Horizon Europe

D2.3 Literature review & report on literacy and other skills

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1. Introduction

This report focuses on the second work package of the iRead4Skills project relative to the overall skills and gaps survey (needs, skills and gaps). The aim of this work package is to study the link between literacy skills, on the one hand, and other skills and working life, on the other hand. To determine how the relation between literacy skills and other skills is established, we carried out a literature review. We also used the findings from a survey conducted specifically for this purpose. We surveyed people who have gone through training centres, including all types of associations that help people to improve their literacy skills, a few months after their stay in these centres. Thanks to this survey we can see what impact this reading training has had on their literacy skills, their other skills and professional situation.

The report is structured as follows: the second part presents a literature review on reading skills and their links with other skills. The third part describes the survey results, and the final part concludes.

2. Literature review

In the framework of the iRead4Skills project, two other big international projects must be taken into account: PIAAC, conducted by OECD, and ESJS, conducted by Cedefop. First, some explanations on both projects will be provided. Then, we have directly extracted from the internet the most relevant publications in relation with these projects. Moreover, we will present a series of scientific articles related to the topic of iRead4Skills. All the references presented have of course been the subject of an Internet screening and were directly extracted from the Internet. The documents presented below do not represent an exhaustive selection. We judged that they were the most appropriate for a literature review on our subject at the end of 2023.

2.1. Two international projects

2.1.1 PIAAC (Programme for the International Assessment of Adult Competencies**)**[1]

The Programme for the International Assessment of Adult Competencies (PIAAC) is a programme of assessment and analysis of adult skills. The major survey conducted as part of PIAAC is the Survey of Adult Skills. The Survey measures adults' proficiency in key information-processing skills - literacy, numeracy and problem solving - and gathers information and data on how adults use their skills at home, at work and in the wider community.

This international survey is conducted in over 40 countries/economies and measures the key cognitive and workplace skills needed for individuals to participate in society and for economies to prosper. The evidence from the Survey has helped countries better understand how education and training systems can nurture these skills.

The Survey is administered every 10 years and has had two cycles so far. In the first cycle, there were three rounds of data collection, between 2011-2018. In 2018, the second cycle of the survey has begun, with results for this cycle to be published in 2024.

The Survey is implemented by interviewing adults aged 16 to 65 in their homes (5 000 individuals in each participating country), answering questions via computer, although the Survey can also be implemented via pencil-and-paper, assessing literacy and numeracy skills and the ability to solve problems in technology-rich environments, collecting a broad range of information, including how skills are used at work and in other contexts, such as the home and the community.

The Survey is designed to be valid cross-culturally and internationally, for countries to be able to administer the survey in their national languages and still obtain comparable results, to provide comparative analysis of skill-formation systems and their outcomes, and international benchmarking regarding adult skills and as a survey that will be repeated over time to allow policy makers to monitor the development of key aspects of human capital in their countries.

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[1] Source: https://www.oecd.org/skills/piaac/

The PIAAC 1st Cycle knew 3 rounds with the following dates and countries.

- Round 1 (2011-2012): Australia, Austria, Belgium (Flanders), Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, Russian Federation, Slovak Republic, Spain, Sweden, United Kingdom (England and Northern Ireland), United States.

- Round 2 (2014-2015): Chile, Greece, Indonesia, Israel, Lithuania, New Zealand, Singapore, Slovenia, Turkey.

- Round 3 (2017): Ecuador, Hungary, Kazakhstan, Mexico, Peru, United States.

The PIAAC 2nd Cycle knew a single round (2022-2023) with the following countries: Austria, Belgium (Flanders), Canada, Chile, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Netherlands, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom (England), United States. A new round of data collection during the Second Cycle is planned to be implemented in 2024-2029.

Data from the Survey of Adult Skills allows investigation of the links between key information-processing skills and a range of variables, constituting a rich evidence base for policy-relevant analysis. In particular, data from this survey facilitates a better understanding of performance of education and training systems, the extent and dimensions of illiteracy and poor literacy, gaps between labour markets and education and training, equity levels in access to education and intergenerational mobility, young people's transition from education to work, identification of at-risk populations and links between key cognitive skills and variables, such as demographics, educational background, health, etc.

The PIAAC background questionnaire includes a range of information regarding the factors which influence the development and maintenance of skills such as education, social background, engagement with literacy and numeracy and ICT, languages, as well as information on outcomes which may be related to skills. Information is collected on the current activity of respondents, employment status and income. In terms of non-economic outcomes, PIAAC includes questions on health status, volunteering, political efficacy, and social trust. For the Second Cycle two additional components have been added: Socio-emotional Skills and Quality of Work Environment. These will aid in furthering our understanding of the respondents and in enriching the questionnaire.

The Survey of Adult Skills uses an innovative "job-requirements approach" to ask adults who are employed about a number of generic skills they use in the workplace. The survey asks adults how intensively and how frequently they use these skills at work.

Information is also collected about four broad categories of generic work skills: cognitive skills, interaction and social skills, physical skills, and learning skills.

Along with cognitive skills, social and emotional skills are commonly identified as an element of the set of 'key competencies' required for success in the labour market and in life more generally and feature prominently in international and national frameworks setting out objectives for skills development and the learning outcomes expected of education and training systems. Since social and emotional skills display

elements of continuity and elements of change over time and with age, this module tries to assess the extent to which these types of skills feature in the public and official discourse regarding skills, skills development and the desired learning outcomes of education and training systems.

The Direct-Assessment component of the survey evaluates the skills of adults in three fundamental domains. These are considered to constitute "key" information processing skills in the sense that they provide a foundation for the development of other, higher-order, cognitive skills and are prerequisites for gaining access to and understanding of specific domains of knowledge. In addition, these skills are necessary in a broad range of contexts, from education, through work, to everyday life.

Here are the most important publications in relation with the PIAAC project. A short summary of each publication is provided.

Gender, Education and Skills: The Persistence of Gender Gaps in Education and Skills

(https://www.oecd.org/skills/piaac/publications/workingpapers/Gender_Education_and_Skills.pdf)

The 2023 Gender, Education and Skills Report on the persistence of gender gaps in education and skills presents fresh insights on progress towards gender equality in education. The report tries to understand why teen boys are more likely than girls, on average, to fail to attain a baseline level of proficiency in reading, mathematics and science, and why high-performing girls do not continue investing in developing skills in areas such as mathematics and science, when compared to high-performing boys. The report also describes that, despite overall gender gaps in mathematics and science being quite small, young women continue to be under-represented in STEM-related fields after leaving school. These career choices are also reflected in gender disparities in the labour market: tertiary-educated women earn 76% of the earnings of their male peers. This could be possible because men are more likely than women to pursue studies in fields associated with higher earnings, such as engineering, manufacturing and construction, and ICT, while women still choose fields associated with lower earnings, including education, welfare, and arts and humanities.

