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Literacy Level 1 and below versus literacy Level 4 and above – International results regarding participation in adult education¹

Abstract: Literacy, as specified in the Programme for the International Assessment of Adult Competencies (PIAAC) survey (OECD 2013), is separated into competence levels. This allows for a comparison of adults performing at literacy Level 1 and below versus those performing at Level 4 and above. The PIAAC survey also contains variables on participation in adult education. The findings show how type of seminar or training, type of employment (monotony) and type of learning (formal, non-formal, informal or mere readiness to learn) correlate with participation rates. Most findings confirm the ‘Matthew Effect’ for participation rates, but this is not true for training hours. More training hours are delivered to subpopulations with lower literacy levels than to those with higher levels. Barriers to training comprise costliness and lack of time, and many respondents indicated training they had wished to undertake but for some reason did not. Conclusions point at the *paradoxon* of need for employment being the most important reason for attending training and at the same time being the most important barrier to undertaking training. The learning strategies’ indicator shows that the majority of the population is ready to learn but do not participate in adult education and training to do so. As a whole, roughly one-third of the low-literate subpopulations participate in adult education and training.

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¹ All findings in this paper, which are not quoted from other publications, have been computed in a common publication project with the OECD Paris under the lead of William Thorn, published as Education Working Paper 131 (Grotlüschen, Mallows, Reder & Sabatini 2016). Analyses were mostly made with the STATA software and the PIAAC repeat module, covering the complete dataset. This paper mostly relies on results that have not been published in the common report.

Adult Education and Training at Literacy Level 1 and Below

Adult education and training provide opportunities to develop or maintain cognitive skills needed both at work and in everyday life. Knowledge about the kind of training undertaken by those performing on the PIAAC literacy scale at *Level 1 and below* is relevant for policy makers and practitioners who want to tailor their supply structures towards this population's needs. Following the publication of the results of large-scale assessments, several countries realised that the share of the population at Level 1 and below was much higher than first thought. Many countries launched programs or strategies to improve their populations' skill levels. There is a growing concern that those who were left behind in initial schooling and vocational education participate less than average in adult education as well. Some countries have set benchmarks² for participation rates with regard to formal and non-formal adult education and training.

The focus of this article is placed on the subpopulations at PIAAC literacy or numeracy *Level 1 and below* and their relation to adult education and training and to informal learning at work and learning strategies. The report focuses on Level 1 and below because this cut-off is widely used in Europe (EU High Level Group of Experts on Literacy 2012). Adult education and training is defined according to the Classification of Learning Activities (European Commission/Eurostat 2006).³

The literacy Level 1 and below subpopulation is 15.5% of the adult population (international average). Roughly only one-third of the low literate do participate in adult education, which is seen as unsatisfactory in several countries. To improve this situation, the research questions are as follows:

² The German government wants 50% of the population to participate in adult education and training and wants the low educated to reach participation rates of some 30%. The reference survey is the Adult Education Survey, carried out every three to five years.

³ Several differences between the variables used for the Adult Education Survey and PIAAC lead to the demand for further development of these variables in order to better compare the results. Informal learning should not only focus learning at work but also learning in private and community activities.

- Do formal or non-formal formats attract larger shares of the low-literate subgroup?
- Which formats are interesting for the subgroup, for example, workshops, individual lessons or e-learning?
- In what fields does the subpopulation work, and which kinds of workplaces support training activities?
- What is the role of informal learning at work?
- What are the reasons for participation and non-participation?
- Is there more demand than provision or vice versa? Is training needed, and are jobs challenging?
- Do Level 1 and below subpopulations use learning strategies? Is there a need to improve these?

Three international adult education surveys – the *European Adult Education Survey* (AES), the *EU Labor Force Survey* (EU LFS) and the *Continuing Vocational Training Survey* (CVTS) – regularly point to socio-demographic differences, including initial education, and clearly indicate that adult education depends on employment (Kaufmann & Widany 2013). Most of the variables' impact decreases if employment is controlled for. Raw figures indicate that differences seem to decrease in regard to the order of their appearance to public awareness. Gender differences have lessened and partly vanished, age differences are decreasing and migrations differences have not decreased thus far but may do so soon. Class differences – defined by formal education, employment and income – have not decreased.⁴

Several national literacy surveys focus on literacy and numeracy Level 1 according to their own definitions and methodologies. The French case shows that literacy is rising while numeracy skills are in decline in the population (Jonas 2012). The *English Skills for Life* surveys in 2003 and 2011 also shifted the awareness from literacy towards numeracy (DfES 2003, BIS *Department for Business Innovation and Skills* 2011). The German survey LEO integrated reading and writing and pointed to the problem that most Level 1 difficulties relate to writing, not reading (Grotlüschen & Riekmann 2012).

