

Designing Work for Inclusiveness

Fred Zijlstra*, Gemma van Ruitenbeek*, Henny Mulders**, & Brigitte van Lierop**

*Maastricht University

** Centre of Expertise for Inclusive Organizations

Chapter 8

Series Title : Industrial Relations & Conflict Management

Book Title : Shaping Inclusive Workplaces Through Social Dialogue

ISBN : 978-3-319-66392-0

Designing Work for Inclusiveness

Abstract

Since everybody is expected to participate in our society this implies that everybody should have an opportunity to participate. Participation is generally operationalized by having a paid job. This is currently not achievable for a large group because the current jobs on the competitive labor market do not match with their competences. This chapter describes an approach in which organizations can create jobs for people with a distance to the labor market. This means that the social dialogue should take place within organizations: management and workers' representatives should agree that processes within the organization are adopted to accommodate and include people with a distance to the labor market. This will allow organizations to become 'inclusive organizations'. The chapter describes the approach and provides examples. First, it includes some background information as to why work has become so complex, and subsequently it presents the underlying principles of the proposed method.

1 Introduction

In our modern society it is expected that everybody participates, this is one of the central policy goals of the European Commission. Participation is generally operationalized by having a paid job. And most people want a decent job. However, for an increasing group of people this seems to be unachievable. One of the reasons is that work has changed enormously: It has become quite complex and demanding over the past decades. As a consequence the threshold to entering the labor market has increased, causing a large (and growing) group of people to be at a ‘distance to the labor market’. These people are qualified as having a distance to the labor market because they lack the adequate skills and competences that are needed to function in a ‘regular’ job, and often they also lack the capacity to master these skills and competences.

Capacity, in particular intellectual capacity, is increasingly important to survive in our ever more complex society. Diversity on the labor market generally focuses on differences in gender, ethnicity, but much less on differences in capacity. We argue that the diversity discourse should be extended to include ‘diversity in capacity’ as well, as this has to be an important element of the social dialogue in our society in the coming years.

In this chapter we will present a method (based on Redesigning Work) that will allow organizations to create jobs for people with limited capacities and thus become an ‘Inclusive Organization’. First we will describe some background information as to why work has become so complex, and subsequently we will present the underlying principles of our method.

2 Developments in the labor market

The domain of work and organizations has changed considerably over the past decades. Jobs that existed 50 years ago are now extinct, and have been replaced by new type of jobs (like Information and Communication Technology (ICT) related jobs). As a consequence many employees of previous generations would now be *unqualified* for most jobs, and often also practically *unfit* to work. The type and level of qualifications have changed, but also the required functional and health capacities of employees have changed. These changes have

particularly impacted the lower educated people, and this change is expected to be on-going (Josten, 2010).

Over the years we have seen our economies change from a manufacturing and production type of economy into a 'service economy'. Through ongoing development of technology machines could take over most parts of production work: this has been labelled 'automatization' and 'robotization' (cf. Zijlstra and Nyssen, 2017). Other manufacturing work has been outsourced to low wage countries. The consequence was that this production work, which often was lower qualified work, was no longer available for employees. At the same time new type of jobs have emerged, like application programmers, website designers, database managers, whereas existing jobs also have developed and changed. Introduction of technology has generally led to upgrading jobs to a higher level of required qualifications, whereas the lower qualified employees saw their jobs being downgraded or disappearing (Aronsson, 1989). For instance, when word processors and personal computers were introduced in offices, typing pools were dismantled and the job of secretary changed considerably. The typists were made redundant, because everyone started to write their memo's, manuscripts and letters on computers and secretaries were upgraded to 'office managers', or 'assistant to the manager'. Evidently similar developments took place in many other sectors, and are taking place again at this point in time. At this moment we see again that jobs are disappearing and people are made redundant because their jobs are being taken over by technology, now primary in the financial and administrative sector. This is sometimes referred to as 'Industry 4.0' (cf. Kagermann, Lukas, and Wahlster, 2011).

One of the results of the developments at that time is that the majority of employment is now in the service industry, up to 75 % of all employment in western economies. This means that 'services' are provided to other companies and people (clients, customers, patients, students, etc.), which means that employees are in contact with these groups. Concepts like 'client centered', or 'customer satisfaction' have become important and are relevant to assess the performance and skills of employees. This illustrates that work in the service sector is different than the manufacturing industry (often a factory). In the service industry 'social skills' are very important; in particular when dealing with a customer, client or patient. In fact, this is part of the behavior that employee's display when dealing with customers, and thus *behavior* at the workplace is part of their work *performance*.

Technology itself is also a factor that has changed the demands of the job and the skills that are required. There are hardly any jobs left in which people do not have to work with computers. And working with computers places high demands on people's cognitive capabilities: one has to understand what the computer does, or can do, how it should be operated. In order to fully understand the functionality of a system requires a level of abstract thinking. Furthermore, an operator needs to have a mental model of the functionalities of the system, and adequate information processing capacity. For these reasons it is acknowledged that the introduction of ICT has led to an increase of complexity of work (Eurofound, 2011; Zijlstra and Nyssen, 2017). ICT has also made factors like 'time' and 'place' less relevant in relation to work: people can work anywhere and at any time whilst using mobile technology to be connected to the workplace. Employees can work from home, during the day or evening, or when travelling. As a consequence the traditional boundaries between the work domain and the private domain have faded. Although this has contributed to greater flexibility, it also implies higher demands because there is increased 'availability' for work, and less opportunity for rest (Zijlstra and Sonnentag, 2006).