(from https://www.oecd-ilibrary.org/education/gender-education-and-skills_34680dd5-en)

Skills in Latin America: Insights from the Survey of Adult Skills (PIAAC)

(https://www.oecd.org/skills/piaac/publications/workingpapers/Skills_in_Latin_America_Insights_from_the_Survey_of_Adult_Skills_(PIAAC).pdf)

Human capital is a key determinant of success for individuals and economies alike. Literacy and numeracy are key foundations for higher-order cognitive skills, while solving problems in technology-rich environments is increasingly important, as information and communications technology (ICT) spreads into all aspects of life. Despite remarkable recent increases in enrolment and educational attainment, the countries of Latin America lag in skills development among both secondary school students and the wider adult population. Young adults are still struggling in the labour market, while employers report skill shortages are a barrier to business. As countries in the region seek to shift their economies into higher value-added activities to escape the "middle-income trap", they will need to improve the skills of their working-age population across the board. This report explores the situation of youth and adults in Latin America by using data from the Survey of Adult Skills (PIAAC) from Chile, Ecuador, Mexico and Peru and the Programme for International Student Assessment (PISA) from Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Mexico, Panama, Peru and Uruguay. These data have been supplemented by results from the World Bank STEP survey of adults living in urban areas of Bolivia and Colombia.

(from https://www.oecd-ilibrary.org/education/skills-in-latin-america_5ab893f0-en)

PIAAC Bibliography - 2008-2022 (GESIS Papers, 2023/04)

(https://www.ssoar.info/ssoar/handle/document/85816)

The present bibliography provides an overview of literature and data publications relating to the Programme for the International Assessment of Adult Competencies (PIAAC). Initiated by the Organisation for Economic Co-operation and Development (OECD), PIAAC assesses key cognitive skills (e.g., literacy and numeracy) and workplace skills of the adult population in over 40 countries.
The PIAAC Bibliography is a compilation of scientific publications relating to PIAAC. It includes (a) publications regarding the conceptual framework of the skill domains assessed in PIAAC; (b) publications of research results based on PIAAC data; (c) publications relating to the technical conception of the main study and/or follow-up studies; and (c) published PIAAC data files.
Since the first data release in 2013 the number of publications has constantly increased. The PIAAC Bibliography 2023 comprises 986 publications and 77 data sets (and 15 technical documents).

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Improving the collection of information on literacy proficiency in household surveys (Education Working Papers, No. 240)

(https://www.oecd-ilibrary.org/education/improving-the-collection-of-information-on-literacy-proficiency-in-household-surveys_d02155e2-en)

In the vast majority of the world's countries, information on the literacy proficiency of the adult population is collected through census collections, labour force surveys or through omnibus household surveys. These commonly use simple measures: respondents' reports of their own or other household members' capacity to read and write or the capacity of the respondent to accurately read aloud a short sentence.

While there is a justified interest in the use of assessments to collect information regarding literacy proficiency, household surveys using simple measures will continue to be a primary source of data on literacy in many countries for some time. Improvement of the quality of simple measures should, therefore, be a priority. Three main avenues for improvement are identified: greater clarity regarding the concepts being measured, the development of improved simple direct assessments of literacy proficiency and encouragement for the use of a common set of instruments and questions.

(from https://www.oecd.org/education/improving-the-collection-of-information-on-literacy-proficiency-in-household-surveys-d02155e2-en.htm)

Assessing adults' skills on a global scale : A joint analysis of results from PIAAC and STEP (Education Working Papers, No. 230)

(https://www.oecd-ilibrary.org/education/assessing-adults-skills-on-a-global-scale_ae2f95d5-en)

This paper illustrates similarities and differences between two international surveys that assess adults' skills: the Programme for the International Assessment of Adult Competencies (PIAAC) and the Skills Towards Employment and Productivity (STEP) survey. In particular, the paper highlights the issues that can arise for researchers interested to jointly analyse the data from the two surveys and to compare their results.

The paper finds that, in spite of the many similarities, important differences exist between PIAAC and STEP, both in the way the data are collected, and in the way the proficiency of respondents is estimated. These issues can indeed affect the cross-country comparability of results from the two surveys. There is instead little evidence that the literacy assessment used in the two surveys is not adequate to form a basis for a valid assessment of adults' proficiency on a global scale.

(from https://www.oecd-ilibrary.org/education/assessing-adults-skills-on-a-global-scale_ae2f95d5-en)

PIAAC Thematic Review on Adult Learning (Education Working Papers, No. 223)
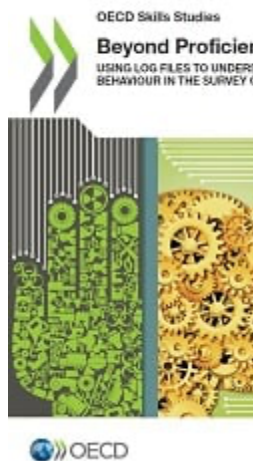
(https://www.oecd-ilibrary.org/education/piaac-thematic-review-on-adult-learning_864d2484-en)

This report focuses on the adult learning data that was collected as part of the OECD Survey of Adult Skills between 2012 and 2016, which has been a core activity of the ongoing OECD Programme for the International Assessment of Adult Competencies (PIAAC). The objectives are: to present the data on adult learning made available by PIAAC; to provide an international and comparative overview of the extent of adult learning of different types along with trends, where possible, for countries and economies that have so far participated in PIAAC; to reveal international and comparative patterns on the distribution of adult learning within participating countries and economies, focusing on who is and who is not participating in terms of the types of jobs they work in as well as their socio-demographic profile; to assess empirically the relationship between some types of adult learning and economic as well as social outcomes; to discuss systemic features of adult learning systems and their relationship with selected economic and social policy instruments; and to draw out implications of the results in relation to the continued measurement of adult learning.

(from https://www.oecd-ilibrary.org/education/piaac-thematic-review-on-adult-learning_864d2484-en)

Beyond Proficiency - Using Log files to understand respondent behaviour in the Survey of Adult Skills

(https://read.oecd-ilibrary.org/education/beyond-proficiency_0b1414ed-en#page1)

Computer-based administration of large-scale assessments makes it possible to collect a rich set of information on test takers, through analysis of the log files recording interactions between the computer interface and the server. This report examines timing and engagement indicators from the Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), both of which indicate large differences across countries and socio-demographic groups, in the amount of time spent by respondents and their levels of disengagement, which reduce the probability of giving a correct answer and consequently reduces measured performance. Such insights can help policy makers, researchers, and educators to better understand respondents' cognitive strategies and the underlying causes of low and high performance. This, in turn, can help improve the design of assessments and lead to more effective training and learning programmes.