International literacy research claims that the Level 1 and below subpopulation is on average neither unemployed nor 'foreign-born', as a major European consortium points out in their report (EU High Level Group of Experts on Literacy 2012). PIAAC shows differences between the subpopulations of 24 countries. As the OECD Skills Outlook reports, the likelihood of participating in adult education and training (OECD 2013, p. 209) varies according to level of literacy proficiency.

⁴ Multivariate analyses with data of the AES show that gender differences are not significant once employment is controlled for, age differences remain significant for the 50+ and migration effects remain significant for the youngest cohort of migrants aged 18 to below 30 (Kuper, Unger & Hartmann, 2013).

Adult Education and Training – General Results

Participation rates in adult education and training do not necessarily translate into outcomes; however, they are a good indicator for lifelong learning activities in a given country and have a long research tradition. According to PIAAC, the overall participation rates with regard to formal and non-formal adult education and training differ substantially. In some countries, over 70% of the population participates regularly in lifelong learning (OECD 2013). Across all countries, it is the high-skilled populations that participate more in formal and non-formal adult education.

With a focus on the low-skilled population only, the average is 31.3%; the highest participation rates reach nearly 50% of the subpopulation in Norway, some 44% in Denmark and more than 42% in Sweden. The lowest participation rates are found in Poland, the Slovak Republic and Italy. The large range of the data – from 14 to 49% – shows that countries can learn from well-performing entities.

The reason for varying participation is not only to be seen in educational policies. Participation rates correlate with employment (see above). The countries under consideration have very different labour markets. The unemployment rates in the three countries with the highest overall participation rates are all below 10% of the population (Norway 3.2%, Sweden 8.0% and Denmark 7.5%) (cf. Rammstedt 2013, p. 211).

The German survey on the low-skilled population (*Level-One Survey LEO*, Grotlüschen & Riekmann 2012) shows comparable results regarding participation rates (LEO: 28% of the low-skilled population participates in non-formal adult education and training). From LEO, it is known that the majority of courses focus on forklift or truck driving licences, work security issues, welding licences or – for immigrants – German language courses (Bilger 2012). All these areas are subject to regulation and law and the attendees of these courses are usually obliged to participate.

Selectivity and Efficacy

The question of whether or not adult education and training is efficient is relevant for funding and provision strategies. When access to training is non-selective, it is likely that progress will be slower and show less impact than when access is selective, thus allowing only the better performers among a subpopulation (e.g. the unemployed) to enter the learning group.

When funders expect training providers to demonstrate the effects of training, providers tend to select participants more carefully and prefer to train those that have greater chances of performing well. This so-called ‘creaming effect’ is quite well known and often criticised by practitioners. In this type of situation, all parties – the funders, the participants and the suppliers – face something of a dilemma. Funding strategies, for example, may emphasise both efficacy and non-selectivity – that is, the targeting of the most in need (i.e. those least likely to succeed). Correlations

between *training participation* and (*literacy*) *performance* based on cross-sectional data always represent the outcome of the combined effects of selection and efficacy.

The raw regression coefficient from literacy onto formal and non-formal training is 26.2 points (international average). If socio-demographic and educational variables⁵ are controlled for, the regression coefficients decrease substantially from 26.2 points on the PIAAC scale to 6.2 points (international average). This indicates that the relation between literacy and training is mostly influenced by education, employment and socio-demographics and that only a small effect remains, representing at the same time the *selectivity* and *efficacy* of adult education according to forms of learning.

Participation Gaps by Forms of Learning (Formal, Non-Formal, Informal)

The forms of adult education show very different participation rates. The gaps between low- and high-skilled subpopulations also differ with regard to the form of learning. The gap between the low-skilled population and the high skilled population, respectively, by forms of learning is as follows:

- Formal adult education and training: participation rates 9.1% versus 18.4%
- Non-formal adult education and training: participation rates 27.1% versus 66.6%
- Informal learning at work (employed only): proportion of those with highest agreement to statements related to learning at work (top two): 36.0% at Level 1 and below versus 36.9% at Level 4 and above

The PIAAC index ‘Learning at Work’ combines agreements with statements about *keeping up to date* or *learning by doing*. The overall distribution of agreement to the statements was divided into five percentiles, so the percentages show the shares of people belonging to the percentiles. Among the low skilled, 19% belong to highest quintile (which means these 19 % agree nearly fully [80 to 100%] with the statements on learning at work). The *top two quintiles* add up to roughly one-third of the low-skilled population, who most clearly agree with the question on whether they learn at work.

