From lifelong learning to lifelong development

The changing meaning of post-initial learning

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The changing meaning of post-initial learning

Speech delivered at the farewell as Professor of Firm-Internal and External Human-Capital Formation and the Labor Market at the School of Business and Economics of Maastricht University

Maastricht, 24 June 2021

by Prof.Dr. Andries de Grip

Madam Rector, colleagues, family, friends and acquaintances, highly esteemed audience,

Unfortunately, it is not possible for all of you to be here today, but I am delighted that many of you are attending my farewell address via the livestream. Welcome everyone!

In both governments and businesses, there is often more focus on making policy than on evaluating it. This is evident for the Dutch government if we look at the difference in interest in *Prinsjesdag*, when the government announces its plans for the coming year, and in *Verantwoordingsdag* (the third Wednesday in May), when the effectiveness of the policies implemented is examined. And in all honesty: even among professors, there is often more interest in the plans that a professor expresses in her or his maiden speech than in the valedictory address. But I do want to place this valedictory address in the context of the task that I set myself in my maiden speech, which I delivered on September 29, 2000. This has the added bonus for me that I can refer unabashedly to my own work.

My maiden speech was entitled: *From Second Chance Education to Lifelong Learning: The changing meaning of post-initial education*. In it, I emphasized that society's need to increase participation in post-initial education was no longer about strengthening second-chance education, but about adequately responding to shifts in the knowledge and skills demanded on the labor market. In doing so, there is no longer a substitution between investments in initial and post-initial

learning, but rather a complementarity between the two investments. We simply need to learn more than in the past.

This is still true today. Post-initial learning is currently more than ever dominated by labor market dynamics. In addition to the upgrading of required competencies in many jobs, there is also skills obsolescence. This skills obsolescence arises because due to technological and organizational innovations in the production processes of all sectors of the economy new knowledge and skills are always needed to do your job well. But something else has added to that, making the challenges even greater. In the past 15 years, the retirement age has been postponed significantly, so that we have to maintain our skills for much longer than in the past. Although every disadvantage also has its advantage: The shifting of the retirement age has enabled me to work longer on my research agenda than was intended at the time.

However, the social impact of the various revisions to our pension system has been much greater than the nearly one and a half years by which the state pension age has been moved up. According to figures from CBS, the average retirement age of workers rose from almost 61 to 65 years and 6 months between 2006 and 2020. As a result, the number of people aged 55 or older in employment doubled between 2006 and 2020. Thus, our human capital needs to remain up-to-date for an average of 4.5 years longer in order to remain properly employable in the labor market.

This great societal need for lifelong learning (LLL) or as currently often said *lifelong development* raises a number of questions, which I will address in this lecture:

1. How do we keep our competencies up-to-date?
2. How effective is lifelong development for worker productivity?
3. How effective is lifelong development for the sustainable employability of workers?
4. For which groups is it difficult to meet the growing need for a lifelong development?
5. What societal infrastructure in lifelong development does our society need to remain a strong economy?

In answering these questions, I will focus in particular on the research that has taken place within the framework of my teaching assignment from the ROA.

How do we keep our competencies up-to-date?

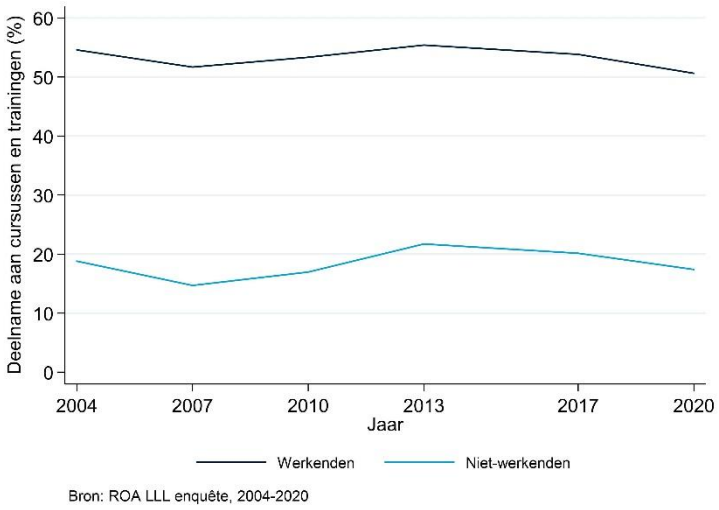
The ROA research of the past two decades is an important source to answer this question. In my maiden speech I marveled at how little we knew at the time about the size and nature of the investments in human capital in our country. And yet we are talking about the most important production factor in our knowledge economy. At the time, for example, there was only some fragmentary information available on participation in courses and training, but no insight whatsoever into the extent of informal learning at work. Although there had long been an awareness in both the economic (Arrow, 1962; Killingsworth, 1982; Mincer, 1974), and educational literature (Eraut, 2004) of the importance of *learning by doing* in the workplace, its difficult measurability was a major reason for the lack of attention to it in policy discussions.

With the first ROA Lifelong Learning Survey that I set up in 2004 together with Lex Borghans and Bart Golsteyn, we were able to create a unique data source, which made an important contribution to the insight we now have into the nature of lifelong development, its participation and its effectiveness (Borghans, Golsteyn and de Grip, 2006 and 2007). Funded by various sources, we have repeated the *ROA Lifelong Learning Survey* more or less every three years (Borghans et al. 2011 and 2014; Fouarge et al. 2009 and 2018). At the end of 2020, another LLL survey was administered, some of whose figures I show you here.

Taking courses and training

Figure 1 provides an overview of course and training participation in the Netherlands since 2004. The figure shows that there have been few changes in training participation in recent years. In all measurements, more than half of the employed people appear to have followed a training course in the previous two years. After 2013, this declined slightly to 51% of the employed in 2020. Of the non-employed, the training participation fluctuates around 20%, but also among them the training participation in 2020 has dropped to 17%.

Figure 1: Development of participation in courses and training, 2004-2020



Bron: ROA LLL enquête, 2004-2020

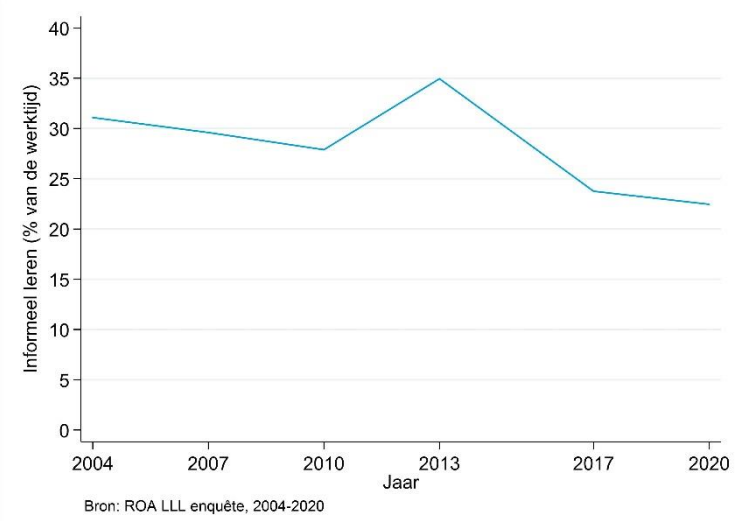
A comparison with other European countries shows that although the training participation in the Netherlands is above the European average, it lags far behind that in the Scandinavian countries (SCP, 2019). But as the SCP (2019) also concluded: training participation in the Netherlands is stagnating.