(from https://www.piaac.ca/608/INTERNATIONAL.html)
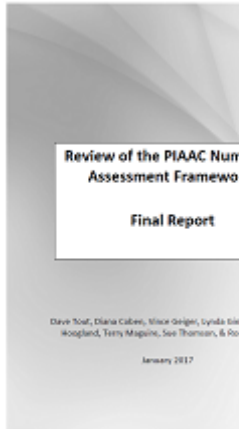
Review of the PIAAC Numeracy Assessment Framework: Final Report (by ACER)

(https://www.oecd.org/skills/piaac/Review%20of%20the%20PIAAC%20Numeracy%20Assessment%20Framework_2017_ACER.pdf)

The Programme for the International Assessment of Adult Competencies (PIAAC) is an international assessment of the proficiency of adults (aged 16-65 years) in key information processing skills (reading, numeracy and problem solving in technology-rich environments). The Survey of Adult Skills has revealed that a considerable number of adults in OECD countries possess only limited literacy and numeracy skills. The OECD is currently reviewing the content of the frameworks and cognitive assessment instruments for the 2nd cycle of PIAAC ready for delivery in 2021-22.

This report is the result of a review of the numeracy construct and assessment in PIAAC. It recommends a range of areas for potential improvements and enhancements, including of the definition and elaborations of adult numeracy used in the framework, and the assessment content. Many of the suggestions arise out of the concern that the existing framework and assessment do not reflect some of the realities of the skills and knowledge adults now need to succeed in work, life and citizenship in the 21st century.

The report also recommends the development of a PIAAC numeracy components assessment, which would have parallel aims to the existing reading components assessment and provide insights into the skills and knowledge of the significant number of adults with low levels of numeracy.

(from https://research.acer.edu.au/transitions_misc/29/)
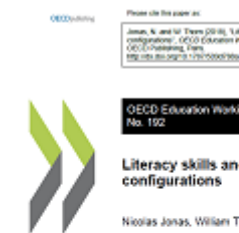
Literacy Skills and Family Configurations (EDU Working Papers No. 192)

(https://read.oecd-ilibrary.org/education/literacy-skills-and-family-configurations_509d788a-en#page1)

This paper studies the links between family configuration and formation on the one hand and adult literacy skills on the other by analysing data from the Programme for the International Assessment of Adult Competencies (PIAAC), a survey of 250 000 people aged 16 to 65 conducted by the OECD in 33 countries and economies. Literacy proficiency has an effect on many aspects of the formation and development of families, such as age of parents at birth of first child, or age of partners at cohabitation, even when educational attainment and age are taken into account. Moreover, having children and living with a partner have consequences for adults' job opportunities and participation in the labour market, which can be particularly negative for the women with the highest literacy proficiency.

(from https://www.oecd-ilibrary.org/education/literacy-skills-and-family-configurations_509d788a-en)

Interviewers, Test-taking Conditions and the Quality of the PIAAC Assessment (Education Working Papers, No. 191)

(https://read.oecd-ilibrary.org/education/interviewers-test-taking-conditions-and-the-quality-of-the-piaac-assessment_5babb087-en#page1)

This paper explores the impact of test-taking conditions on the quality of the Programme for the International Assessment of Adult Competencies (PIAAC) assessment. Interviewers record information about the room of assessment and interruptions that occurred during each interview. These observations, along with information on interviewer assignment size and a careful look at interviewer effects, provide insights into the quality of the assessment. This working paper first describes the variations in test-taking conditions among participating countries. Second, it examines interviewer assignment sizes and the frequency of interruptions, finding that both vary markedly among countries (contrary to the room of assessment). The paper then looks at the relationship between these variations and response rates and engagement measures. While neither the room of assessment nor the recorded interruptions impact quality differences among countries, interviewer assignment size and interviewer effects may have a mild impact on results.

(from https://www.oecd-ilibrary.org/education/interviewers-test-taking-conditions-and-the-quality-of-the-piaac-assessment_5babb087-en)

Highlights from the U.S. PIAAC Survey of Incarcerated Adults: Their Skills, Work Experience, Education, and Training

(https://nces.ed.gov/pubs2016/2016040.pdf)

This report provides information on skills and competencies of the incarcerated adults, comparing to that of adults in U.S. households. The report also reported on the extent of inmates' participation in formal education, empowerment classes (such as parenting or personal finance management), and job training programs.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Skills on the Move: Migrants in the Survey of Adult Skills

(https://read.oecd-ilibrary.org/education/skills-on-the-move_9789264307353-en#page1)

Migration has been at the centre of political debate across the OECD in recent years. This report provides new evidence based on PIAAC data on differences in migrants' characteristics and considers how these relate to the skills migrants possess. It also examines the relationship between migrants' skills and their labour and non-labour market outcomes in host countries. Finally, it sheds new light on how migrants' skills are developed, used and valued in host country labour markets and societies.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Small Area Estimation Research (by Westat)

(https://www.oecd.org/skills/piaac/publications/workingpapers/PIAACSAEInitialResearchReport10Sept2018.pdf)

The Programme for the International Assessment of Adult Competencies (PIAAC) sample is designed to produce internationally comparable and nationally representative direct estimates (based solely on survey data) with adequate levels of precision for the nations as a whole and for major population subgroups. However, the Organisation for Economic Cooperation and Development (OECD), and several of the participating countries in Cycle 1 of PIAAC, have expressed interest in using PIAAC data to create proficiency estimates for local areas where PIAAC sample size is too small (or equal to zero) to produce any direct estimates. Small area estimation (SAE) methods facilitate the estimation of the proficiency distribution in subpopulations not initially targeted in large scale surveys. This paper summarizes the research results from applying SAE methods using PIAAC data from five countries that participated in Cycle 1, with various core national sample designs.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Numeracy Practices and Numeracy Skills among Adults (Education Working Papers, No. 177)
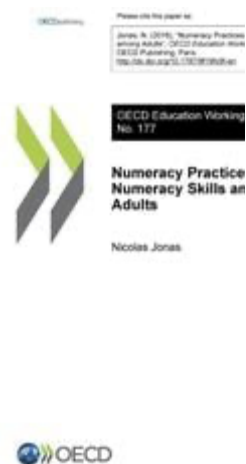
(https://read.oecd-ilibrary.org/education/numeracy-practices-and-numeracy-skills-among-adults_8f19fc9f-en#page1)

The paper assesses the relationship between numeracy skills and numeracy practices among adults in everyday life and at work from the Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), an international survey of about 250 000 adults aged 16-65 years old conducted by the OECD in 33 countries/economies. The level of proficiency and the intensity of engagement in numeracy practices are two embedded aspects of numeracy. Proficient adults use numeracy frequently and adults who regularly engage in numeracy practices improve their performance. Individual and contextual factors influence, in different ways across countries, the

strength of these links. The intensity of the use of numeracy in everyday life decreases as the lapse of time since a person's studies increases. Moreover, employed people engage in mathematical activities less in the private setting if they do not do so intensively in the workplace.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Skills for the 21st century: findings and policy lessons from the OECD Survey of Adult Skills (Education Working Papers, No. 166)