The gaps within formal adult education and non-formal education are large compared to learning at work among the working low-skilled population. This is usually discussed as a highly selective entry into non-formal education. The small gap regarding learning at work is possibly caused by the reduced subpopulation of only those who work. This leads to the conclusion that the selectivity is mostly caused by participation in the labour market.

⁵ The values are controlled for age, gender, employment status, education, parents’ education, self-reported health status, test language and native language and ICT use at home.

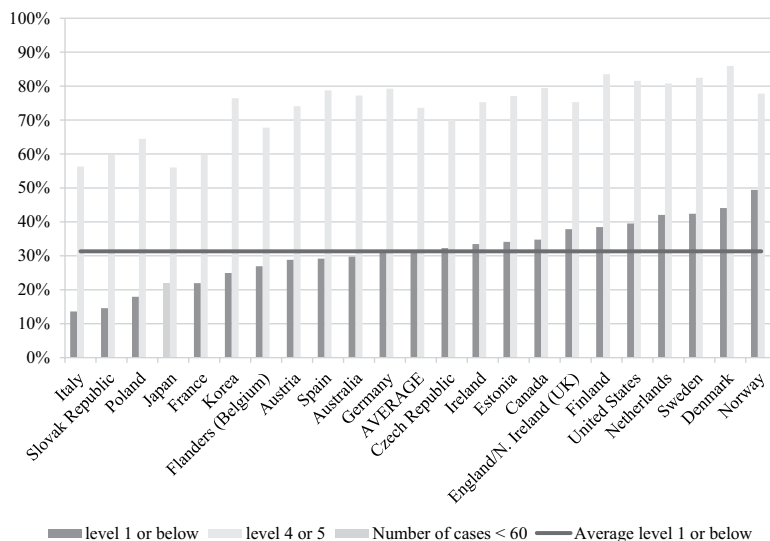


Figure 1: Participation rates in formal or non-formal adult education and training in the past 12 months (FNFAET12) by level and country (Source: PIAAC – Survey of Adult Skills, 2012)

The international comparison shows that the overall gaps differ between countries (Figure 1). Both the shares of Level 1 participants as well as the gaps between high- and low-literate participants are interesting starting points for further comparative research.

Non-Formal Adult Education and Training

The overall gaps lie between the low- and high-skilled populations, not between countries. Averages show that some 27% of the low-skilled population participates in non-formal education, while more than 66% of the high skilled does so. For numeracy, the shares are 28 and 66%, respectively. Evidence shows a strong influence of the workplace on non-formal training enrolment (the influence of the workplace on participation in adult education and training is well known in adult education research and has been repeatedly confirmed (CEDEFOP European Center for the Development of Vocational Training 2010, Kaufmann, Reichart, & Schömann 2014, Friebel, Epskamp, & Knoblauch 2000, Brüning & Kuwan 2002, Kuper, Gnahs, & Hartmann 2013).

More Training Hours on Level 1 than on Higher Levels

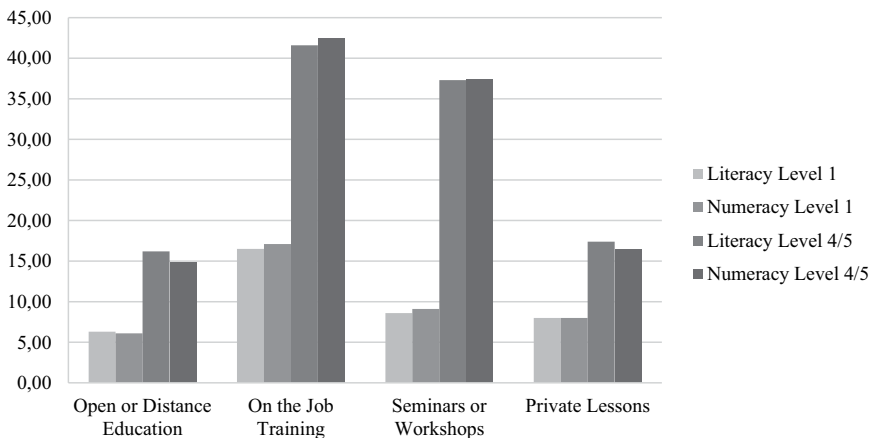
According to PIAAC, low-performing adults (Level 1 and below) who participate in non-formal education receive more training hours than high-performing adults (Level 4 and above) who participate in non-formal education. The training volume shows that the mean for Level 1 performing adults lies at some 150 hours

(international average for literacy performance), while this is 10 hours less for Level 4/5 and another 20 hours lower for levels 2 and 3. The distribution is bimodal; it does not include formal education. An explanation for this could be the long-term course programs provided by job agencies for the Level 1 population as well as the language programs for migrants recently arrived.