Learning-by-doing

In the report *More work is more learning*, in which we report on the results of the first ROA-LLL survey, we show for the first time in the Netherlands how important informal learning at work is (Borghans et al., 2006). We measure this informal learning by asking the simple question in the survey: *What percentage of working time do you spend on tasks from which*

you can learn? While one can, of course, criticize this subjective way of measuring, it does make it easy to identify the great importance of learning-by-doing on a societal level. Figure 2 shows that until 2013, workers in the Netherlands spent around 30% of their working time doing activities from which they learn. After 2013, this percentage declined significantly to 22% by 2020.

Figure 2: Informal learning at work: development of the percentage of working time spent on activities from which to learn, 2004-2020

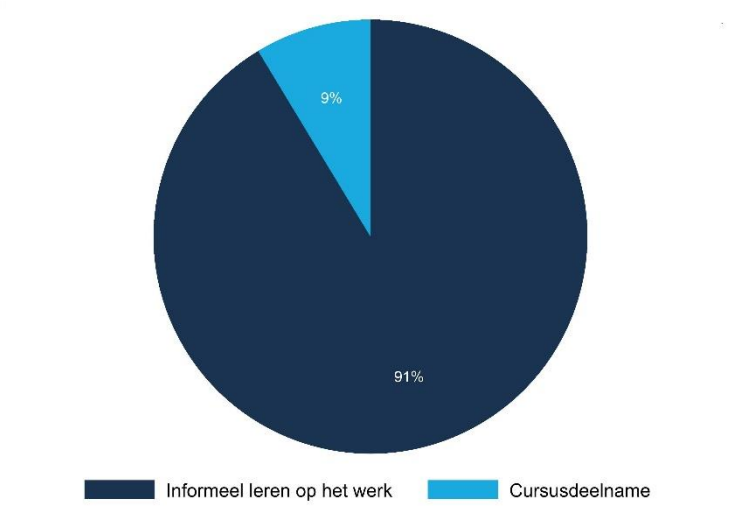


Those with higher education appear to have much more work from which they learn than those with lower education. And young people, as might be expected, learn on average much more from the work they do than older people. This is probably due in large part to the fact that many older workers have been doing more or less the same work for a long time. Indeed,

changes in a person's work appear to give a positive impetus to informal learning at work. For example, training participation is about 5 percentage points higher among employees who have changed employer in the past two years or who have changed jobs with their employer. It also appears that workers whose work involves major technological or organizational developments learn significantly more from their work (Fouarge et al., 2018). These findings suggest that we learn a lot from new tasks. Earlier research of ours showed this: Working people appear to learn especially much from new and challenging work and relatively little from routine work, as well as from meetings (Borghans cs., 2011).

The relative importance of informal learning at work is especially evident when we compare it with the time that workers spend attending training and courses. Figure 3 shows that in 2020, on average 91% of the total time spent by workers on work-related learning activities was related to learning from the work activities one has. Of course, this does raise the question of whether the effect of informal learning at work is not much lower than what you learn from attending a course or training. However, this does not appear to be the case. On average, workers indicate that they learn just as much from an hour of informal learning at work than from an hour in which they attend a course or training (Fouarge et al., 2018).

Figure 3: Total learning time at work broken down for an average person, 2020



Bron: ROA LLL enquête, 2020

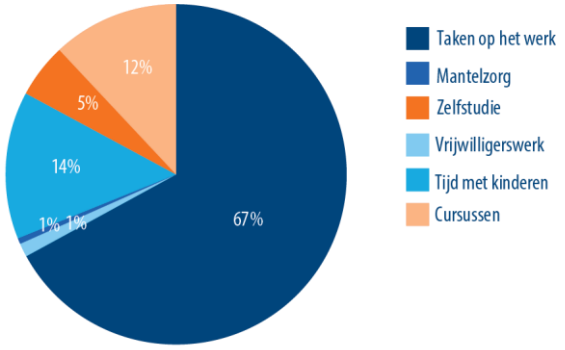
The high importance of informal learning at work does not mean that attending training is not important. On the contrary: for 39% of all workers, following a course or training is an incentive to learn more at work. Following training therefore increases informal learning at work. This also involves applying in practice by trial and error what you have learned on a course or training (Van Eldert et al., 2018).

Informal learning outside of work

Sometimes we can also learn a lot in informal ways outside of work. In the *ROA Lifelong Learning Survey 2017*, we made an attempt to get an indication of the extent to which we learn

from activities outside our work. In doing so, we looked at the extent to which we learn from (1) providing informal care, (2) participating in voluntary work, and (3) spending time with children. As might be expected, non-workers learn more from these activities than those who are employed, but those who are employed also appear to acquire new knowledge and skills in addition to their work. Figure 4 provides a total overview of all work- and non-work related learning activities of employed people. It shows that informal learning from work-related tasks still accounts for the vast majority of total learning time (67%). However, on average, working people appear to learn more time from paying attention to children (14% of total learning time) than from attending training or courses (12%). The share of self-study is lower at 5% of the total learning time, while both volunteering and informal care among those in work represent on average only 1% of their total learning time.

Figure 4: Total learning time of working people, broken down for an average person, 2017



Bron: ROA LLL enquête, 2017

Peer learning

The results of the *ROA Lifelong Learning Survey 2017* show that at work we not only learn from the work we do, but also from our colleagues: 46% of the employed managed to transfer the knowledge they had gained in a course or training to their colleagues. Although the lower educated appear to be less successful in this than the higher and middle educated. Because of this knowledge transfer, a larger proportion of the employees in the company benefits from the courses taken than just the employees who followed the course themselves.

We have also been able to capture peer learning well in two studies we did in a call center of a telecommunications company. The randomized field experiment I did there with Jan Sauermann (De Grip & Sauermann, 2012) showed that there can be substantial spillover effects from taking a training course. For example, it turned out that if half of a team had followed the training, the productivity of their teammates who had not yet followed the training increased by 2.5%. In this study productivity was not measured subjectively as in a survey, but objectively based on the company's Key Performance Indicator (KPI). This finding shows that attending training has even greater returns than is often found, because what someone learns on a course not only leads to greater productivity for the person who attended the training, but it also increases the productivity of the other members of the team in which someone works.

Herbst & Mas (2015) show in a meta-analysis that the spill-over effects of workers' productivity on the productivity of their colleagues is as high as 12%. While this higher productivity

could also be the result of the pressure a person feels not to lag behind well-performing colleagues, a study by Cornelissen, Dustmann & Schönberg (2017) shows that the latter is mainly the case in low-skilled work, while in higher-skilled work there are what they refer to as 'knowledge spill-overs'.