Organizations have changed as well, in order to be more flexible many organizations have become flatter and 'lean'. In order to be leaner they adopted the 'self-steering teams' concept, in which members of a team are responsible for planning and organizing their own work (cf. Dankbaar, 1997). This is generally a consequence of the Sociotechnical Systems Approach (Emery, 1959) that was introduced in the 60's and became popular in the 90's. The consequences for employees are huge: employees need (again) good social skills in order to maintain their position in the group, and to negotiate or discuss their planning and actions with colleagues. In addition one needs planning skills, and adequate psychological awareness of one's capacities, strengths and weaknesses to function in a group. And these skills are on top of the traditional skills that belong to the craftsmanship of the job.

And because efficiency and production are high on the agenda of most managers, they have adopted techniques and methods that are aimed at facilitating these aspects. 'Goal setting' is often translated into 'setting targets for individuals', which implies that individuals are held accountable for reaching predefined targets. But since employees generally do not control most of the environmental conditions and factors that are important for achieving those targets, this becomes another source of stress.

All together the above makes clear that the demands of work have changed and generally also have increased over the past decades. This corresponds with findings of the *European Foundation for the Improvement of Living and Working Conditions* (Eurofound) in Dublin. They monitor the development of trends in the European Union, and their surveys of 2011 and 2015 signalize a steady trend of increasing complaints of work pressure and intensity of work (Parent-Thirion, et al, 2012; Parent-Thirion, et al, 2016). The prevalence of psychological complaints regarding mental health has also increased over the past years (OECD, 2014). In fact, mental health complaints have become the main cause for disability for work in the Netherlands, according the Dutch Centre for Professional Diseases in their annual report of 2013.

The economic and cultural necessity to have a job has increased in our society. The European Commission has formulated as one of their main aims to strive for an inclusive society. Due to the developments described above this has increasingly become problematic for a growing group of people. The demands of work have increased to an extent that they are difficult to fulfil for a group of people that is increasing. When the threshold of entering the labor market is made higher, the consequence is that a large group will not be able to overcome this threshold without support (see Hoel et al., chapt. XX in this volume).

3 The need for inclusive Organizations

Organizations need to be competitive and thus are always looking for the ‘most suitable’ employees. This term ‘most suitable’ generally translates into: people that are ‘flexible’, ‘well-educated’, ‘stress resistant’, and are ‘excellent team players’. And besides this, in order to meet the current demands regarding workload and work intensity, people have to be healthy and fit. Whereas we have outlined above, not everybody in our society can meet those criteria. Since the threshold of entering the labor market is getting higher, the consequence is that the group below the threshold is increasing. Although the general level of education in society has increased, there is also a large (and increasing) group of people that doesn’t have the right education, either because they didn’t finish school, or ‘dropped out’ early. Another group consists of people that have been unemployed for a long time, which also, according to Human Capital Theory, deteriorates the relevant skills to be employed (Arulampalam, Gregg, and Gregory, 2001). In addition Europe has currently to deal with a large group of refugees

and asylum seekers that need to be integrated in our society and that need to find a job. They also lack the right skills and knowledge to function adequately in the Western European labor market. However, for some of these groups education and training can help, but for a large part this is not a solution, since they lack the capacity to be educated (in our current system).

In addition, as the average age of the current working population is increasing, and since people are stimulated to work longer, we will find that increasingly employees will have health issues, both physical and mental. Increasingly we will be confronted with employees with a chronic disease, just simply because elderly people have more health issues than younger people. This, of course, does not imply that all elderly workers have health issues; also many younger people have chronic diseases. Notwithstanding those health issues, these people still have a capacity to work, and most of them would like to work and be independent rather than living from social benefits. In many cases the health complaints do not affect the capacity to work; this is also dependent on the type of complaints, and the type of work (Zijlstra and Nijhuis, 2014).

Nevertheless, it is also clear that when work demands are increasing, and thus making it increasingly more difficult to participate in the labor market for particular groups of people because work is exceeding their capacity to work, this calls for new solutions. In order to create an ‘inclusive society’, that allows people with a large variety of capabilities to participate via paid work; we have the obligation to find solutions that also allow people with limitations to work. Moreover, also from a perspective of sustainability of employment we need to address this tendency of ever increasing demands.

In this respect it is worthwhile to examine the recently introduced concept of ‘inclusive organizations’ (Zijlstra, Mulders, and Nijhuis, 2012). Inclusive organizations aim to enhance diversity in organizations, in particular diversity in terms of employees’ capacity. This means that there is a need to have work for people with limited capacities, and in particular when the limitations concern cognitive, or social, or emotional capacities this can be challenging since we have indicated earlier that work demands are currently primarily of a cognitive, social, and/or emotional nature. In fact this means that work for this group of people has to be created, or rather designed (Zijlstra, 2009). Hereto a method was developed that aims to create jobs for people with a distance to the labor market, and which makes use of principles of Job Re-Design (cf. Zijlstra, Mulders, and Nijhuis, 2009; Van Ruitenbeek, Mulder, Zijlstra, Nijhuis, and Mulders, 2013). The underlying principle is ‘task differentiation’, i.e. designing

tasks of different levels of complexity for people with various levels of capacities, or in other words: by creating or designing 'simple jobs' again.