The distribution by country shows that the peaks are on different levels. In several northern European countries, the duration is highest on Level 1, and in England and Northern Ireland it is not significantly different by level. Other countries such as Korea and Spain have peaks at Level 4 and above. In Australia, Poland and the US levels 2 and 3 receive the highest amount of training hours, but this does not necessarily differ significantly from the neighbouring levels.

Participation by Type of Non-Formal Learning

Non-formal education consists of seminars and workshops, private lessons and open or e-learning formats. The index is made up of these four variables. The gap between the low- and high-skilled populations is quite well known. Supposedly the causality behind the correlation runs in both directions: high performers have fewer problems entering adult education, and adult education helps to maintain or improve their skills.



Percentage of adults by Activities – Last Year	Literacy Level 1	Numeracy Level 1	Literacy Level 4/5	Numeracy Level 4/5
Open or Distance Education	6.3%	6.1%	16.2%	14.9%
On-the-job Training	16.5%	17.1%	41.6%	42.4%
Seminars or Workshops	8.6%	9.1%	37.3%	37.4%
Private Lessons	8.0%	8.0%	17.4%	16.5%

Figure 2: Percentages of participation by literacy and numeracy levels and by type of non-formal education (Source: PIAAC – Survey of Adult Skills, 2012)

Being low-skilled in *literacy* or *numeracy* affects the chances of participation in non-formal adult education only slightly. The pattern stays the same. The *types of non-formal adult education* differ widely, with on-the-job training and seminars or workshops being more attractive and accessible than e-learning or private lessons. This differs across countries and levels, as can be seen in the OECD report (Grotlüschen et al. 2016). The country-specific participation rates by *type of non-formal education* show a large variety in provision and demand for non-formal education. The post-Soviet countries, which relatively recently changed their systems, do not show a common pattern (i.e. not offering seminars or focusing on distance learning). Figure 2 demonstrates the importance of on-the-job training and the wide access gap in seminars and workshops. The smaller types of non-formal learning (open and distance learning and private lessons) have higher participation rates in northern countries than elsewhere. *Seminars and workshops* hint at an adult education system with public and commercial training institutions that are accessible to all who fulfil the conditions for the training offer. All countries seem to have this infrastructure for Level 4 and above performers. But several countries do not find Level 1 and below performers in their seminars and workshops.

Non-Formal Education by Types of Employment

As employment seems to be highly influential in regard to participation in adult and continuing education, a closer look at the type of employment is provided.

The majority of performers at Level 1 and below do not feel challenged enough in their jobs (international average: 77%), even at their very low literacy skill level. This indicates monotonous workplaces. On the other hand, the skills available do not seem to match the requirements for all of the workplaces, as roughly one-fourth to one-third of the Level 1 and below performers express their need for more training (international average: 28%).

Certain features of jobs are associated with greater chances of participating in non-formal training. As sketched out in more detail below, one can summarise that low-skilled individuals working in *skilled occupations*, in the *public sector*, in more *stable employment contracts* and in jobs that have *requirements for tertiary qualifications* have higher rates of participation in non-formal education and training. In addition, low-skilled workers in jobs that involve *greater flexibility* for the employee have higher rates of training participation.

Quality of Employment Correlates with Participation in Adult Education

While the impact of employment on formal and non-formal learning is clear, there are differences within the employed sections of the low-skilled population as well. Depending on which qualification a given job would require nowadays, the share of participants rises significantly with higher requirements. Blue collar and elementary occupations lead to less further education than white collar jobs and skilled occupations. Job satisfaction and participation also correlate positively

and significantly. The causality remains unclear. It may lie in the job itself as a third factor influencing both satisfaction and participation rates as well as in the satisfying effects of adult education.

Less Flexible Jobs Correlate with Low Adult Education Participation Rates

The workplace itself can be monotonous and dependent on other peoples' decisions as well as flexible and to a certain extent subject to one's own decisions and influence. Deciding on the sequence of your tasks or the speed and rate of work indicates some influence and independence at the workplace, but monotony is the everyday reality for more than a third of the Level 1 and below subgroup compared to some 20% of the overall population. Low flexibility seems to reduce the likelihood of further education as the participation rates decrease from roughly 46 to 36%.