In another study in the same telecommunications company, I found with Jan Sauermann and Inge Sieben that when you start working somewhere, your productivity increases faster when you can learn a lot from your colleagues. We found that the productivity of new employees who were placed in a team that performed better or was more experienced increased significantly faster than the productivity of new employees who were placed in a less experienced team (De Grip, Sauermann & Sieben, 2016).

Several studies show that this productivity increase can be explained by the fact that at work we learn a lot from the feedback we receive from our colleagues. This applies to both positive and critical feedback (Künn-Nelen cs, 2018; Schürmann & Beausaert (2016), Gerards, De Grip & Weustink, 2021).

Learning from external peers

But we can also learn a lot from peers outside our work. The first study that paid attention to this was the study by Darr et al. (1995) on knowledge transfers between organizations. This study shows that the communication and personal relationships with people working in a similar position in other organizations are very important to stay up-to-date in your field. From this perspective, it can be very helpful to regularly

attend a workshop or conference, where you can not only listen to the lectures of experts, but also network extensively with other participants doing similar work. This often adds a fresh, innovative perspective from outside the company to what you can learn from colleagues within your own organization.

De Grip and Pleijers (2019) show that especially highly educated people learn a lot in this way: 57% of them report having attended one or more workshops and/or conferences in the past year. Middle-skilled (34%) and low-skilled (15%) do this much less. Participation in workshops and conferences is highest in financial services and the government, education and health care sectors.

From lifelong learning to lifelong development

Mapping the extent of informal learning has served an important function. It has put the importance of informal learning on the policy agenda. The great importance of informal learning for maintaining and updating our knowledge and skills justifies that we no longer speak of lifelong learning, but of lifelong development. After all, on average 91% of the total time spent by working people on learning activities relates to learning from the tasks they perform at work. And in addition, we learn a lot in informal ways from colleagues or at workshops and conferences, as well as from what we do outside of work.

The great importance of informal learning for the knowledge development of the working population also means that attention is no longer focused solely on training participation

but increasingly on the broader importance of a good *learning culture*, in which employers and employees are aware of the strongly increased need for lifelong development. I will indicate later what steps need to be taken to create such a good learning culture.

How effective is lifelong development for worker productivity?

It is not easy to properly measure the effect of learning activities on the productivity of workers. Many studies have done this by using the wage a person earns as the productivity measure, but there is much to disagree with this approach, if only that this merely shows what it brings to the employee themselves (see Bassanini et al. (2007) for a review of these studies). Other studies that look at the relationship between training and productivity focus on the added value created by a business sector (Dearden, Reed & Van Reenen, 2006; Konings & Vanormelingen, 2010). These studies indicate that the return on training at the company level is approximately twice as high as the effect on the wages of the employees who followed the training. However, the question remains whether there is a causal relationship between training participation and productivity gains here.

The randomized field experiment of De Grip & Sauermann (2012) shows that there is a substantial causal effect. By following a one-week training course aimed at understanding a customer's question more quickly, the productivity of call center employees was found to increase by no less than 10%.

The productivity was measured by the so-called *Average Handling Time;* a KPI that measures productivity in terms of working faster. The latter obviously raised the question of whether this increase in productivity was not at the expense of the quality of the work delivered. That turned out not to be the case. In fact, customer satisfaction with the skills of the employee who helped them increased and customers did not have to call again more often because their problem was not adequately solved.

Informal learning at work has also been found to increase productivity. This is especially evident in studies that look at how quickly the productivity of newly hired employees develops. Several studies show that there is a very fast learning curve especially in the first year someone works somewhere. For example, a study by Shaw and Lazear (2008) found that the productivity of people who install car windshields was as much as 82% higher after a year of working than when they started in the job. Such a strong learning curve was also evident in our study of newly hired call center workers. These new hires were 64% more productive after a year of working than when they started in their jobs (De Grip et al., 2016).

As mentioned, informal learning at work is strongly stimulated by technological innovations of the production process (Fouarge cs., 2018). This also means that informal learning itself is an important positive spill-over effect of investments in technological innovation, increasing the return on investment in new technology. After all, through learning-by-doing with new equipment or software, employees become better at using it and come up with ideas for further productivity-

enhancing innovations. Interestingly, this experiential knowledge is also transferred to other firms in the sector (Argote and Epple (1990). This is especially true for emerging high-tech sectors (Zimmerman, 1982) and points to how important it can be for a country to invest early in, for example, the energy transition, electric cars or artificial intelligence.

How effective is lifelong development for the sustainable employability of workers?

Due to rapid technological developments in combination with the postponement of the retirement age, increasing attention has been paid to the sustainable employability of workers. Within the sustainable employability literature and the closely related employability literature, there is more or less a division between studies that focus on the vitality of workers on the one hand and studies that focus on the aging of knowledge and skills on the other hand. A dichotomy that can only be overcome by multidisciplinary research.

At the start of my professorship, I myself focused on research into skills obsolescence, which at the time was the subject of little economic research. Together with Jasper van Loo and Ken Mayhew, I organized the conference *The Economics of Skills Obsolescence* in Maastricht in 2001, from which a number of papers were published in a book of the same name in the *Research in Labor Economics* series (De Grip cs., 2002). In this volume, we published a review study (De Grip and Van Loo, 2002), in which we developed a typology of the various possible causes of skills obsolescence. As is standard with

capital goods, we distinguish between technical and economic obsolescence. Technical obsolescence is about wear and tear as a result of the natural aging process, injury or illness or the insufficient use of previously acquired knowledge and skills. In other words, you can no longer do what you used to be able to do. In contrast, economic skills obsolescence involves the obsolescence of knowledge and skills due to technological or organizational innovations or shrinking employment in one's field. That is, you can still do it, but there is no longer a demand for it.

In my article with Dennis Görlich (Görlich and De Grip, 2009), following Mincer and Ofek (1982), we showed that career breaks have negative effects on a person's earnings after re-entering the labor market. This is the case both after a period of unemployment and after a period in which someone has been at home caring for growing children. This effect is greatest among those with higher education, but is lower in occupations in which many women are employed. McDowell (1982) has shown that in these occupations, training obsolescence due to technological developments is slower than in other occupations, which may explain the labor market segregation between male and female occupations when women's labor market participation has interruptions due to caregiving responsibilities.

But feeling that your knowledge and skills are aging does not mean that you are at greater risk of having to leave the labor market early. In my article with Jim Allen (Allen and De Grip, 2012), we show that because of the rapid developments in their work, workers who are struggling with skills obsolescence

have a job in which they can learn a lot. Moreover, they have to follow much more training in order to remain up-to-date. Remarkably enough, workers who indicate that they are struggling with skills obsolescence have a smaller chance of job loss than workers in less dynamic jobs.