Jobs generally consist of several tasks, and those tasks are in fact agreements between people about how to divide the work in an organization (cf. Roe and Zijlstra, 1991). Although those agreements have been formalized in job descriptions, they are not cut in stone. In fact tasks and jobs have evolved over the course of years, mainly in relation to the introduction of new technology. In fact the approach of Business Process Redesign, which was quite popular in the 90's, is an illustration of the fact that those agreements concerning 'who does what' in an organization are changeable (cf. Earl, 1994). Job design and job redesign are core elements of the discipline of Work & Organizational Psychology, and always have focused on establishing a fit between person and task, but with a focus on enhancing well-being and performance. However, an alternative would be to design tasks that take the capability of employees into account, and particular when it is evident that employees have limitations. This is a different way of creating a fit between the human and the work. In fact, to do so one needs to analyze the work processes in an organization or department and need to find a division of tasks that allows to create tasks that are in fact 'simple', or at least in accordance with a number of criteria. Business Process Redesign is based on a similar approach: analyzing the work processes and trying to find a different arrangement for the processes. In principle this means that a variety of tasks can be created taking into account various criteria that can be derived from theoretical considerations (cf. Hacker, 1978; Hackman and Oldham, 1980; Roe and Zijlstra, 1991). Thus tasks can be created that consist primarily of routine activities that require only cognitive regulation at the lowest level, or tasks that require to a large extent intellectual regulation (or problem solving activities) and are thus more complex tasks. Combining a number of routine activities or tasks can form a 'simple' job, and a compilation of activities (tasks) that require problem solving (or intellectual regulation) generally forms a 'complex' job. Normally one would design jobs that contain a mixture of the three regulation levels ('intellectual regulation', 'rule-based regulation', or 'skill based regulation' - see Hacker, 1978; Rasmussen, 1983; Roe and Zijlstra, 1991). However, the more 'intellectual regulation' (or problem solving behavior) is required the more complex skills are required, and thus the more 'complex' the job is. At the same time 'skill-based regulation' consists primarily of routine activities, and thus generally constitutes a fairly 'simple' task.

Furthermore not only the types of the tasks need to be considered, but also the conditions under which these tasks need to be executed. As highlighted above, work pressure and work intensity are serious complaints in organizations, and this can, to some extent, be attributed to the management style in the organization. It is evident that when work pressure is a serious problem for regular and healthy employees, it is even more a problem for the vulnerable employees. Therefore work pressure is another design criterion that needs to be taken into account. Generally this can (and should) be dealt with on the managerial level, with planning and organization. Similarly, the social conditions need to be taken into account. Colleagues and management need to be aware of the constraints (and opportunities) that are related to the presence of more vulnerable employees.

4 The approach: Redesigning Work to create new jobs

Various attempts have been developed to help people with ‘a distance to the labor market’ to find a job. An approach developed in the USA and Canada is ‘job carving’ (Griffin and Hammis, 2003), where elements (tasks) are ‘carved out’ of existing jobs in order to let these be executed by people with a disability (for instance, making photocopies). This approach appears to have limited effectiveness since it a) is based on a bilateral exchange relationship between two people, which means that as soon one of the two leaves the exchange relationship will be terminated, and b) job carving focuses on a particular person with particular limitations, and neglects organizational circumstances and the work processes in the organization. This makes it an individually based intervention rather than a structural approach to create jobs on a larger scale.

The approach we propagate starts with describing and charting the work processes in an organization or department. A good understanding of the work processes, and how the work is currently divided, helps to find alternative ways of organizing those processes, and thus dividing the work. This allows creating tasks of various levels of complexity. And when at the same time ‘human centered’ criteria are taken into account this helps to ensure that the resulting tasks are of acceptable quality, which is important to make the newly created positions sustainable. Evidently, when these new jobs are created for people with a distance to the labor market, this will also have consequences for the other employees in the organization/department. Their tasks will also be affected and probably the climate in the group will change. Therefore these aspects need to be looked at as well, and one should also think about how such a project should be introduced in the organization.

Therefore the main ingredients of the *Inclusive Redesign of Work* method are: 1) starting with a comprehensive analysis of the work processes, and then 2) making an inventory of the various redesign options (taking into account various work psychological criteria; see Roe and Zijlstra, 1991), 3) including an assessment of work capability of potential candidates, and 4) organizing social support from colleagues. These main ingredients are represented by 9 steps, which are graphically depicted in Fig 1.

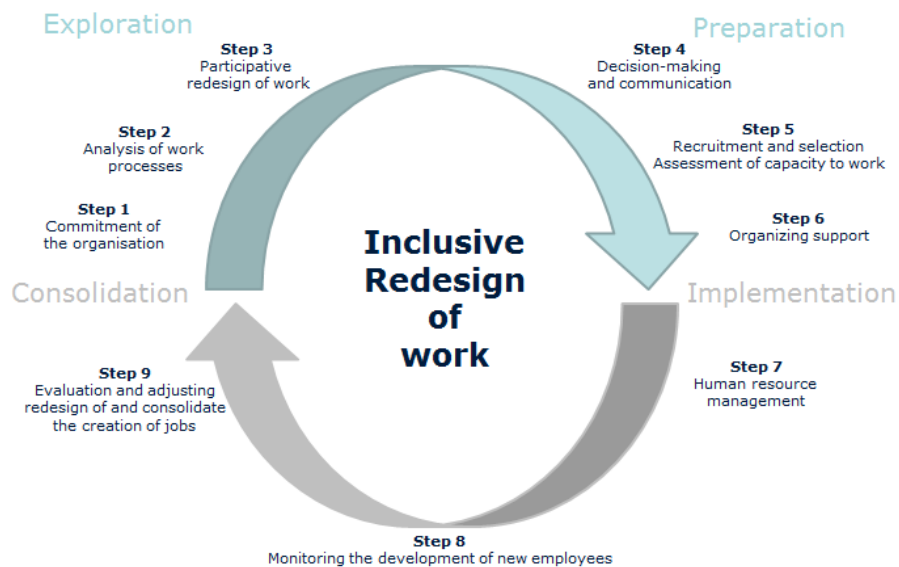


Figure 1: Graphical representation of the redesign approach

The steps will be elaborated below:

Evidently the process starts with *commitment of the organization*, and in particular of the management of the organization. At this stage the process of *Social Dialogue* should be started in the organization. Management and the Works Council need to be open to the idea of scrutinizing the organization for potential workplaces of people from the target group. And of course, this support needs to be communicated throughout the organization, to make sure that the next step can take place. *Analysis of work processes* is the actual starting point of the redesign phase. The analysis should focus primarily on entire work processes with a department or organization, rather than on activities within individual jobs. These individual jobs are the consequence of dividing the work within the organization. And with the analysis these work processes should be described and chartered in order to find options for new or alternative ways, of dividing the work. Redesigning tasks is a joint process in which analysts present options for redesign and employees indicate the feasibility of those options (and thus

making it *participative redesign of work*) as part of the dialogue process. In line with the literature on job analysis (cf. Algera and Greuter, 1998; Morgeson and Humphrey, 2006; Wilson, Bennet, Gibson, and Alliger, 2012) five main themes can be distinguished that need to be addressed within the analysis: 1) the goals of the organization and the tasks within the organization; 2) the structure of the organization and the work processes; 3) the type of task, or rather the task content, 4) demands of the tasks, and 5) the context of the task (social and physical). What is particularly relevant here is that one should look at the design of the ‘prospective task’ (cf. Roe and Zijlstra, 1991), so, how will the new task look like? What kind of characteristics will this new task have?

- 1) *Goals of the organization*: the tasks and jobs reflect the goals of the organization and together form the production processes. In fact tasks are the formalized agreements concerning the division of work within the organization: who does what (cf. Roe and Zijlstra, 1991). And evidently agreements between people can be changed. This means that tasks and jobs are changeable. Therefore they need to be the starting point for the analysis, and need to be described in their interdependencies.
- 2) *Structure of the organization and the work processes*: the structure of the organization reflects the interdependencies of the tasks, and jobs: who works with whom. Generally an organogram illustrates the structure of the organization. This can either be the formal structure or the functional structure of the organization (ideally they are identical). Analysis of the functional structure provides insight in how the work is actually divided, in particular the activities that are related to the routing of the product (or service) through the organization (Jones, 2007). In principle three different types of work processes can be distinguished:
 - *primary* (or main) processes: these are focused on achieving the main goals of the organization, the primary production process;
 - *secondary* (or support) processes: they ensure that the main production processes can proceed undisturbedly;
 - *tertiary* (or additional) processes: are not directly related to the main goal of the organization, but are generally present in an organization, such as ‘cleaning’, or ‘catering’.

‘Process mapping’ can be used to describe the various processes (Biazzo, 2002). This technique provides a good visualized map of the interdependencies of tasks, jobs and technology, and is therefore a good starting point for redesign.

Description of the work processes provides information that goes beyond the job descriptions, and might reveal activities that indeed take place, but are not formally described. These activities can be essential when considering options for re-designing the processes.

- 3) After the work processes have been defined and described, the translation needs to be made to what activities are involved in the work processes. It needs to be very clear what the content of these activities are, and what kind of demands they constitute for the worker. This is also important when considering redesign options. Therefore a few questions need to be answered: The first question is what *Type of task* (work content) is this? This should provide a detailed description of the specific activities that belong to a task or job. In fact it should describe what, how, when and where the task is executed as it currently is, by whom it is executed, how frequently the activities need to be executed and how long the execution takes. This will lead to answering the next question: what are the demands of the task?
- 4) *Demands of the task*: in particular to what extent cognitive, emotional, physical and psychomotor capacities are required to execute a task or activity. In addition to specific expertise and knowledge of a task it is important to know to what extent coordination activities are involved as these require communication and social skills, and a level of autonomy, independence and conscientiousness.
- 5) *The context of the task*: does not immediately refer to the task itself, but refers to the conditions under which the tasks have to be executed. The physical conditions (outdoor or inside) are important, but the social conditions (colleagues, the supervisor, and the social climate) are often much more important. The support and awareness of supervisor and colleagues are crucial for the success of integrating people with limitations in the work place (Lammerts and Stavenuiter, 2010; Nelissen, et al, 2016). This includes issues like supervisory style, the way feedback is provided (if at all), and how work pressure and deadlines are handled, and so on (see Van Ruitenbeek, et al, 2013).

The *Inclusive Redesign of Work* approach contains 9 steps as depicted in Figure 1. The first 3 steps have been described in detail above; the remaining steps will be briefly mentioned in the

following part. The *Inclusive Redesign of Work* approach is based on an extensive hierarchical analysis of work; this implies that all aspects of the organization are included in the analysis. The results of these analyses form the basis for finding options to rearrange the activities and thus redesigning the tasks. Important is that the various activities are assessed with respect to whether they require intellectual regulation, or only motoric regulation, or in other words, whether they require 'problem solving' behavior, or that they consist of routine activities, and of course what other kind of skills are required. Redesigning means finding alternative arrangements and ways to group the various activities in such a way that meaningful tasks can be created that are of various levels of complexity. A set of tasks together will form a new 'job', and the complexity of the most difficult task will determine the level of complexity of the new job. Evidently functional (ergonomic) and human (well-being) criteria need to be taken into account to ensure that the newly designed tasks are of acceptable quality (cf. Hacker, 1978; Hackman and Oldham, 1980; Roe and Zijlstra, 1991). But it is important to keep in mind that criteria are dissimilar for various groups. Where limitations are limiting the capacities, the requirements of the task should also be limited. This often implies that routine (or motoric regulated) or skill based activities should be overrepresented as these activities are generally well-structured and contain few or no elements that require coordination or adjustment/synchronization activities. The latter activities generally require communication and problem solving behavior. When the options are clear a *decision should be made* by the organization *and communicated* throughout the organization to the stakeholders (including workers council).