Some 42% of the Level 1 and below employees have the opportunity to decide what time they start work and when they leave (compared to 53% in the overall population). This kind of individual control over working hours might be necessary to attend courses and seminars and correlates positively with participation.

Security of Employment Correlates with Participation in Adult Education

In the case where the working subpopulation of the low skilled is employed in the public sector, their rates of participation in adult education are significantly higher (55%) than in the private sector (38%). While stable and fixed-term contracts do not differ in terms of participation rates (44%), the agencies and temporary employment opportunities offer significantly lower chances for adult education (29%). A decrease in company size (as reported by the interviewees) does not lead to activities related to further education among the low-skilled population (participation rate: 44%), whereas expanding companies offer more opportunities to their staff (52%). Perhaps they face more training needs because of newly employed staff that needs initial in-house training.

The Difficulties in Getting Access to Training

The share of low-skilled people who expressed an interest in training mostly report that the reasons for not starting are lack of support, being busy with work and family issues and the costliness of the training. Those who did participate state doing their job better as the most relevant reason. On the other hand, being obliged to attend training is a crucial factor for participation as well. This reveals *paradox effects* of jobs as the core reason for training and – at the same time – being too busy at work as the core hindering factor.

Training Wanted, But Not Started

Among the Literacy low-skilled population we find between 4 and nearly 30% who wanted training but did not start. The international average is 17.1%, and for the numeracy low-skilled population it is 17.7%. The highest shares, with more than one-quarter of the numeracy low-skilled population agreeing to the statement (training wanted), are in the US (28.1), Sweden (25.8), Denmark (25) and Ireland (24.5). This changes slightly if literacy is used for the definition of the subpopulation, with Sweden, the US, Ireland and Spain ranking highest. Within the high-skilled population the average is 35.9% (literacy) and 34.2% (numeracy). In nearly all countries, the proportion of those who reported wanting training but not starting ranges from a quarter to nearly half of the high-skilled population. The US has the highest values, with more than 50.5% in both domains (literacy and numeracy).

The large differences between the low-skilled population's relatively low values and the high-skilled population's values between 20 and 50% show that this is more than a social desirability effect. Activating these sections of the subpopulation would double the figures of adult education participation among the low-skilled population for many countries.

Reasons for Non-Participation within the Low-Skilled Population

Work, family and numerous non-specified reasons (other) are reported to be the most hindering factors, followed by financial issues, structural barriers, not meeting the criteria and unforeseen circumstances. This is followed by one in five persons facing or anticipating financial problems in connection with adult education and training. Even if sometimes the course is free of charge, people assume it must cost something because they are already used to having to pay for everything (cf. Heinemann 2014).

Time constraints are mentioned as a strong barrier. But as we know from qualitative research, this might be an escape category: people tend to report time issues, but the non-reported, hidden reason is that they see no thematic relation between the training and their everyday challenges (Grotlüschen 2003).

The unspecified reasons (other) indicates that either people cannot tell what kept them from starting, or they have reasons which are not covered by the answer options. Early research found that *time, money and lack of connections* was the famous formula for non-participation in the 1960s (Strzelewicz, Raapke, & Schulenberg 1966). From the new century on, fear of being too old or too unprepared are reported according to the theory and research on 'social fields' (Barz & Tippelt 2004) or with regard to non-participants and never-participants (Schröder, Schiel, & Aust 2004). Four types of abstinence have been classified (Bolder & Hendrich 2000), and the development of thematic interest has been distinguished into phases (Grotlüschen 2010). Postcolonial and intersectional approaches have also been used to pinpoint migrant women's reasons for learning, suggesting the importance of 'citizenship capital' (Heinemann 2014).

Reasons for Participation within the Low-Skilled Population

The international averages⁶ show that ‘doing the job better’ and ‘improving career prospects’ is ticked by more than 45% of those low skilled who participate in adult education. Another 20.9% state they were obliged to participate. The threat of losing one’s job is not an issue. This might mean that their jobs are secure or that adult education would not change their job situation anyway. Amongst unqualified or low-qualified adults the latter idea is common (Grotlüschen & Brauchle 2004; Schiersmann 2006).

Job Requirements: Not Challenged Enough or Needing More Training

The variables used here are controversially discussed as the measurement of skills mismatch (Perry, Wiederhold, & Ackermann-Piek 2014). But the question in this section is not the mismatch between skills and jobs; the question is whether and how low performers engage in further education.