What is very important at this point is that employers enable their employees to follow training if it is important for their job retention. De Grip, Fouarge, Montizaan, and Schreurs (2020) show that it is not only participation in training that makes people want to retire at a later age, but also the mere fact that they know that their employer offers them training opportunities if they should need it for their sustainable employability.

In my interfaculty collaboration with the research groups of my UM colleagues IJmert Kant (FHML) and Fred Zijlstra (FPN), we have conducted several studies in which we place skills obsolescence in the broader framework of the sustainable employability of workers, in which the physical and mental strain of the work that a person does also play an important role (see Fleuren et al., 2018). In a textbook example of a multidisciplinary study, we even found that there is a clear relationship between skills obsolescence and the health of workers. This research (Gommans cs., 2017) shows that over-45s who struggle with deficient competencies have a greater need for recovery at the end of their workday two years later and are therefore at greater risk of losing their jobs. This connects the sustainable employability literature focused on the obsolescence of knowledge and skills with the literature focused on the vitality of workers.

For which groups is it difficult to meet the growing need for lifelong development?

At the beginning of my speech I pointed out the increasing need for lifelong development because of shifts in the competences demanded on the labour market as a result of rapid technological developments and partly related changes in the production process in almost all sectors of society, combined with the extension of the working career by postponing the retirement age. This raises the question of whether the Dutch labour force is able to respond to this by following training and courses and by engaging in informal learning at work or outside of work.

If we look at the training participation of employed people we see that more than half of those who are employed participate in at least one training or course once every two years (see Figure 1). It also appears that many workers are a substantial portion of their working hours engaged in activities from which they learn (See Figure 2). The glass is half full in this respect, but unfortunately that also means it is half empty. It appears that a large group of workers never took a training course after leaving school. As many as a quarter of those in work belong to this hard core of people who run a high risk of losing their job later in their career and then have little chance of finding other work (De Grip et al., 2018). Often these are low-skilled people. I will elaborate on this in a moment.

Who are the most vulnerable at this point?

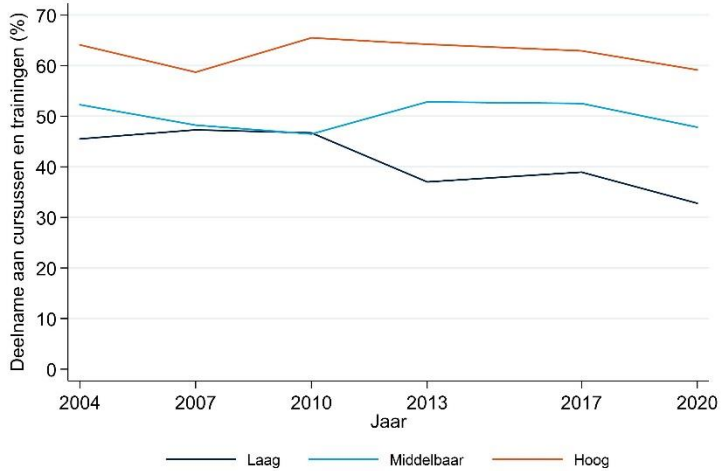
The ROA-LLL study shows that three groups of workers are most vulnerable in keeping their human capital up to date: the

lower educated, older workers and flex workers. In addition, people who need to be retrained for other work are often very vulnerable. I will briefly discuss these four groups.

Low-educated

Figure 5 shows that the lower educated follow training much less often than the higher educated. From 2010 onwards, the gap in training participation between the lower and higher educated has grown sharply. In 2020, 59% of the higher educated participated in a course or training compared to only 33% of the lower educated. The difference between the lower and intermediate-level educated has also grown in recent years. In 2010, the training participation of low and medium educated was still on nearly the same level, but as of 2013, the training participation of low educated dropped by about 10 percentage points, while the training participation of intermediate-level educated rose by 6 percentage points.

Figure 5: Formal learning: development of participation in courses and training by employed persons by level of education, 2004-2020



Bron: ROA LLL enquête, 2004-2020

The study by Künn-Nelen et al. (2018) shows that the difference in training participation between the lower and higher educated is to a large extent related to differences in work content. The work content also explains the differences between the lower educated. If they work in a position for which interpersonal and language skills are important, they follow training more often. They also do so if they receive more feedback from their colleagues or if they have a training or development plan. However, the lower educated take the initiative to participate in training less often than the higher educated.

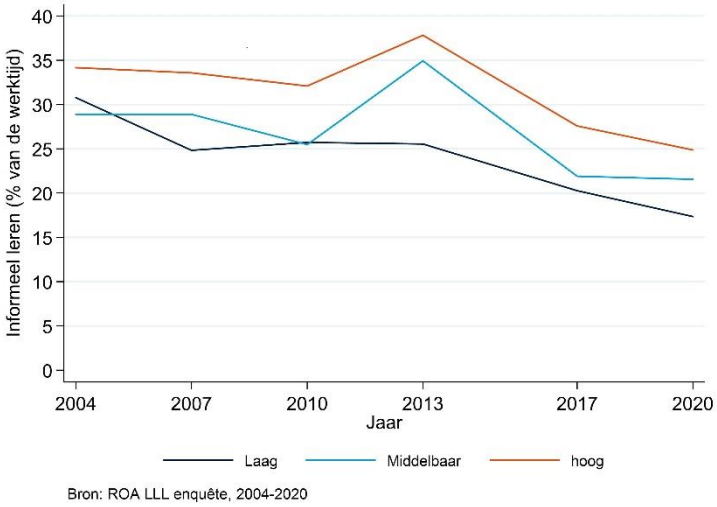
Also in Fouarge, Schils & De Grip (2013) we looked at the reasons for the low training participation of the lower

educated. It turns out that it is not because training by the lower educated is less profitable. Controlled for unobserved heterogeneity, it turns out that the lower educated who followed training in the previous two years earn 2.6% more than those who did not follow training. This return is comparable to that of the higher educated. Moreover, for the lower educated, attending school lowers the risk of becoming unemployed. The study shows that the lower training participation of the lower educated has completely different causes. Examination fears, for example, turn out to be an important reason why the lower educated follow less training. It also appears that the lower educated think less about the future, attach more value to their leisure time, are less open to new experiences ("openness") and have less of a feeling that they can influence their economic well-being ("economic locus of control") than the higher educated.

Low-educated people also appear to learn less from their work. Figure 6 shows that they spend much less time at work on activities from which they can learn than higher educated people do. While higher educated people had 25% of their total working time activities from which they learn in 2020, this was only 17% of their working time for lower educated people. Intermediate-level people are in between. They spend 22% of their working time on learning activities. Incidentally, informal learning among this group appears to have remained at the same level in (the corona year) 2020, while among both the lower and higher educated the percentage they spent on learning activities decreased.

The differences in informal learning between the low and high educated have a number of causes (Künn-Nelen et al., 2018). First of all, the less instructive content of the work of the lower educated, but also because the lower educated are less likely to have a permanent contract and are older on average. In addition, the lower educated learn less at work because they are less inspired, less willing to take risks and less open to new experiences than the higher educated.