Recruitment and selection; Assessment of capacity to work. Organizations are focusing on selecting people that are best qualified for a particular job. However, for the group with a distance to the labor market selection is not feasible, because they cannot compete on the labor market for regular jobs. Many of them have never worked before, or have never finished a school. For this group the challenge is trying to assess what their capacities actually are. This particular angle has been underdeveloped in W&O psychology. Assessment instruments that are available have been developed from a medical (and income insurance) perspective and focus primarily on assessing the limitations and degree of *incapacity* (Nijhuis, 2011). While in fact it is, from the current perspective, more important to focus on what people actually *can* do, rather than what they *cannot* do.

Capacity to work should be defined as: “the set of personal qualifications that allow a person to meet the demands of a (set of) task(s) in a sustainable way” (see Groothoff, et al, 2008). Work & Organizational psychology does not have many instruments that take this perspective. And, as indicated above, general mental capacity (intelligence and knowledge) is the most important predictor for performance and development of personnel (Schmidt and Hunter, 1998), this is also one of the important limitations of people with a distant to the labor market. Furthermore, as indicated above, in a service oriented economy concepts like emotional stability, conscientiousness, and agreeability (friendliness) are important. And for people with low levels of self-efficacy, and who have little or no work experience, these aspects are difficult to assess. In particular, because having been out of work or unemployed has a negative effect on work-related skills (Van Kalken, Brouwer, and Schellekens, 2012). It is an important task to fill this void of instruments that allow assessing capacity and *potential to develop the capacity to work*.

Organizing support. The lack of work experience of this group means that these people also lack basic employees’ skills, like ‘adhere to working procedures’, ‘accepting and dealing with authority’, and ‘having a cooperative attitude’. Various studies have demonstrated some level of support from a colleague is most effective to facilitate integration and socialization in the workplace. This applies to regular employees, and is certainly applicable for this group of employees. However, for this particular group it is recommended that colleagues are informed about their new colleague, and often they should receive some kind of instruction. Colleagues need to know what to expect, and how work performance of their new colleague may be affected, and how they can be of assistance (if needed). There is empirical evidence indicating that when a few employees pick up this attitude of ‘helping behavior’ this has a positive effect on the other employees in the group and department and might result in, what is called, an ‘inclusive climate’ (Nelissen, et al, 2016).

Contextual aspects. As the aim of the *Inclusive Work Design approach*, as described in this chapter, is to create structural workplaces in organizations for people with a distance to the labor market it should be acknowledged that this implies a structural embedding within organizations. This means that this is an organizational change (or development) process, and should be treated as such. Like every organizational change process it starts with acknowledging that there is a need for change (or adaptation) by management (Daft and Noe, 2001). And they should be committed to the goals of the change process (i.e. including people

with a distance to the labor market). Subsequently they need to inform and involve the employees of the organization of the goals and potential implications for their own work. As the *Inclusive Work Design approach* should result in a redistribution of activities and tasks within an organization, or rather ‘task differentiation’, the method will also affect the set of tasks (i.e. job) of other employees. This needs to be discussed and agreed with the employees in the organization. Ignoring this aspect can lead to resistance and can contribute to failure of the project (cf. Lammerts and Stavenuiter, 2010). In that sense the *Inclusive Work Design approach* should be seen as a ‘participative approach’ in which the participation of employees is actively sought by discussing (and deciding about) the various redesign options with them. The *Inclusive Work Design approach* should be considered as a ‘cyclic process’ (see Roe and Zijlstra, 1991) in which presenting redesign options, and evaluating and adjusting these options are not activities that take place only at the start and end of the cycle, but should be part of a continuous process. And in fact should be implemented as part of Human Resources Management procedures (Steps 7, 8 and 9 of Figure 1).

5 Inclusive Work Design in practice

At the time of writing this chapter numerous organizations, both profit and non-for-profit organizations have embarked on an organizational change process involving the *Inclusive Work Design approach*. Evidently Management and Works Council have discussed this issue and have concluded that this project could start, which concerns the analysis. Generally a next ‘decision making moment’ is scheduled when the decision *to implement* has to be made. Works councils are generally concerned with the consequences for employment opportunities for current staff, but when they can be convinced that none of the current staff will be made redundant and/or replaced by someone from the target group, the Works Council approves. And this has resulted in the creation of a considerable number of jobs for people from the ‘target group’. Examples are: in a hospital a combination was made from cleaning and food assistant into ‘assistant to the nurse’ (helping with feeding patients, and cleaning during the day); or ‘logistic assistants’ (helping in transporting hospital beds; and changing beds); in a penitentiary institution a job was created in the safety department for checking the serial numbers of keys and inspecting the fire extinguishers. Other examples concern a company that delivers services and goods in the field of industrial automation (panel construction). See box:

Insert Box here

These cases have been evaluated, which has resulted in several ‘lessons learned’ concerning this approach. An important lesson to be learned from the analysis phase is that a thorough analysis of the *work processes* is required, while many analysts tend to focus on individual jobs. For this approach it is important that *work processes*, i.e. the organization of work (which includes the interdependencies between employees, required communication and collaboration) are analyzed and described. It is important to understand that ‘job descriptions’ generally lack this information, because the job descriptions are generally focusing on those activities that are relevant for determining the salary level. As a consequence the activities that have a less ‘high profile’ are generally not mentioned, while these are very important from the perspective of ‘inclusive redesign’. A rearrangement of tasks generally focuses on these kinds of activities. Furthermore, work processes also reveal activities related to the routing of products or services that cut across the functional structure of an organization. Another lesson to be learned is that the so-called ‘contextual factors’ should be included in the analysis as well, these are indications of the organization’s climate, style of leadership, communication style among team members, and so on. These factors are important factors as they determine to what extent the climate in the organization is ‘inclusive’ (as opposed to ‘competitive’) and these factors determine whether the process will be successful, or not. As a consequence attention should be given to the consequences for the current staff, as they will be affected when tasks are rearranged. For that reason we recommend that redesign options are discussed within the organization and that this should be an important aspect of the social dialogue within the organizations.