Level 1 and below performers might find themselves in monotonous workplaces where they are not challenged enough and therefore have neither the opportunity nor the need for informal learning activities at work. Those who do not feel challenged enough are some 77% of the literacy Level 1 and below population (international average), ranging from nearly 88% in Germany to 63% in Finland and Japan being an outlier with 28%. Being insufficiently challenged and having very low literacy skills leads to the conclusion that the workplaces under consideration require rather few skills. Similarly, the under-challenged 86% of the Level 4/5 performers will be interpreted as low requirements for highly performing employees.

In the case where the Level 1 and below performers enter more qualified jobs and find themselves equipped with fewer skills than required, this should lead to the necessity of training. One would expect that the lower the skills, the higher the need for training would be. Some 28% at Level 1 and below say they need more training, while this figure increases slowly but steadily up to 36% of the Level 4/5 performers.

At Level 1 and below, 77% feel under-challenged, while 28% need training. The latter will either try to get non-formal training or start to improve their skills informally. The following section shows that a quarter up to a third of these individuals report learning at work every day.

Learning Strategies and Adult Education

Six questions form an indicator called ‘Learning Strategies’. The index is abbreviated as ‘Readiness to Learn’ in the questionnaire. The questions are as follows:

- When I hear or read about new ideas, I try to relate them to real-life situations to which they might apply.
- I like learning new things.

⁶ If the distribution is split by country, the categories often have less than 60 cases.

- When I come across something new, I try to relate it to what I already know.
- I like to get to the bottom of difficult things.
- I like to figure out how different ideas fit together.
- If I don't understand something, I look for additional information to make it clearer.

The theoretical discussion is published in the conceptual framework underlying the background questionnaire (OECD 2011, p.18), but some of the indicators are no longer available in the final questionnaire, so the direct link between the theoretical idea in 2011 and the published index in 2013 remains unclear. Results should be interpreted carefully.

The overall result shows an international pattern where Asian countries versus post-Soviet and Western countries seem to differ. This may be a cultural pattern underlying the self-reported answers, for example 'getting to the bottom of difficult things' may not be socially desirable in some countries, whereas it is much appreciated in other countries.

Bivariate correlations between 'learning strategies' and participation rates are low (in this case computed via the IDB Analyzer Software and with SPSS). The international averages turn out to be as follows:

- .11 for formal adult education (s.e. < .00, ranging from ,04 in the Czech Republic to ,19 in Estonia)
- .14 for non-formal education (s.e. < .00, ranging from ,08 in Norway to ,21 in Estonia)
- .21 for informal learning at work (s.e. < .00, ranging from ,13 in Korea to 0,30 in Austria)

The effect sizes, which can vary between -1 and +1, are positive but very small (0.11 to 0.21), given that the correlation between 'readiness to learn' and 'participation in learning opportunities' could covary much higher. These results may even indicate that it can be possible to get by *without* further training if the individual's learning strategies satisfy the learning needs. This is striking and may need further investigation.

The theoretical approach sketched out in the conceptual framework of the background questionnaire would suggest that learning strategies, which form an index based on the theory of metacognition, should be quite influential for learning (OECD 2011). On the other hand, this might differ between *learning outcomes* and *participation rates*.

Summary of Findings

Adult education and training is on the rise in the long-term view, but in all countries it is divided according to competence and qualification. PIAAC confirms

the well-known Matthew Effect (indicating that the well-educated participate most in further education and training), but the gaps differ between countries. Countries with high shares in training participation among the low-literate subpopulation tend to be the countries with low unemployment rates. The composition of literacy Level 1 and below also differs substantially as well as countries' supply structures for recently arrived migrants.⁷

Training duration does not necessarily confirm the Matthew Effect. The international average shows that Level 1 and below performers receive more training hours if they enter adult education. This differs considerably across countries.

PIAAC allows for the study of the relation between proficiency and adult education by controlling the other predictors. The causality is two-directional: the more literate parts of the population receive easier access to adult education and training (selectivity), while those who attend adult education and training preserve and improve their literacy proficiency (efficacy). The findings indicate that countries perform rather differently in this respect. The types of supply – formal, non-formal and informal – also show quite different results in this combination of selectivity and efficacy. Non-formal learning has the strongest positive relation with literacy, while informal learning is negatively associated with literacy. That means literacy Level 1 and below performers agree that the learning required for their job takes place at work.

Regarding the forms of provision, the results show very little formal adult education and training, the average rate being below 10% (ranging from 3 to 18%) compared to more than 18% within Level 4 and above performers and more than 30% Level 1 participation rate in non-formal learning. It could be worth communicating to the target group which pathways are open after initial formal education, where they lead to and what kind of support structures exist.