Figure 6: Informal learning at work: trend in the percentage of working time spent on activities from which to learn by level of education, 2004-2020

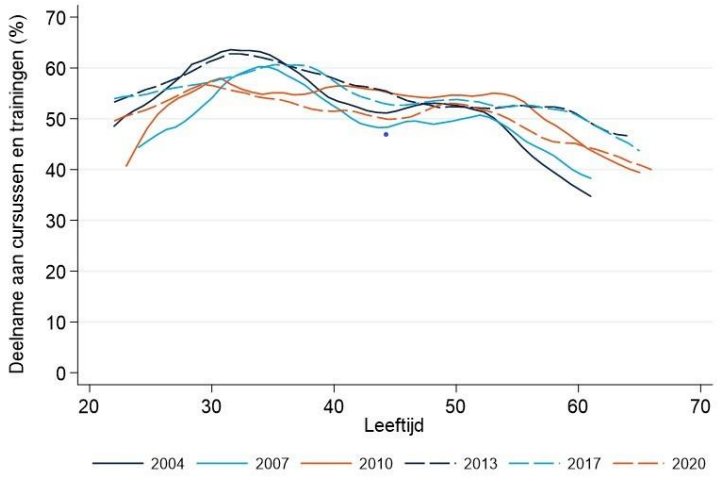


Bron: ROA LLL enquête, 2004-2020

Older workers

Figure 7 shows that the training participation is highest among the 30-40 year olds. The training participation mainly decreases in the last 10 years of the working career. As the pensionable age has been considerably postponed, the training participation of older workers has increased. As a result, the differences with other age groups have narrowed, although the figures for 2020 show that the training participation of the over 55s is once again declining.

Figure 7: Formal learning: development of participation in courses and training by working people by age, 2004-2020



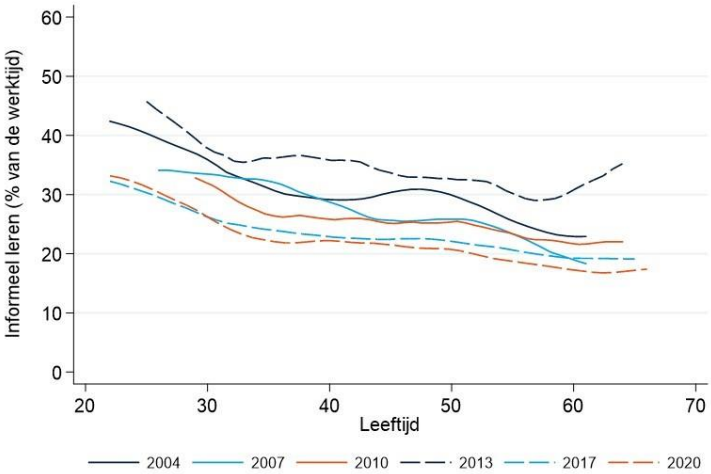
Bron: ROA LLL enquête, 2004-2020

Based on a natural experiment in the retirement age, Montizaan, Cörvers & De Grip (2010) show that 55-year-olds who can only retire at a later age take more training than those

who can retire earlier. However, this is only true for those who work in a large organization, where there is more often attention to a good HR policy than in smaller companies.
The lower training participation of those over 55 is mainly due to their lower willingness to take training, but employers are also less willing to invest in the training for employees who are over 60. Mainly because employers rate the learning motivation and learning capacity of older employees lower (Künn-Nelen et al., 2018).

Older workers also appear to learn less from their work. Figure 8 shows that this is not related to approaching retirement age. There is a fairly gradual decline with age. The figure also shows that at all age levels informal learning at work has declined compared to 2004. In addition, retiring later does not seem to have had any effect on the extent to which the over-55s have work from which they continue to learn. This - as we saw above - is in contrast to their increased training participation (see Figure 7).

Figure 8: Informal learning at work: trend in the percentage of working time spent on activities from which to learn by age, 2004-2020



Bron: ROA LLL enquête, 2004-2020

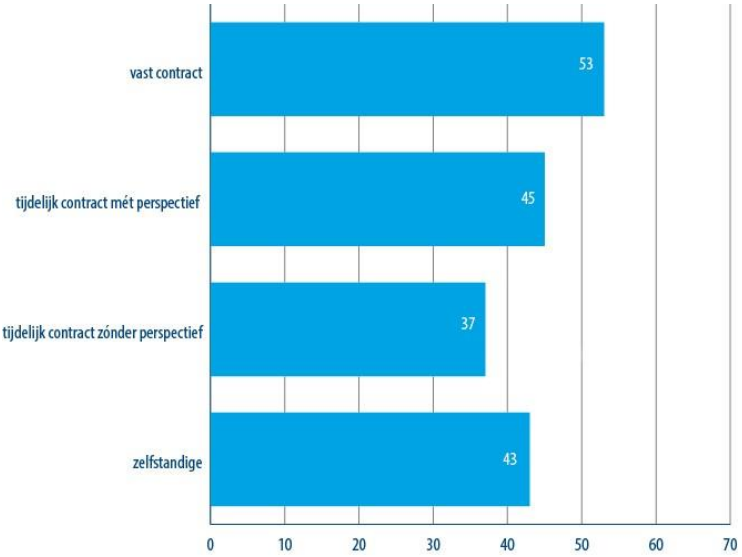
The study by Künn-Nelen et al. (2018) shows that over-55s learn more informally at work when their jobs require interpersonal skills. Job rotation does not appear to stimulate informal learning for this age group anymore. On the contrary, it even leads to a decrease in informal learning. This may be because job rotation at this age is often part of a protective HR policy, whereby older workers are given less demanding tasks.

Flex workers

Flex workers are a vulnerable group in the labor market in many ways. Figure 9 shows that workers with a temporary contract without the prospect of a permanent contract are much less likely to follow a training course than workers with a permanent contract. While 53% of employees with a

permanent contract have followed a course or training in the past two years, this only holds for 37% of these temporary employees. Among the self-employed, training participation is also considerably lower (43%). This applies to a lesser degree to employees with a temporary contract who do have the prospect of a permanent appointment (45%).

Figure 9: Training participation by contract type, 2020 (%)



Also, workers with a temporary contract without the prospect of a permanent position often have to take the initiative themselves to be able to attend training. Moreover, they are much more likely to pay the training costs themselves than workers with permanent jobs and are more likely to follow the training in their free time (Künn-Nelen cs., 2018).