6 Conclusion

The result of the various changes in the domain of work and organization is that work has become quite complex and meeting the work demands has become very challenging. For an increasing group of people these demands have become too challenging. A consequence is that a large group of people cannot find a job in the current labor market. While at the same time many organizations are facing shortages on the labor market due to demographic developments. In several sectors (like education, care and technology) it is already becoming a problem. In order to address labor market challenges organizations may have to resort to

unconventional approaches: becoming more ‘inclusive’. This is also a societal goal, as our society cannot afford to leave a large part of the population side-lined in society.

Trying to create jobs that take into account the variety of capabilities in the labor market is a new approach and might be fruitful to help overcome these issues. The Dutch Parliament has accepted the *Participation Act* that should facilitate the inclusion of people with limitations, and indicated that if organizations are not cooperating on a voluntary basis, then a Quota will be issued. So far, many organizations are responding to the challenge, and the *Inclusive Work Design approach* appears to be a very fruitful approach to facilitate the sustainable uptake of people with limitations in regular organizations. One of the important aspects is that it helps to create structural jobs in organizations, and it also draws the attention to other relevant organizational factors that influences the acceptance of people with limitations in organizations.

At the same time many of the factors that determine the inclusiveness of the organizational climate seem to relate to sustainability of employment of other employees as well (cf. Fleuren, et al. 2016; van der Klink, et al, 2016).

In this chapter we have argued that inclusion of people with limitations in organizations is a societal obligation: everyone has the right to participate in society. And this can only be achieved through a process of social dialogue: At societal level a dialogue between Government and employers is required, and within organizations a dialogue between management and Works Council should take place (assisted by analysts who can provide the redesign options).

References

Algera, J. and Greuter, M. (1998). Job Analysis. In: P.J.D. Drenth, H. Thierry, Ch. De Wolff, (Eds). *Handbook of Work and Organizational Psychology: Volume 3: Personnel Psychology*. Hove (UK), Psychology Press (Taylor & Francis).

Arulampalam, W., Gregg, P., and Gregory, M., (2001). Unemployment Scarring, *The Economic Journal*, Volume 111, Issue 475, November 2001, pp. 577–584. Doi: 10.1111/1468-0297.00663

Aronsson, G. (1989). Changed qualification demands in computer-mediated work. *Applied Psychology: An International Review*, 38(1): 57-71.

Biazzo, S. (2002). Process mapping techniques and organisational analysis: Lessons from sociotechnical system theory. *Business Process Management Journal*, 8: 42-52.

Daft, R.L. and Noe, R.A. (2001). Organisational learning and change. In: R.L. Daft and R.A. Noe (Eds.), *Organisational Behaviour* (pp. 618-650). Orlando, FL: Harcourt College Publishers.

Dankbaar, B., (1997). Lean Production: Denial, Confirmation or Extension of Sociotechnical Systems Design? *Human Relations*, Vol. 50 (5): 567-583. Doi: 10.1177/001872679705000505

Earl, M.J. (1994). The New and Old of Business Process Redesign. *The Journal of Strategic Information Systems*, Vol. 3(1), 5-22.

Emery, F.E. (1959). *The Characteristics of Sociotechnical Systems*. Londen: Tavistock Institute.

Hacker, W. (1978). *Allgemeine Arbeits- und Ingenieurspsychologie, Psychische Struktur und Regulation van Arbeitstätigkeiten*. Bern: Huber Verlag.

Hackman, J.R. and Oldham, G.R. (1980). Approaches to change: the work itself. In: J.R. Hackman and G.R. Oldham (Eds.), *Work Redesign* (pp. 44-68). Reading: Addison-Wesley Publishing.

Fleuren, B.P.I., de Grip, A., Jansen, N.W., Kant, IJ, and Zijlstra, F.R.H., (2016). Critical reflections on the currently leading definition of sustainable employability. In: *Scandinavian Journal of Work, Environment and Health*. Vol. 42(3): 34-42. Doi: 10.5271/sjweh.3585

Griffin, C. and Hammis, D. (2003). *Making self-employment work for people with disabilities*. Baltimore: Brookes Publishing.

Groothoff, J., Brouwer, S., Bakker, R., Overweg, K., Schellekens, J., Abma, F., Nijhuis, F.J.N. and Pierik, B. (2008). *Bimra: Beoordelen van interventies en meetinstrumenten bij reïntegratie naar arbeid*. Groningen: RUG.

Jones, G.R. (2007). Types and forms of organisational change. In: G.R. Jones (Ed.), *Organisational theory, design and change* (pp. 269-299). Upper Saddle River, NJ: Prentice Hall.

Josten, E. (2010). *Minder werk voor laagopgeleiden? Ontwikkelingen in baanbezit en baankwaliteit 1992-2008*. Den Haag: Sociaal en Cultureel Planbureau.

Kagermann, H., Lukas, W., and Wahlster, W. (2011). Industrie 4.0: Mit dem Internet der Dinge auf dem Weg zur 4. industriellen Revolution. *VDI Nachrichten Nr. 13/2011*.

Lammerts, R. and Stavenuiter, M. (2010). *Wajongers op de werkvloer*. Amsterdam: RWI.

Morgeson, F.P. and Humphrey, S.E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91, 1321-1399.