(https://read.oecd-ilibrary.org/education/skills-for-the-21st-century_96e69229-en#page1)

The OECD Survey of Adult Skills is the jewel in the crown of its Programme for the International Assessment of Adult Competencies (PIAAC). This paper argues that the findings and policy lessons from the project to date justify the high hopes which were placed in PIAAC when detailed planning for the project began in 2003. First, it presents a brief recap of PIAAC and its two predecessor international skills surveys. Second, it outlines the main themes which have been investigated to date using data from PIAAC. Third, the main findings and policy lessons drawn from PIAAC are highlighted. Finally, looking forward to the second cycle of PIAAC, for which planning is now underway, the paper suggests some priority areas for improvement to the survey design in order to add to its analytical usefulness and enhance its utility to policy makers.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Association between literacy and self-rated poor health in 33 high- and upper-middle-income countries (Education Working Papers, No. 165)

(https://read.oecd-ilibrary.org/education/association-between-literacy-and-self-rated-poor-health-in-33-high-and-upper-middle-income-countries_7aaeac27-en#page1)

The authors assess the relationship between general literacy skills and health status by analysing data from the PIAAC, an international survey of about 250 000 adults aged 16-65 years conducted by the OECD from 2011-15 in 33 countries/national sub-regions. Across countries, there seems to be a strong and consistent association between general literacy proficiency and self-rated poor health, independent of prior socio-economic status and income. General literacy proficiency also appears to be a mediator of the association between self-education and self-rated poor health. While the literacy-health association is robust over time, it varies in magnitude across countries. It is strongest for those with a tertiary or higher degree and does not appear to exist among young adults (ages 25 to 34 years). Future studies are required to understand the contextual factors that modify the general literacy proficiency-health association.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

How returns to skills depend on formal qualifications - Evidence from PIAAC (Education Working Papers, No. 163)

(https://read.oecd-ilibrary.org/education/how-returns-to-skills-depend-on-formal-qualifications_332a43d7-en#page1)

Using PIAAC (Programme for the International Assessment of Adult Competencies) data for 21 countries, the paper studies interrelationships between formal qualifications, cognitive skills, and labour market outcomes, focusing on comparisons between less and intermediate-educated adults (i.e., between adults with a degree below the upper secondary and at the upper secondary level). Less-educated adults tend to have lower cognitive skills than intermediate-educated adults, yet both groups are internally heterogeneous. In country-specific individual-level regressions, cognitive skills partly explain the lower occupational status of less-educated adults, but cross-national variation in their disadvantage remains substantial after accounting for skills.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Personality matters: relevance and assessment of personality characteristics (Education Working Papers, No. 157)

(https://read.oecd-ilibrary.org/education/personality-matters_8a294376-en#page1)

This paper reviews the scientific literature covering a wide range of personality characteristics, discussing their conceptualisations and main features, their relevance for important outcomes in life and work, and the chief ways they are measured. It aims to provide a comprehensive overview of various attributes of personality from the perspective of their potential importance for the Survey of Adult Skills (PIAAC), taking into account their analytical potential and policy relevance. The paper also outlines and evaluates the most important measurement instruments for each personality characteristic, with a focus on short self-report scales as the most appropriate form for inclusion in large-scale international surveys. Finally, it presents some considerations related to the evaluation and promotion of personality characteristics and introduces the substantive and measurement criteria that could be used to select the personality attributes, and related measurement scales, to include in large-scale surveys.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Adaptive problem solving: Moving Towards a New Assessment Domain in the Second Cycle of PIAAC (Education Working Papers, No. 156)

(https://read.oecd-ilibrary.org/education/adaptive-problem-solving_90fde2f4-en#page1)

The set of skills that is required to be a successful citizen in the 21st century is rapidly evolving. New technologies and social systems grow increasingly complex and require individuals to quickly and flexibly adapt to new and changing circumstances. This paper outlines the key features of the domain of adaptive problem solving that is proposed to be assessed in the 2nd cycle of the OECD Survey of Adult Skills (PIAAC) in addition to the domains of numeracy and literacy. Adaptive problem solving is considered to be a crucial 21st century skill that combines cognitive and meta-cognitive processes. The paper develops a definition of adaptive problem-solving building on relevant work in cognitive psychology and cognitive science, introduces its covariates and preconditions, discusses relevant assessment principles, and provides insights on the relevance of adaptive problem solving for labour markets and social integration.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Youth in Transition: How do some of the cohorts participating in PISA fare in PIAAC? (Education Working Papers, No. 155)

(https://read.oecd-ilibrary.org/education/youth-in-transition_51479ec2-en   -page1)

This paper uses data from PISA and the OECD Survey of Adult Skills (PIAAC) to examine the evolution of socio-economic and gender disparities in literacy and numeracy proficiency between the ages of 15 and 27 in the sample of countries that took part in both studies.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Measurement Properties of Non-cognitive Scales in the Polish Follow-up Study on PIAAC (POSTPIAAC) (Education Working Papers, No. 149)

(https://read.oecd-ilibrary.org/education/measurement-properties-of-non-cognitive-scales-in-the-polish-follow-up-study-on-piaac-postpiaac_c533e448-en#page1)

There is a growing literature providing evidence that not only cognitive skills, but also non-cognitive skills are important for economic and social outcomes. This paper assesses the measurement properties of the Big Five and Grit scales in a large representative sample of adults in Poland. The data from the Polish Follow-up Study on the Programme for International Assessment of Adult Competencies

(post PIAAC) include longitudinal information on PIAAC respondents in Poland and additional background information not available in the international study.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Analysing Adult's Skills: Proceedings of the 2nd International PIAAC Conference (Haarlem, 2015)

(https://www.oecd.org/skills/piaac/PDF%20for%20web%20Analysing%20Adults'%20Skills.pdf)

This volume collects a selection of papers from the 2nd PIAAC International conference, jointly organised by the OECD and the Dutch Government in November 2015 in Haarlem, the Netherlands. The three papers collected in this volume represent the work of scholars who were invited to present their work in the plenary session of the conference. The authors are all renowned scholars in their respective fields. Each of the papers represents an important contribution to the better understanding of issues of labour market and education policy that are at the centre of the policy concerns of many governments.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)
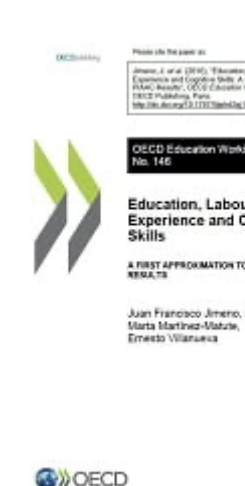
Education, Labour Market Experience and Cognitive Skills (Education Working Papers, No. 146)

(https://read.oecd-ilibrary.org/education/education-labour-market-experience-and-cognitive-skills_5jlphd2qj19n-en#page1)