Non-formal learning is easier to access for low-literate adults. The type of non-formal education matters (e-learning and private lessons versus on-the-job training or seminars). Job quality, flexibility and security seem to be relevant as well.

The quality of employment, sketched out with the variables qualification requirement, position and satisfaction, correlates slightly, but significantly positively, with non-formal learning opportunities. Monotonous jobs can lead to a decrease in skills.⁸

The flexibility of work, understood as the possibility to make decisions on the sequence of tasks, about how to do your work, about speed and how to organise working hours within a day, correlates differently with participation rates. Here high and medium flexibility correlates most with participation in non-formal learning.

A third subsection of indicators were selected to hint at the feeling of security of employment with regard to contract stability, an increase or decrease in company size and the public or private sector of employment: Higher stability seems to improve participation rates even if only the employed subpopulation of Level 1 and below is taken into consideration.

⁷ See David Mallows' findings in Grotlüschen, Mallows, Sabatini, Reder (2016).

⁸ See Stephen Reder's findings in Grotlüschen, Mallows, Sabatini, Reder, (2016).

These three subsections were conducted with the employed among the literacy Level 1 and below. The differences between qualified and unqualified positions, flexible and monotonous jobs and greater or lesser feeling of job security are significant, but remain small. On average, 66% of the low-literate adults are employed; this is the majority but is still below average.⁹

Practitioners from companies and training institutions also state that the target groups under consideration do not necessarily show a large demand for training, but PIAAC data show that it could be possible to engage more low performers in learning.

- On average, 17% of the literacy Level 1 and below report they wanted training in the past 12 months but did not start. This differs substantially by country (4 to 28%). The rate is much lower than among highly literate adults.
- Reasons for non-participation are lack of time because of family and job commitments as well as cost. 'Other' remains a large category.
- Reasons for participation are mostly job-related (do my job better, job promotion). Upskilling to prevent job loss does not seem to be relevant for this population.

Overall, workplace requirements drive people to upskill, and, at the same time, being busy at the workplace prevents people from finding the time to do this. This paradox holds throughout domains and levels.

The data represent two characteristics of the low literate meeting high or low expectations at work. Monotonous workplaces and never having to learn at work correspond to a large part of the target group. Some 77% of the Level 1 and below subpopulation feels under-challenged at work (compared to 86% of the Level 4 and above). This reflects monotonous and unqualified workplaces.

On the other hand those low literate groups who find themselves in qualified jobs agree they need training, and this is confirmed by their activity in learning at work. Some 28% agree to a need for further training. Those in need of training or upskilling receive it at work.

Active learning strategies are widespread even amongst the low skilled. The majority of the low-skilled population has to be considered at least partly as capable of and interested in learning or using learning strategies. But there is a minority of low-literate and -numerate adults who do not even use the most widespread techniques; for example, 18.5% of the low-skilled population very rarely search for additional information. Learning strategies have significant but low bivariate correlation effect sizes with learning at work, non-formal adult education and formal adult education, indicating that those ready to learn do not necessarily end up doing so.

⁹ See David Mallows's findings for more details about employment and family status within the subpopulations and compared to the average adult populations in Grotlüschen, Mallows, Sabatini, Reder (2016).

Conclusions and Recommendations

As a whole, *stereotypes* about the literacy or numeracy Level 1 and below part of the population contain assumptions about how willing and capable this group is with regard to further adult education and training. The answer is the same as in the chapters of the OECD Thematic Report ‘Adults with Low Proficiency’ (Grotlüschen, Mallows, Reder, & Sabatini 2016), even if the picture is more difficult to see. The overall average participation rate is 46%, while the average literacy Level 1 and below participation rate is 31.3%. The assumption that none of the affected would continue to learn is therefore false. Roughly one-third does so, which is much more than those who arrive in literacy provision.

Provision is often focused around the *domain* of reading and writing. But participation in adult education within this group often focuses on how to handle machines, vehicles or techniques, care for safety regulations or how to use the most recent healthcare approaches. Language and literacy are not the reasons why people attend these seminars, and national strategies should focus on overall participation in adult education, not on literacy provision only.