Nelissen, Ph.T.J.H, Hülshager, U.R., van Ruitenbeek, G.M.C., and Zijlstra, F.R.H., (2016). How and when stereotypes relate to inclusive behaviour toward people with disabilities, *The International Journal of Human Resource Management*, Vol. 27(14), pp. 1610-1625. Published online: 18 Sep 2015; Doi: 10.1080/09585192.2015.1072105.

Nijhuis, F.J.N. (2011). *Werken naar vermogen: vermogen om te werken*. Inaugural lecture, Maastricht University.

OECD (2014), *Mental Health and Work: Netherlands*, Mental Health and Work, OECD Publishing. <http://dx.doi.org/10.1787/9789264223301-en>

Parent-Thirion, A., Vermeylen, G., van Houten, G., Lyly-Yrjänäinen, M., Biletta, I., and Cabrita, J. (2012). *Fifth European Working Conditions Survey (EWCS) - Overview report*. Dublin: Eurofound, Doi: 10.2806/34660.

Parent-Thirion, Agnès; Biletta, I., Cabrita, J., Vargas, O., Vermeylen, G., Wilczynska, A., and Wilkens, M. (2016). *Sixth European Working Conditions Survey (EWCS) – Overview report*. Dublin: Eurofound, Doi: 10.2806/518312

Rasmussen, J. (1983). Skills, rules, and knowledge; signals, signs, and symbols, and other distinctions in human performance models. *IEEE Transactions on Systems, Man, and Cybernetics*. Vol. 13 (3): 257 – 266. Doi: 10.1109/TSMC.1983.6313160

Roe, R.A., and Zijlstra, F.R.H. (1991). Arbeidsanalyse ten behoeve van (her)ontwerp van functies: een handelingstheoretische invalshoek. In: J.A. Algera (red.), *Analyse van Arbeid vanuit Verschillende Perspectieven*. Lisse: Swets & Zeitlinger, ISBN 90 265 1136 1, pp 179-243.

Schmidt, F.L. and Hunter, J.E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, 124, 262-274.

Van Kalken, M., Brouwer, S. and Schellekens, J. (2012). Effect van een reactiveringsprogramma op arbeidsmarktafstand bij mensen met een arbeidsongeschiktheidsuitkering. *Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde*, 20, 8-16.

Van Ruitenbeek, G.M.C., Mulder, M.J.G.P., Zijlstra, F.R.H., Nijhuis, F.J.N., and Mulders, H.P.G. (2013). Een alternatieve benadering van voor herontwerp van werk. Ervaringen met de methode Inclusief Herontwerp Werkprocessen. *Gedrag & Organisatie* 26(1), pp 104 – 122.

Van der Klink, J.J.L., Bültmann, U., Burdorf, A., Schaufeli, W.B., Zijlstra, F.R.H., Abma, F.I., Brouwer, S., and van der Wilt, G.J. (2016). Sustainable employability – definition, conceptualization, and implications: A perspective based on the capability approach. *Scandinavian Journal of Work, Environment and Health*. Vol. 42(1), 71–79. Doi: 10.5271/sjweh.3531.

Wilson, M.A., Bennet, W., Gibson, S.G. and Alliger, G.M. (2012). *The Handbook of Work Analysis: Methods, systems, applications and science of work measurement in organizations*. New York: Routledge, Taylor & Francis Group.

Zijlstra, F.R.H., and Sonnentag, S. (2006). After work is done: Psychological perspectives on recovery from work. *European Journal of Work and Organizational Psychology*, Vol. 15(2), pp. 129-138. Doi: 10.1080/13594320500513855

Zijlstra, F.R.H. (2009). Taken voor laag-gekwalificeerden: op weg naar een parallelle arbeidsmarkt? In: Projectgroep SMBA (Eds). *Innovatieve voorstellen voor Sociaal-Medische Beoordeling van Arbeidsvermogen*. Uitgave: UWV, Amsterdam, p 177-191.

Zijlstra, F.R.H., Mulders, H.P.G., and Nijhuis, F.J.N. (2009). Speciale taken voor speciale groepen. *Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde*. Vol. 17(7), 298-301.

Zijlstra, F.R.H., Mulders H.P.G., and Nijhuis, F.J. (2012). Inclusieve Organisaties - Op weg naar duurzame arbeidsparticipatie. *Tijdschrift Voor Arbeidsvraagstukken*, Vol, 28(1), 21-29.

Zijlstra, F.R.H., and Nijhuis, F.J.N. (2014). Return to work for long-term absentees: An undervalued topic in (psychological) research. In: Martin Kröll (Ed). *European Labour Market Strategies Put to Test*. Book series: Bildung und Arbeitswelt, LIT-Verlag. ISBN978-3-643-12481-4

Zijlstra, F.R.H. and Nyssen, A.-S. (2017). How do we handle computer-based technology? In: N. Chmiel, F. Fraccaroli, M. Sverke, (Eds.): *An Introduction to Work and Organizational Psychology: An International Perspective*. London: Wiley Blackwell.

Example Box:

Company X delivers goods and services in the field of industrial automation: panel construction. From the perspective of ‘Corporate Social Responsibility’ (CSR) the company would like to have an inventory made whether jobs could be created in the construction department for ‘people with a distance to the labour market’.

The construction department builds fuse boxes for electricity supply. The mechanics need to build such a fuse box according specifications provided by a technical drawing. The company experiences difficulties in hiring qualified technicians.

In order to determine whether there are opportunities to create jobs for the target population the (flow of) work processes were analysed and described. Hereto managers and technicians were interviewed in addition to observations in the organisation. The goal of the analysis is to answer a number of questions:

- 1) What is/are the flow of the work processes?
- 2) What activities are required in the various work processes?
- 3) What are the demands of the various activities (i.e. what level of education or training, skills: decision making, coordination, social skills are required)?
- 4) Are there activities that are ‘simple’ (indicating that the activity requires no special training and can be performed by a person from the target group, now or in the future, and

does not require decision making skills, coordination skills, or extensive communication skills, and so on)?