This paper examines how formal education and experience in the labour market correlate with measures of human capital available in The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). The findings are consistent with the notion that, in producing human capital, work experience substitutes formal education at the bottom of the schooling distribution. First, the number of years of working experience correlates with literacy proficiency only among low-educated individuals. Secondly, low-educated workers who only perform simple tasks on their jobs (calculating percentages or reading emails) do better in numeracy and literacy tests than similar employees who did not perform those tasks. Thirdly, workers in jobs intensive in numeric tasks perform relatively better in the numeracy section of the PIAAC test than in the literacy part. Overall, our results

suggest that the contribution of on-the-job learning to skill formation is about a third of that of compulsory schooling in most of the countries that participated in PIAAC.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Ageing and Literacy Skills (Education Working Papers, No. 145)

(https://read.oecd-ilibrary.org/education/ageing-and-literacy-skills_5jlphd2twps1-en#page1)
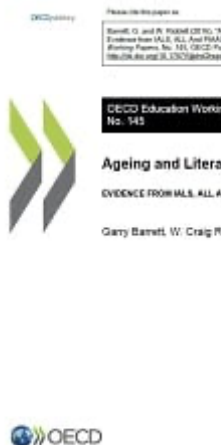
This paper examines the relationship between age and literacy using data from the International Adult Literacy Survey (IALS), the Adult Literacy and Life Skills Survey (ALL) and The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). A negative partial relationship between literacy and age exists with literacy declining with age, especially after age 45. However, this relationship could reflect some combination of age and birth cohort effects. The analysis shows that in most participating countries the negative literacy-age profile observed in cross-sectional data arises from offsetting ageing and cohort effects. With some exceptions, more recent birth cohorts have lower levels of literacy and individuals from a given birth cohort lose literacy skills after they leave school at a rate greater than indicated by cross-sectional estimates. The results for birth cohort suggest that there is not a general tendency for literacy skills to decline from one generation to the next, but that the majority of the countries examined are doing a poorer job of developing literacy skills in successive generations.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

"Graduate Jobs" in OECD countries: Analysis Using A New Indicator Based on High Skills Use (Education Working Papers, No. 144)

(https://read.oecd-ilibrary.org/education/graduate-jobs-in-oecd-countries_5jlphd30vdr0-en#page1)

A recurring issue for education policymakers is the labour market effect of the long-term global mass expansion of higher education, particularly on what is a "graduate job". The traditional assumption is that graduate jobs are virtually coterminous with professional and managerial occupations. A new indicator of graduate jobs, termed ISCO (HE)2008, is derived using task-based data drawn from the Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). The new classification shows that several jobs in ISCO major group 3 "Technicians and Associate Professionals" are also classed as graduate jobs in many countries. Altogether, 27.6% of jobs are classified as graduate jobs in the 15 OECD country-regions for which we have data. Considerable variation in the proportion of graduate jobs is found across industries and countries and in the short period from 2011 to 2013, the proportion of graduate jobs has become more diverse across countries.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)
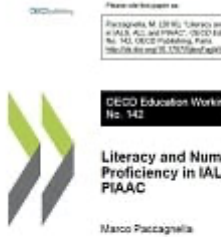
Literacy and Numeracy Proficiency in IALS, ALL and PIAAC (Education Working Papers, No. 142)

(https://read.oecd-ilibrary.org/education/literacy-and-numeracy-proficiency-in-ials-all-and-piaac_5jlpq7qglx5g-en#page1)

This paper analyses proficiency in literacy and numeracy in the countries that have participated in the International Adult Literacy Survey (IALS, administered between 1994 and 1998), the Adult Literacy and Life Skills Survey (ALL, administered between 2003 and 2007) and the Survey of Adult Skills (PIAAC, administered in 2012). While many countries experienced small to modest changes in literacy proficiency between IALS and PIAAC, others saw sizeable variations, mostly on the negative side.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Returns to ICT Skills (Education Working Papers, No. 134)

(https://read.oecd-ilibrary.org/education/returns-to-itc-skills_5jlzfl2p5rzq-en#page1)

How important is mastering information and communication technologies (ICT) in modern labour markets? We present the first evidence on this question, drawing on unique data that provide internationally comparable information on ICT skills in 19 countries from the OECD Programme for the International Assessment of Adult Competencies (PIAAC). Our identification strategy relies on the idea that Internet access is important in the formation of ICT skills, and we implement instrumental-variable models that leverage exogenous variation in Internet availability across countries and across German municipalities. ICT skills are substantially rewarded in the labour market: returns are at 8% for a one standard- deviation increase in ICT skills in the international analysis and are almost twice as large in Germany. Placebo estimations show that exogenous Internet availability cannot explain numeracy or literacy skills, suggesting that our identifying variation is independent of a person's general ability. Our results further suggest that the proliferation of computers complements workers in executing abstract tasks that require ICT skills.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Test-taking engagement in PIAAC (Education Working Papers, No. 133)

(https://read.oecd-ilibrary.org/education/test-taking-engagement-in-piaac_5jlzfl6fhxs2-en#page1)

In this study, we investigated how empirical indicators of test-taking engagement can be defined, empirically validated, and used to describe group differences in the context of the Programme of International Assessment of Adult Competences (PIAAC). The approach was to distinguish between disengaged and engaged response behaviour by means of response time thresholds.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Age, ageing and skills: Results from the Survey of Adult Skills (Education Working Papers, No. 132)

(https://read.oecd-ilibrary.org/education/age-ageing-and-skills_5jm0q1n38lvc-en#page1)

This paper presents a comprehensive analysis of the link between age and proficiency in information-processing skills, based on information drawn from the Survey of Adult Skills (PIAAC). The data reveal significant age-related differences in proficiencies, strongly suggesting that proficiency tends to "naturally" decline with age. Age differences in proficiency are, at first sight, substantial. On average across the OECD countries participating in PIAAC, adults aged 55 to 65 score some 30 points less than adults aged 25 to 34 on the PIAAC literacy scale, which is only slightly smaller than the score point difference between tertiary educated and less-than-upper-secondary educated individuals. However, despite their lower levels of proficiency, older individuals do not seem to suffer in terms of labour market outcomes. In particular, they generally earn higher wages, and much of the available empirical evidence suggests that they are not less productive than younger workers. Older and more experienced individuals seem therefore able to compensate the decline in information processing skills with the development of other skills, generally much more difficult to measure. On the other hand, proficiency in information-processing skills remain a strong determinant of important outcomes at all ages: this makes it important to better understand which factors are the most effective in preventing such age-related decline in proficiency, which does not occur to the same extent in all countries and for all individuals.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Adults with low proficiency in literacy or numeracy (Education Working Papers, No. 131)

(https://read.oecd-ilibrary.org/education/adults-with-low-proficiency-in-literacy-or-numeracy_5jm0v44bnmnx-en#page1)