In the case where lifelong learning is accepted as an appropriate strategy for adopting changes in technology and globalisation, countries often raise awareness by *benchmarking* participation rates they want to reach. By benchmarking overall participation rates one could also create benchmarks for the low literate or numerate, for example, to reach at least the international average in participation. If more than 30% of the subgroup participates in adult learning, and another 17% wanted to but did not start, the range between those two figures is the area where benchmarks could be placed. It could be interesting to collect benchmarks throughout the participating countries.¹⁰

Formal learning, non-formal learning and learning strategies are – on average – positively associated with *proficiency* with small positive effect sizes, indicating that the more proficient enter adult education and preserve or improve their skills. The question as to whether adult education and training provision can influence proficiency has to be addressed with longitudinal data. But from the PIAAC data it is already clear that the contemporary approaches’ impact does not exceed a few points on the PIAAC scale. Countries have to look carefully at their training provision and continue to improve access to formal and non-formal training as well as its quality. The latter also raises the question of professional adult education trainers and their payment.

Informal learning at work, which is less selective than other forms, could be used as a starting point for more strategic pathways for upskilling; new combinations of informal access and pathways to more formal, broadened, long-term and certified further education seem to take the best of both approaches: access via informal learning and efficacy via non-formal and formal learning.

¹⁰ Lisbon program benchmark (12% participation rate in the last 4 weeks according to Lifelong Learning ad hoc module), the High Level Group of Literacy Experts (maximum of 15% share of the population performing on Level I and below) or benchmarks based on the AES (German average aim: 50% participation rate in the last 12 months and 30% average within the low educated).

General information about lifelong learning at the end of *compulsory school* could be of vital importance as this is the last stage where ‘those out of reach’ can be reached systematically. This might also mean that either teacher education should include knowledge about lifelong learning opportunities or that guidance institutions that can be visited in the last school year should be available.

Employment requires and fosters non-formal learning, and it is also a barrier because of a lack of time. The findings point to a large demand for training but that is hindered by time constraints and costliness. Overall, workplace requirements drive people to upskill, and at the same time being busy at the workplace prevents people from finding the time to upskill. This *paradox* holds throughout domains and levels.

In the case where work requires learning, the Level 1 and below group seems to match it, perhaps because the skills available are not enough to meet job demands. Still the number of non-learning employees at literacy Level 1 and below seems remarkable. This may be caused by jobs with very low requirements and therefore by the risk for the workforce to lose skills by not using them. *Exposure* to demanding tasks is a relevant motivator for both informal and non-formal learning.

Last, but not least, *learning strategies* show that literacy Level 1 and below groups do have a considerable set of strategies for ‘getting by’, but the extent of their use is not as large as among the more proficient adults, and they do not lead to course participation. If learning strategies are agreed as an important part of lifelong learning activity, policy makers and practitioners could take into consideration explicitly teaching these strategies and raising awareness of them.

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BESEDILNE SPRETNOSTI NA RAVNI 1 IN POD NJO PROTI BESEDILNIM SPRETNOSTIM NA RAVNI 4 IN NAD NJO – MEDNARODNI REZULTATI O UDELEŽBI V IZOBRAŽEVANJU ODRASLIH

Povzetek: Besedilne spretnosti, kot jih definira Program za mednarodno ocenjevanje kompetenc odraslih (PIAAC), se delijo v več ravni (OECD 2013). To omogoča primerjanje dosežkov odraslih, ki pri besedilnih spretnostih dosegajo rezultate na ravni 1 in pod njo, s tistimi, ki dosegajo rezultate na ravni 4 in nad njo. Raziskava PIAAC vsebuje tudi spremenljivke o udeležbi v izobraževanju odraslih. Rezultati kažejo, kako so vrsta izobraževanja oziroma usposabljanja, vrsta zaposlitve (monotonost) in vrsta učenja (formalno, neformalno, priložnostno ali le pripravljeno na učenje) povezane z udeležbo v izobraževanju odraslih. Večina rezultatov potrjuje »Matejev učinek« na delež udeležencev v izobraževanju, ne pa tudi na število ur usposabljanja. Podatki kažejo, da je več ur usposabljanja namenjenih podskupinam z nižjimi ravnmi besedilnih spretnosti kot pa tistim z višjimi. Med ovirami za usposabljanje so visoke cene in pomanjkanje časa, mnogi anketiranci pa so omenjali usposabljanje, ki so se ga želeli udeležiti, pa se ga zaradi določenega razloga niso. Ugotovitve tako nakazujejo na paradoks zaposlovanja kot najpomembnejšega razloga za usposabljanje in hkrati kot najpomembnejše ovire na poti do usposabljanja. Kazalec učnih strategij dokazuje, da so se ljudje pripravljeno učiti, a se po drugi strani ne vključujejo v izobraževanje odraslih, da bi to uresničili. V splošnem se izobraževanja in usposabljanja odraslih udeležuje približno tretjina manj pismene populacije.

Ključne besede: besedilna pismenost, PIAAC

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