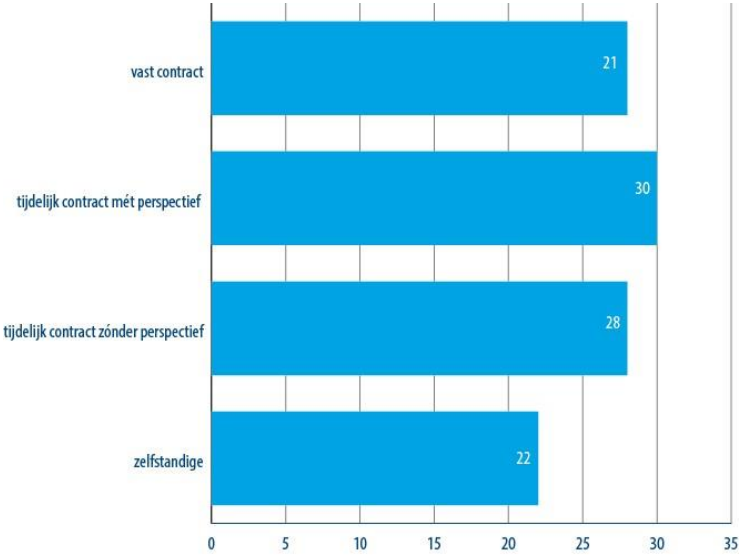
Fouarge cs. (2012) show that flex workers are especially less likely to follow training courses designed to keep their competencies up to date than workers with permanent contracts. The trainings they attend on their own initiative are often focused on generic knowledge and skills and do not help flex workers to find a permanent job.

A vignette study by Poulissen, Fouarge, De Grip & Künn-Nelen (2021) among employers shows that workers with a temporary contract without the prospect of a permanent position are as much as 37 percentage points less likely to be offered a course by their employer than workers with a permanent contract. An obligation to repay the training costs incurred in the event of early departure or an employee's own financial contribution do increase the likelihood that employers will offer training to flex workers without the prospect of a permanent appointment, but even then they have a much lower chance of being offered a course or training than employees with a permanent contract or a temporary contract with the prospect of a permanent appointment.

When it comes to informal learning at work, we see a very different picture. In this respect, flex workers do not lag behind employees with a permanent contract. On the contrary, as Figure 10 shows, they spend a larger portion of their working time on activities from which they learn than workers with permanent contracts. Workers with a temporary contract with the perspective of permanent employment appear to spend 30% of their working time learning from the work they do. Flex workers without the prospect of permanent employment are barely behind them with 28%. That is much more than self-

employed people, who learn from their work 22% of their working time. That's almost similar as workers in permanent employment, who learn from the work they do only 21% of their working time.

Figure 10: Informal learning as a percentage of work time by contract type, 2020 (%)



Ferreira, De Grip & Van der Velden (2018) confirm this picture for 20 OECD countries based on the PIAAC survey. This study shows that informal learning is not a substitute for the lower training participation of flex workers. On the contrary, flex workers who attend training also learn more from their work. An additional analysis focusing on the tasks that workers

perform indicates that there are two types of jobs in which flex workers are employed:

- good temporary jobs with lots of autonomy, teamwork and problem-solving tasks, which provide good opportunities for training and informal learning and offer good career prospects;
- poor temporary jobs, which offer few opportunities to maintain your human capital and offer no career prospects.

Long-term unemployed and disabled persons

In addition to the groups of workers who do not manage to keep their competencies up to standard in order to be sufficiently productive in their current position in the long term, there is a fourth vulnerable group: These are the people who lose their jobs at a later age, or who can no longer cope physically or mentally with their work, so that they have to look for other work. Often there is then a need for retraining. The question then arises as to how that retraining can be financed. Ideally, this retraining should be paid for by the old employer as part of an outplacement program, but many people are dependent on retraining paid for by the UWV. In two meta-analyses, Card et al. (2010; 2018) show that training the unemployed has a positive effect in the medium term. However, often the training only takes place when people have been unemployed for a longer period of time. In that case, someone's employability has often already declined significantly, which makes it difficult to find new work (see also Van Landeghem, Cörvers & De Grip (2017). This is also the case with people who can no longer cope with their work due to its physical or mental strain at a certain point. Often, this is

referred to as being incapacitated for work, but this incapacity usually relates primarily to the work that someone had. Retraining to less demanding work could then in principle offer solace, but unfortunately many people who lose their job because they can no longer cope physically or mentally are at an age where successful retraining is no longer profitable because the time in which the training can be used on the labor market has become too short (De Grip & Montizaan, 2022).

What societal infrastructure for lifelong development does our society need to remain a strong economy?

The Netherlands still lacks a good infrastructure that a knowledge society needs to keep the human capital of the workforce up to date and in good shape after initial education. As a result, we run the risk of damaging the international competitiveness and innovation potential of the Dutch economy. A good infrastructure should secure the lifelong development of the working population in terms of informal learning at work, upskilling and training when necessary and timely retraining of people who no longer have the perspective of being able to continue working in their current field.

In our report *Lifelong learning and competence development* (De Grip cs., 2018), partly based on a policy conference we organized in 2018 together with the SER, we indicated what the contours should be of a good societal infrastructure in the field of lifelong development.

In several advices to the government in recent years, the SER has made concrete proposals for what the pillars of this infrastructure should be (SER, 2017, 2019, 2020) and also indicated what role this infrastructure could play for the recovery policy needed to revitalize Dutch society after the corona crisis (SER, 2021). These advices contain numerous recommendations for strengthening lifelong development.

Here I want to address what I believe are five important pillars of a good societal infrastructure in the field of lifelong development:

- The learning culture in organizations and society
- Individual development accounts
- Alumni policy
- Facilities for retraining
- Research studies

Learning culture in organizations and society

Informal learning at work forms the basis of a good learning culture in an organization. This makes it very important that employees have tasks throughout their careers that challenge them sufficiently. It must be prevented that people start working purely on the basis of routine and eventually get bogged down in a range of tasks from which they learn very little. This requires employers to offer their employees opportunities for job and task rotation (De Grip & Iske, 2012). It should also be encouraged that fellow workers give each other feedback and tips in the workplace. In doing so, new employees should be given a mentor to teach them the ropes of the job. Gerards et al. (2021) show that informal learning can

be secured if employees work from home a lot. This study on the relationship between "the new way of working" and informal learning shows that especially giving critical feedback in the new way of working plays an important role for informal learning at work. In addition, it is of great importance that employees have good online access to the knowledge available within the organization. This supports them in their performance during work (Gottfredson & Mosher, 2011).

A good learning culture also requires a safe learning environment. Employees should dare and be allowed to make mistakes and not hesitate to ask colleagues questions if one does not know something. All employees must also have regular training and development interviews with their supervisors, during which their career ambitions and prospects and any changes in their range of duties or retraining that this may require are discussed.

It is also important that an organization's learning culture is inclusive, by paying sufficient attention to those workers who are at risk of being left behind in maintaining their human capital. As mentioned, this particularly concerns the low-skilled, older workers and flex workers. Especially the hard core of over a quarter of the working population who have never taken a training course in their entire working career will have to be included in the learning culture. This requires removing the barriers this group has to continuing learning. It can help, for example, to organize training for the less educated within a company in groups. Employees then often feel responsible for colleagues for whom the training is difficult. It will also be necessary to try to let the lower educated learn as much as

possible in smaller modules in the workplace, related to the tasks they have in their job. In addition, low-educated people who have successfully followed a training course before can act as *learning ambassadors* to get their colleagues over the threshold to continue their development. *Last but not least*, managers will have to create a relationship of trust with their employees. This will make the conversations about lifelong development much more effective. By properly informing and involving employees in the major changes taking place in the economy - to which both companies and their employees will have to adapt - companies can ensure that their employees become more aware of the need and opportunities for continued development.