This report offers a comprehensive analysis of the information from the Survey of Adult Skills (PIAAC) regarding adults with low literacy and numeracy proficiency. The report describes the demographic and socio-economic characteristics of these populations and explores the frequency with which they engage in the reading, writing and numeracy practices. Levels of engagement in these literacy practices are then related with a number of social and economic outcomes. Performance on the simple reading tasks (the so called "reading components") of adults with low proficiency is also analysed as well as their participation rates in formal or non-formal adult education or training programmes.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

The effects of vocational education on adult skills and wages (Social, Employment and Migration Working Papers, No. 168)

(https://read.oecd-ilibrary.org/social-issues-migration-health/the-effects-of-vocational-education-on-adult-skills-and-wages_5jrxfmjvw9bt-en#page1)

Vocational education and training are highly valued by many. The European Ministers for Vocational Education and Training, the European Social Partners and the European Commission have issued in 2010 the Bruges Communiqué, which describes the global vision for VET in Europe 2020. In this vision, vocational skills and competencies are considered as important as academic skills and competencies. VET is expected to play an important role in achieving two Europe 2020 headline targets set in the education field: a) reduce the rate of early school leavers from education to less than 10 percent; b) increase the share of 30 to 40 years old having completed tertiary or equivalent education to at least 40 percent. However, there is limited hard evidence that VET can improve education and labour market outcomes. The few existing studies yield mixed results partly due to differences in the structure and quality of VET across countries.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

The causes and consequences of field-of-study mismatch: An analysis using PIAAC (Social, Employment and Migration Working Papers, No. 167)

(https://read.oecd-ilibrary.org/social-issues-migration-health/the-causes-and-consequences-of-field-of-study-mismatch_5jrxm4dhv9r2-en#page1)

Field-of-study mismatch occurs when workers educated in a particular field work in another. It is conceptually distinct from qualifications or skills mismatch, although a part of qualifications and skills mismatch results from graduates from a particular field having to downgrade to find work in another field. Some studies have identified labour market dynamics related to field-of-study mismatch, but few (if any) have sought to directly understand the interplay between labour supply factors (the types of skills brought to the workplace) and the labour demand factors (the types of skills demanded by employers) in field-of-study mismatch. Using data from the Programme for International Assessment of Adult Competencies' Survey of Adult Skills (PIAAC), this paper shows that although students may choose to specialise in a particular field, it is not solely up to them to actually work in that field.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

Working and learning: A diversity of patterns (Social, Employment and Migration Working Papers, No. 169)

(https://read.oecd-ilibrary.org/social-issues-migration-health/working-and-learning-a-diversity-of-patterns_5jrw4bz6hl43-en#page1)

The combination of work and study has been hailed as crucial to ensure that youth develop the skills required on the labour market so that transitions from school to work are shorter and smoother. This paper fills an important gap in availability of internationally comparable data. Using the 2012 Survey of Adult Skills (PIAAC), it draws a comprehensive picture of work and study in 23 countries/regions.

(from https://www.oecd.org/skills/piaac/publications/workingpapers/)

2.1.2 ESJS[2]

The European skills and jobs survey (ESJS) is Cedefop's own periodic EU-wide survey aimed at collecting information on the skill requirements, skill mismatches and initial and continuing learning of adult workers in EU labour markets.

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[2] Source: https://www.cedefop.europa.eu/en/projects/european-skills-and-jobs-survey-esjs-

Carried out in all EU Member States, the ESJS aims to be a valuable resource to inform EU policy development on vocational education and training and particularly the European Skills Agenda[3].

The first wave of the ESJS was carried out in 2014 while its second wave was carried out in 2021.

The ESJS aims to provide robust information from representative samples of adult workers on a set of core variables, including sociodemographic characteristics, job characteristics, job-skill requirements (literacy, numeracy, digital, analytical, manual and interpersonal skills), skill mismatches (vertical; horizontal; mismatches in specific skills; skill gaps and deficits; skill mismatch transitions), initial and continuing vocational education and training participation, labour market outcomes (wages, job insecurity, job satisfaction).

The ESJS aims to provide a flexible survey instrument for extracting timely estimates on issues of significant policy interest, by adding or improving modules in individual waves. A first ESJS wave, carried out in the context of the 2008 Global Financial Crisis, collected comprehensive contextual information about the incidence and reasons underlying the emergence of skill mismatches in EU job markets.

The 2nd ESJS wave aims to inform the policy debate on the impact of new digital technologies and technological change on the future of work and skills, also in the context of the Covid-19 pandemic. The focus of the ESJS2 is on the relationship between technological change, changing job-skill requirements and skill mismatch of EU adult workers and their adaptiveness to such trends via remedial vocational education and training.

Cedefop develops the ESJS instrument primarily with in-house expertise and resources and also in cooperation with technical and policy expert groups, comprised of leading skills experts from EU universities as well as the European Commission (DG EMPL), JRC, Eurofound, OECD and EIB.

Cedefop aims to periodically undertake the ESJS at a regular 5-6-year cycle, to capture structural developments in the bridge between the worlds of work and education.

The 1st ESJS was carried out in 2014 in all EU27 Member States and UK and surveyed about 49,000 adult employees. The survey examines drivers of skill development and the dynamic evolution of skill mismatch of adult employees in relation to changing task complexity and skills requirements of their jobs.
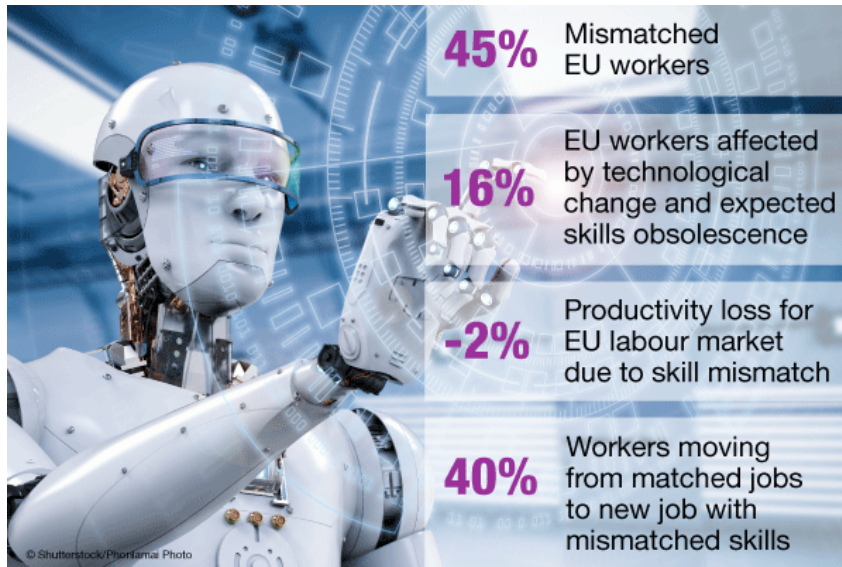
The 1st ESJS collected information on education and skill needs in different occupations and sectors and assessed the extent to which basic, digital and transversal skills of EU workers are valued in the job market. It also investigated the capacity of initial (e.g. work-based learning) and continuing vocational education and training to mitigate skill mismatch.