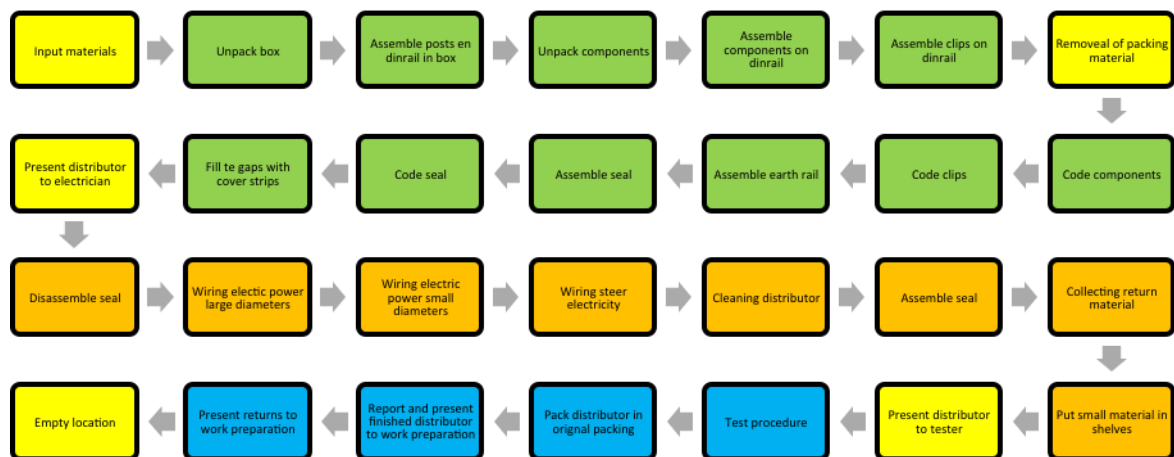
5) Could it have added value when the technicians don't have to do these activities themselves? (i.e. help them focus on their core activities, help them work more effectively or reduce overtime?)

Results:

Together with the technicians a number of activities in their work package were identified that can also be carried out by someone with a lower level of education, and at lower speed. They also indicated that they would like to have some 'extra hands' when building the panels that need to be placed in the housing of the fuse box. According to observations many activities involve repetitive movements.

Subsequently a flowchart was made comprising the main actions of the technicians while building the fuse box, consisting of 28 steps. The first schema describes the process and the routing of the fuse box.

Fig 1: Yellow: logistics operations; Green: assembly operations; Orange: wiring the fuse box; Blue: testing, and preparing the fuse box for shipping.



Based on the analysis and interviews a proposal was made to redesign the work process. The old situation was based on building a fuse box at one station, while the technician walked to the various stations. The new situation (second schema) is more 'zone-oriented' in which fuse boxes are built in different stages. The work process has improved because walking distances for the technicians are reduced, and they now have a few 'extra hands' which has increased the effectiveness of the technicians. In the old situation technicians could build, on average,

one fuse box per day. In the new situation it is estimated that they build approx. three fuse boxes per day. The new situation is presented below:

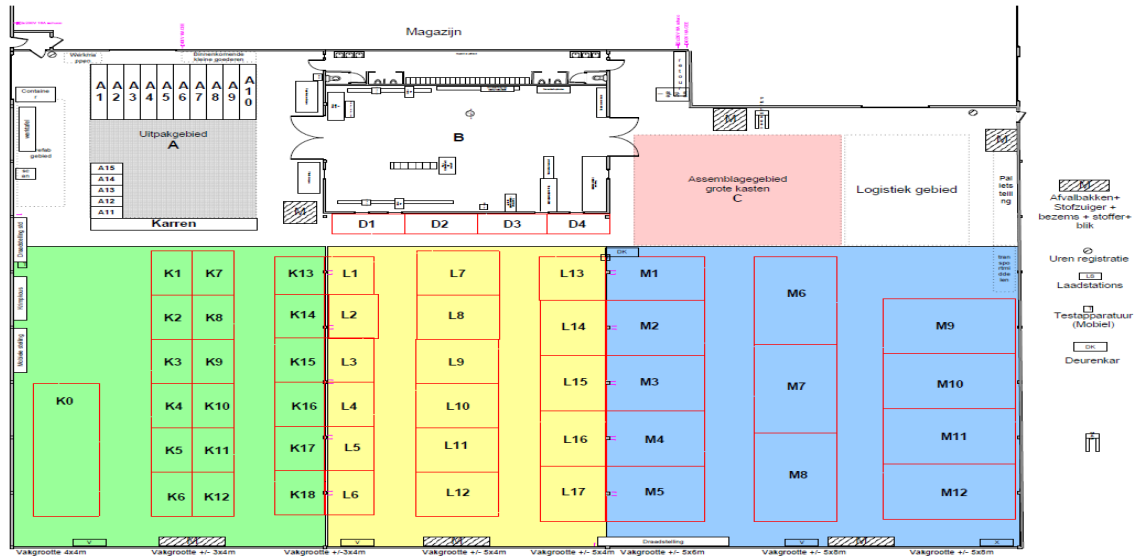


Fig 2: It is important to notice that the colours (representing various operations) are now neatly organized; this implies saving of time for the technicians (less walking)

Moreover, the company is growing and is not only relying on recruiting technicians anymore. A number of jobs have been created for people with a disability.

This was a clear ‘win-win situation’ both for Company X and for the people with disabilities:

- The company was seen as Corporate Social Responsible with the inclusion of 5 positions (full-time) for people with limited capacities
- Less recruitment problems
- Reduced salary costs per unit of output
- Increased productivity (approx. 200 %)