In many organizations, important steps are already being taken to get a better learning culture off the ground, but it is good to realize that HR policies in this area are still in their infancy almost everywhere. This also makes it very important for Dutch society as a whole to strengthen the learning culture. In addition to the role that is reserved for the government and education, industry associations and training funds can play an important role in strengthening the learning culture in small and medium-sized enterprises in their sector of industry (De Grip et al., 2018).

The Dutch government has indicated its intention to invest in improving the learning culture in the Netherlands in the coming years. To increase the insight into training opportunities and possible sources of funding for everyone, the government wants to develop the digital training platform *IKwilverderleren.nl* (De Vries, 2019). In addition, the

government will initiate a pilot with development advice and support for low-educated workers and job seekers with a vulnerable labor market position. This pilot will likely be funded from the National Growth Fund (National Growth Fund Committee, 2021). Also, in 2022, the government wants to introduce the so-called "STAP budget. This is a scheme for a public learning and development budget that gives people the (financial) opportunity to strengthen their sustainable employability. This STAP budget could serve as a driving force for the wider introduction of individual development accounts. These are good initiatives that can strengthen the learning culture in the Netherlands. In addition, public libraries can strengthen the learning culture in our society even more than they already do by offering online courses and training for a wide audience. Also, by offering language, math and digitization courses and other low-threshold activities, libraries can stimulate the learning culture of the low-literate and other groups that struggle to continue learning in their lives. The same applies to the public broadcasting that should pay much more attention than it does now to educational TV programs, podcasts, etc. that are accessible to a broad target group.

Individual development accounts

Individual development accounts can be an important *game-changer* for lifelong development in the Netherlands. With such a development account, workers should be able to save in a tax-friendly way for development paths that are important for their sustainable employability on the labor market. The OECD (2019) indicates that it is important to have substantial funds in development accounts, because otherwise it will only

be possible to follow a short training course once in a while that will have little impact on one's employability. Therefore it is important that employers, training funds, governments as well as the worker himself can deposit money on someone's development account. These deposits must therefore become part of the terms of employment stipulated in the collective bargaining on the terms of employment. To this end, it is important that the government does not tax the amounts that employers pay into the development accounts of their employees, as also suggested in the recent Broad Social Review Report *Unprecedented Talent* of the Ministry of Finance (Inspectorate of Finance, 2020).

It would be good if everyone could get such a development account, because this would make it possible to strengthen your own control over the development of your knowledge and skills. Precisely for the four mentioned vulnerable groups *Individual Development Accounts* can play an important role. On the one hand, because it can encourage employers to invest in the development of the over 55s and those employed on temporary contracts. On the other hand, because lower educated people and people over 55, who are less inclined to follow a course, will do so more quickly because of the *endowment effect* of an individual development account.[1] However, this does not mean that an individual development account will automatically work for the vulnerable groups who currently receive little training. To achieve that, the creation of a good learning culture along the lines I mentioned is crucial.

A development account is explicitly not intended to fund the training needed to keep someone's competencies up-to-date

for the current job. The responsibility for this should lie with the employer. The employer is much more likely to have a better understanding of the training required for this purpose. But apart from this, it is desirable that a development account has ample spending possibilities (De Grip et al., 2018). For example, employees with a temporary contract without the prospect of a permanent position often have a particular need for career orientation and coaching, while for the less educated, obtaining advice on the direction in which one can best develop oneself can be very valuable. The field experiment of Fleuren et al. (2018) shows that it can be useful if the funds in the individual development account can be used not only to pay for the course costs, but also to free up the working time in which one can follow the training, because both can remove a barrier to following the training. Among the vulnerable groups, the freeing up of working time is probably especially important to stimulate the training participation of the lower educated and those over 55.

As early as 2001, the government and the Labour Foundation agreed in principle to create a tax facility for learning or development accounts (SER, 2002). In recent years many large companies have developed such accounts or introduced training vouchers that enable their employees to follow training at their own discretion (Van Breugel, De Grip & Dohmen, 2011). It has all taken a long time, but in recent years the SER has played an important role as a driving force to get Individual Development Accounts off the ground with its advisory reports *Learning and developing during the career*

(SER, 2017) and *Private training resources* (SER, 2020) and the Action Agenda for Lifelong Development (SER, 2020b).
As mentioned, the government wants to introduce the 'STAP budget' next year. It would be good if this becomes the stepping stone to the wider introduction of individual development accounts.

Alumni Policy

MBO schools, colleges of applied science, and universities could play a much larger role in keeping their alumni's competencies up-to-date than they currently do. This requires a strategic alumni policy, in which lifelong development is central (De Grip et al., 2018). This involves both offering post-initial education to graduates and organizing networking activities, in which alumni receive brief updates of their knowledge and can also learn a lot from each other (De Grip & Pleijers, 2019). To give this alumni policy a boost, educational institutions should start to set up online or blendid learning courses for their alumni on a considerable scale, building on the experiences they have had with this over the past year and a half. Belfi et al. (2018) show that unemployed alumni and those who graduated in times of crisis are less likely to take a course or training in the first few years after graduation. Therefore, the alumni policy of educational institutions should pay special attention to both of these target groups.

Facilities for retraining

Having a good learning culture, individual learning accounts and a good alumni policy of knowledge institutions form the societal infrastructure needed for what could be called the *preventive lifelong development policy*. In addition, however, it

is sometimes necessary for people who no longer have the prospect of remaining employed in their profession or sector of industry to be retrained for other work. The need for this more *curative training policy* arises when people lose their jobs due to shifts in labor market demand and there are virtually no more opportunities to find a similar job. But retraining can also be necessary - as mentioned above - if someone is working in a physically or mentally highly stressful occupation and cannot sustain it until her or his retirement age. In that case, it is very important that this retraining is not considered as late as when people can no longer cope with their current job, but that it is anticipated by retraining them at an age of 40-45 years, at which such a retraining is still profitable. This under the motto: preventive lifelong development policy where possible with curative policy as a safety net for unforeseen circumstances.

In its advisory report Inventory of *Lifelong Development in Social Security*, the SER (2019) indicates that in the reintegration of unemployed people there is too little attention for a sustainable reintegration if this can only be achieved by a substantial training commitment (Inspectorate of Finance, 2020). Moreover, the Dutch Public Employment Services has insufficient possibilities to offer such retraining before someone has become unemployed. [2] As mentioned, the retraining policy can become much more effective if it takes place at an early stage. This is because the distance to the labor market is then even smaller and because the newly acquired human capital can then be used profitably in the labor market for a longer period of time.