The 1st ESJS was a valuable resource informing the development of the European Commission's 2016 'New Skills Agenda for Europe'[4].

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[3] https://ec.europa.eu/social/main.jsp?catId=1223

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0381

Here are the key findings of the project:

The 1st ESJS revealed that about 30% of European employees are mismatched in their qualifications and 45% believe that their skills can be better developed or deployed at work. Using ESJS data, it has been estimated that skill mismatch entails, on average, a 2% loss in labour productivity for the EU economy. The survey has therefore highlighted that European policy to mitigate skill mismatch can be conducive to raising the productivity of EU enterprises and improving worker well-being.

The ESJS data has also been used to provide clarity on the impact of different types of skill mismatch. It has facilitated numerous research studies, including the extent to which employees' skills are developed, via non-formal and informal learning, and used in their workplaces over time (skill utilisation); determinants of overeducation and EU workers' skill mismatch transitions; the impact of digitalisation and automation on skill needs of EU workers; the incidence and consequences of the 'digital divide', including gaps in digital and associated skills, for EU labour markets; the labour market reintegration challenges of the long-term unemployed; the gender wage gap in Europe; the determinants of social distancing risk of EU jobs due to the Covid-19 pandemic.

The reports 'Insights into skill shortages and skill mismatch: Learning from Cedefop's European skills and jobs survey'[5] and 'Skills, qualifications and jobs: the making of a perfect match?'[6] contain a comprehensive analysis of the ESJS data and derive key policy messages. A summary flyer 'Matching skills and jobs in Europe'[7] provided a first glimpse into the data.

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[5] http://www.cedefop.europa.eu/en/publications-and-resources/publications/3075

[6] http://www.cedefop.europa.eu/en/publications-and-resources/publications/3072

[7] http://www.cedefop.europa.eu/en/publications-and-resources/publications/8088

The #ESJsurvey Insights[8] are short analytical research pieces that use the data of the Cedefop ESJS to explore issues of contemporary policy importance (e.g. digitalisation and automation, skill gaps and mismatches of EU workforce, challenges for EU Skills Agenda, etc.).

Key statistics and indicators from the ESJS are also available in the Skills Intelligence[9].

Cedefop debated the findings of the ESJS during the high-level conference 'Maximising skills for jobs and jobs for skills'[10] and the policy forum 'Vocational training for the long-term unemployed'[11].

A selected number of peer-reviewed academic studies based on the ESJS data has been published as special Cedefop-IZA issue Vol. 45 'Skill mismatch in labour markets'[12] at the journal *Research in Labor Economics*[13].

To inform the policy debate and vocational education and training (VET) responsiveness to future of work trends, Cedefop has collected a second wave of the European skills and jobs survey (ESJS2). The ESJS2 focuses on the changing skill needs and job tasks of EU workers due to digitalisation and their adaptability to technological change via quality initial and continuing VET.

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[8] http://www.cedefop.europa.eu/en/publications-and-resources/statistics-and-indicators/statistics-and-graphs/esj-survey-insights

[9] https://www.cedefop.europa.eu/en/tools/skills-intelligence

[10] http://www.cedefop.europa.eu/en/publications-and-resources/videos/maximising-skills-jobs-and-jobs-skills-power-partnerships

[11] https://www.cedefop.europa.eu/el/events-and-projects/events/policy-learning-forum-vocational-training-long-term-unemployed

[12] http://www.emeraldinsight.com/doi/book/10.1108/S0147-9121201745

[13] http://www.emeraldinsight.com/series/rlec

The 2nd wave of the European skills and jobs survey[14], carried out in 2021, aims to inform the ongoing policy debate about the impact of digitalisation on the future of jobs and the changing nature of work, as well as heightened concerns about the long-term effect of the Covid-19 crisis on EU digital skill needs and new forms of digital and distance learning. It does so by analysing comparative information from about 46 000 adult employees from all EU Member States plus Norway and Iceland.

Joining forces with the European Training Foundation (ETF), the ESJS2 will be carried out in over 35 countries (EU and EU-periphery) by 2023-24.

The ESJS2 produces new statistics and facilitates timely research on what tasks EU+ workers do in their jobs and the skill needs implied; the exposure of EU+ adult workers to new digital and automating technologies in a cross-country comparative context; the extent of technological change and digitalisation in EU workplaces and its impact on workers' skill needs and skill mismatches and overall job quality; the extent to which EU+ workers are adapting to digitalisation and changing technologies via continuing learning and supportive workplace practices; the degree to which EU+ workers' digital and other skill gaps are impeding their productivity and job performance; structural changes related to the use of digital/remote work and learning and required skills following the Covid-19 crisis.

A high-level ESJS2 conference 'Powering the European digital transition: what can we learn from Cedefop's ESJS2'[15] took place in December 2023.

ESJS2 microdata are not yet publicly available, but here are the principal results of the second wave.

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[14] http://www.cedefop.europa.eu/en/events-and-projects/projects/european-skills-and-jobs-esj-survey

[15] https://www.cedefop.europa.eu/en/events/powering-european-digital-transition

2.2. Some scientific articles

We have selected below several interesting references of articles. These references were simply and directly extracted from the Internet. All Internet links of these articles are given. Once again, this list is not an exhaustive one; it just consists of an arbitrary selection of articles.

[1] Teaching reading comprehension strategies to students with learning disabilities: A review of research (https://journals.sagepub.com/doi/abs/10.3102/00346543071002279)

… We review the body of research on reading comprehension for students with … comprehension difficulties of these students. Next we describe our procedures for reviewing the literature …
(from
https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=dbb9713c7561eeecc1e2e55a02cf7f79a571b8b2)

[2] Impact of ICT on writing and reading skills: a systematic review (2010-2020)
(https://www.scielo.br/j/tl/a/46xqHwvL6msNn3gpF5Gy9rQ/?lang=en)

… The purpose of this work has been to examine scientific literature that investigate the use of ICT in … The purpose of this paper is to carry out a systematic review of the scientific literature…
(from
https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=3b0def8d8fbf81a0d8b616f2607d997109806b21)

[3] The effects of morphological instruction on literacy skills: A systematic review of the literature (https://journals.sagepub.com/doi/abs/10.3102/0034654309359353)

… , this systematic review assesses the evidence for literacy and … Our research questions are the following: (a) What are the … of reading, spelling, vocabulary, and morphological skills? (b) …
(from https://link.springer.com/content/pdf/10.1186/2229-0443-2-1-45.pdf)

