)
Creating rules for collective document authoring and roles distribution in a shared slideshow (e.g. PowerPoint)
Protecting a document from coworkers' modifications
Verbally warning one's coworkers
Restricting access to a shared spreadsheet to a few team members (e.g. Excel sheet)
Identifying constraints of media apparatus for organizing collective document authoring
Modifying documents with asynchronous authoring systems
Identifying appropriate media apparatus for organizing collective document authoring
Identifying coworker's needs
Identifying organizational complexity

Authoring a document collectively (cooperation work)
Identifying document's accessibility for collective authoring
Sending an e-mail to a coworker
Visualizing coworkers' modifications
Identifying coworkers through identifying information in an online shared document (e.g. Google Docs)
Enabling change tracking in a document (e.g. Word document)
Automatically receiving an e-mail from a collaborative development platform (e.g. Github)
Identifying the last person who modified a document on an online collaborative platform (e.g. SharePoint)
Making one's modifications visible for coworkers
Indicating one's changes in bright colors in a document (e.g. Word document)
Using the change tracking system on a document (e.g. Word document)
Managing the progress of collective authoring
Using instant messages in an online synchronous authoring system (e.g. Google Docs)
Sending e-mails to team members
Adding comments to an online shared document (e.g. Google Docs)
Sending messages in an instant messaging system (e.g. Skype)
Sharing one's screen showing a collectively authored document through a videoconferencing system (e.g. Skype)
Avoiding versionning conflicts
Using online shared document with synchronous authoring systems (e.g. Google Docs)
Using an automatic version protection system in a ticketing tool (e.g. Track)
Avoiding sending e-mails with attached document for modifications
Regularly exiting and saving one's progress in a shared spreadsheet (e.g. Excel sheet)
Using a versioning system in an online collaborative platform (e.g. SharePoint)
Notifying one's coworkers of a document opening by e-mail