Research

A strong research agenda is a crucial component of a good societal infrastructure for lifelong development. In doing so, research can both set the agenda for new policy initiatives and show relatively quickly the effectiveness of various policy initiatives. This requires three types of research:

- *Research that provides insight into the knowledge and skills needed on the Dutch labor market*

The forecasts of future labour market supply and demand by education and occupation that ROA started at the end of the 1980s provide essential information about the expected developments in the labour market by occupation and education in the medium term (De Grip, Heijke & Dekker, 1989; Bakens cs., 2019). Over the years, the quality of these forecasts has proven to be very high. This allows them to indicate for which fields of work less or more workers should be educated. This information is not only very valuable for study and career guidance and recruitment policies of employers, but can also be an important anchor for good retraining policies.

In order to gain more specific insight into the shifts in the knowledge and skills demanded on the labor market, it is also important to continue to closely monitor, in addition to these labor market forecasts by occupation and education, the shifts in the labor market between and within occupations in the skills demanded. The *Dutch Skills Survey* conducted by ROA and SEO in 2012 and 2017 following the British Skills Survey offers good opportunities for this monitoring (Van den Berg et al., 2018). For a good lifelong development policy it is of great

importance that the Ministry of Social Affairs and Employment continues to fund this Skills Survey in the future.

- *Research that provides insight into the development of lifelong development in the Netherlands*

Continuing to properly monitor developments in the training participation and informal learning of the Dutch workforce and the factors that stimulate or impede this is also a crucial part of a good societal infrastructure on lifelong development. In 2004 - as I have shown in this lecture - ROA started the *ROA Lifelong Learning Survey*. In recent years, this survey has, among other things, made an important contribution to putting the importance of informal learning at work on the social agenda and has also provided a sharp picture of the groups of workers who are at risk of not keeping their competences up to scratch. Although this survey has been held every three years since then, more sustainable funding for it has still not been adequately secured. Here too, there is a clear role for the Ministry of Social Affairs and Employment.

- *Research what works and why*

Both within companies and at the sector and regional level, there are already numerous initiatives focused on lifelong development. However, many of these initiatives relate to pilots that are not set up in such a way that a good impact measurement is possible. As a result, not enough is learned from these pilot projects and there is a danger that the wheel must be reinvented each time. To avoid this, it is very important to think carefully about how to evaluate the intervention properly even before starting a new initiative.

Although this is not always easy, there are good examples of how this could be done in practice (De Grip & Sauermann, 2012; Hidalgo cs., 2014; Fleuren cs., 2018). In De Grip, Künn & Montizaan (2019) we outlined for the Ministry of Social Affairs and Employment a framework with five evaluation methods to adequately measure the effects of lifelong development initiatives. This should guide a good evaluation framework for lifelong development policies.

Well-designed research on the effects of interventions not only gives a good picture of *what works*. It can also provide insight into *why* a particular intervention is effective and in which design the best results are achieved (see e.g. Fleuren et al., 2018). In addition, it can be very valuable to relate evaluation studies to monitoring research, in order to ensure a good control group (see Schwerdt et al., 2012).

Acknowledgements

Finally, I would like to thank those who have made it possible for me in the past two decades to give substance to the research and education related to my chair and the growth of ROA into a leading research institute whose mission focuses on high-quality scientific research with social impact. First of all I would like to thank Hans Heijke, who as director of ROA took the initiative to set up my chair as a second chair within ROA and thus offered me the opportunity to expand ROA with a new research line focused on post-initial learning. I would like to thank Thomas Dohmen for his important role model for doing

high quality socially relevant scientific research and his fine leadership style.

As evidenced by my many co-authors, many others inside and outside ROA have played an important role for the *Training and Work* research program related to my chair. First and foremost, the PhD students I have had the privilege of supervising when they wrote their dissertations. I have always found this one of the most enjoyable activities of my professorship. It is beautiful and rewarding work to be able to give feedback on their research to mostly young researchers in this important phase of their career and to coach them in a broader sense. These were also very instructive activities for myself, from which I undoubtedly learned more than from following a course or training.

With many of my PhD students and many other colleagues inside and outside ROA, I worked on scientific papers. For me, science has always been teamwork. I did a quick count. In total, I worked with 81 co-authors on science articles published in international journals. Of these co-authors, 37 were my colleagues at ROA, 38 were colleagues from outside ROA and 6 were SBE Master students with whom I wrote an article based on their Master thesis. Thank you all for the fine cooperation and the many things I learned from you on many facets of writing a good article.

Many of my co-authors inside and outside of ROA have made it possible for me to study lifelong development, sustainable employability, and other areas of research from an inter-disciplinary perspective. This has brought me into contact with the research as well as the research mores within disciplines

such as sociology, educational science, neuropsychology, organizational psychology, and labor epidemiology. These were instructive trips that greatly enriched my view of science. I would like to thank you all for the many wise lessons and the pleasant cooperation. Unfortunately I cannot mention all your names here, but I would especially like to thank IJmert Kant and Fred Zijlstra for the instructive cooperation in various collaborative projects, which have given me a deeper insight into the great importance of multidisciplinary research in the field of sustainable employability of workers.

I want to thank Paul Iske for the pleasure of working with me in coordinating the *Network Social Innovation* and the insight he gave me into how important it is to be allowed to make mistakes and to ensure that an organization learns from the mistakes that are made. Likewise, I learned from Paul to see organizations as part of a larger ecosystem. From this, I also learned to see ROA as part of a larger ecosystem, in which it is not so important to draw sharp boundaries between what takes place in this ecosystem within ROA or outside of it.

Besides these scientific publications, I have enjoyed working with many ROA colleagues on sometimes high-profile reports, with which we have been able to play an important agenda-setting role for public policies on the relationship between education and the labor market, lifelong development, sustainable employability, shifting retirement ages, and the impact of the new ways of working and artificial intelligence at work. Unfortunately, I cannot mention you all by name here, but in the research and policy areas I just mentioned, I would especially like to thank my ROA colleagues Lex Borghans, Frank

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In the period of our joint ROA directorship, we succeeded in giving ROA a full position within the School of Business and Economics (SBE), which is an important safeguard for scientific research within ROA and in which we are a role model for combining high quality scientific research with a large social impact with our mission. My thanks go to the then SBE Dean Philip Vergauwen and Director Edward Peters who made this integration possible and Peter Møllgaard who gave the

integration a further boost by asking me to take a seat on the faculty board as Associate Dean.

I am very happy that I have been able to contribute to the building and growing of ROA in my career. I have always enjoyed doing this and can look back on it with great pleasure. But I am at least as happy that Marise and our children Mila, Feiko, Benno and Jos have always appreciated me for what they see as a good work-life balance. I want to thank you, your partners Rob, Thomas, Raphael and Livia and our grandchildren Boas and Lovis for your contribution to the warm family we form and the many things I can still learn from you all.

I have said.

Notes

1 This endowment effect occurs because we consider it more important that something we own does not get lost than to acquire something we do not have yet (see Kahneman & Tversky (1979).
2 Fortunately, at the end of 2020, the UWV did gain the ability to guide employed people to other suitable work four months before they are at risk of becoming unemployed.

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