[4] Reading comprehension, what we know: A review of research 1995 to 2011
(https://link.springer.com/article/10.1186/2229-0443-2-1-45)

… This review of research concerning reading comprehension provides incites … Reading comprehension is defined as a complex activity that involves several variables. Reading strategies…
(from https://www.researchgate.net/profile/Elena-Florit/publication/251397810_The_Simple_View_of_Reading_Is_It_Valid_for_Different_Types_of_Alphabetic_Orthographies/links/02e7e5385ca347c163000000/The-Simple-View-of-Reading-Is-It-Valid-for-Different-Types-of-Alp

[5] The simple view of reading: Is it valid for different types of alphabetic orthographies?
(https://link.springer.com/article/10.1007/s10648-011-9175-6)

… theoretical understanding of how component skills influence reading comprehension level. … reading comprehension; however, our review of the literature indicated that often reading…
(from
https://www.academia.edu/download/84200481/Literacy_and_science_each_in_the_service20220415-1-583e3i.pdf)

[6] Literacy and science: Each in the service of the other
(https://www.science.org/doi/abs/10.1126/science.1182595)

… education virtually guarantees isolation between literacy and science preparation. Moreover, the default practice of giving science teachers a literacy strategies toolkit is not likely to …
(from https://www.frontiersin.org/articles/10.3389/feduc.2020.576961/full)

[7] Research competencies to develop academic reading and writing: A systematic literature review (https://www.frontiersin.org/articles/10.3389/feduc.2020.576961/full)

… research skills, academic reading and writing and innovation processes) of this systematic review of the literature… which research skills can be used to develop academic reading and …

(from https://www.tandfonline.com/doi/pdf/10.1080/00048623.2016.1227661)

[8] The science of reading progresses: Communicating advances beyond the simple view of reading (https://ila.onlinelibrary.wiley.com/doi/abs/10.1002/rrq.411)

… reading ability, but a study that included EF in addition to SVR components still found motivation to predict variance in reading ability beyond EF skills (… systematic review of the research …

(from https://www.researchgate.net/profile/P-Pearson/publication/232594874_The_Assessment_of_Reading_Comprehension_A_Review_of_Practices-Past_Present_and_Future/links/54d85f1f0cf25013d03db41a/The-Assessment-of-Reading-Comprehension-A-Review-of-Practices-Past-Pr)

[9] The assessment of reading comprehension: A review of practices-past, present, and future
(https://www.google.com/books?hl=fr&lr=&id=cSORAgAAQBAJ&oi=fnd&pg=PA13&dq=reading+skills+scientific+literature+review&ots=dIgZ04DHRE&sig=-rw0MXMbNenkVTe9AeELQBQNEwY)

… We review both basic research, which deals with reading comprehension largely in its … , we take detours into research and theory about the comprehension process, on the grounds that …

(from
https://books.google.pt/books?hl=fr&lr=&id=cSORAgAAQBAJ&oi=fnd&pg=PA13&dq=reading+skills+scientific+literature+review&ots=dIgZ04DHRE&sig=-

rw0MXMbNenkVTe9AeELQBQNEwY&redir_esc=y#v=onepage&q=reading%20skills%20scientific%20literature%20review&f=false)

[10] Moving from the old to the new: Research on reading comprehension instruction (https://journals.sagepub.com/doi/abs/10.3102/00346543061002239)

JA Dole, GG Duffy, LR Roehler… - … educational **research**, 1991 - **journals**.sagepub.com

… *research about comprehension processes, comprehension strategies, and teaching strategies in order to inform instructional practice in reading comprehension. The article begins with …*

(from https://journals.sagepub.com/doi/10.3102/00346543061002239)

[11] Handbook of reading research, Volume III (https://www.taylorfrancis.com/books/mono/10.4324/9781315200613/handbook-reading-research-volume-iii-michael-kamil-rebecca-barr-peter-mosenthal-david-pearson)

… *of skills approaches and … systematic study of reading; the realignment has also heightened the disciplinary divides within the literacy field in Australia (put somewhat too simply, reading …*

(from https://www.taylorfrancis.com/books/mono/10.4324/9781315200613/handbook-reading-research-volume-iii-michael-kamil-rebecca-barr-peter-mosenthal-david-pearson)

[12] Teaching reading

… *particular reading skills or strategies … skills approach first appeared in second language reading teaching in the 1960s. Faced with the need to improve the reading ability and study skills …*

(from https://files.eric.ed.gov/fulltext/ED620272.pdf)

[13] Reading comprehension: Core components and processes (https://journals.sagepub.com/doi/abs/10.1177/2372732215624707)

… *of reading comprehension. This article reviews the theoretical and empirical literature on the construction of meaning during reading comprehension and derives implications for …*

(from https://journals.sagepub.com/doi/abs/10.1177/2372732215624707)

[14] Overview of Reading and Literacy Initiatives (https://eric.ed.gov/?id=ED444128)

… *Within this context, reading skill serves as the major foundational skill for all school-based learning, and without it, the chances for academic and occupational success are limited indeed…*

(from https://eric.ed.gov/?id=ED444128)

[15] Scientific literacy: A conceptual overview (https://onlinelibrary.wiley.com/doi/abs/10.1002/(SICI)1098-237X(200001)84:1%3C71::AID-SCE6%3E3.0.CO;2-C)

… : In this review of the published literature in English on the concept of scientific literacy, the … which include demanding and intellectual abilities as being part of scientific literacy but do not …

(from
https://www.academia.edu/download/30684310/TEF764_Greenhow_Gleason_(2).pdf)

[16] Twitteracy: Tweeting as a new literacy practice
(https://www.tandfonline.com/doi/abs/10.1080/00131725.2012.709032)

… The studies above suggest the complex interrelationship that may be developing between traditional, print-based literacy skills and standards and new social literacy practices that …

(from https://www.tandfonline.com/doi/pdf/10.1080/02702711.2021.1888348)

[17] The role of background knowledge in reading comprehension: A critical review
(https://www.tandfonline.com/doi/abs/10.1080/02702711.2021.1888348)

… Studies eligible for inclusion in this review needed to include a reading comprehension measure in which the child read an extended text and was required to recall and/or answer …

(from https://www.tandfonline.com/doi/abs/10.1080/02702711.2021.1888348)

[18] Visual requirements for reading
(https://journals.lww.com/optvissci/Abstract/1993/01000/Visual_Requirements_for_Reading.10.aspx)

… reading process, reading rate will be slower if a person's inherent reading comprehension abilities … did not control for subjects' reading abilities (Carver's term is reading accuracy level). …

(from
https://www.academia.edu/download/80340664/neuro_20and_20reading_20review.pdf)

[19] A Review of Studies on Cognitive and Metacognitive Reading Strategies in Teaching Reading Comprehension for ESL/EFL Learners (https://eric.ed.gov/?id=EJ1215830)

… (See Appendix A – **Literature Review** *Matrix). In terms of the number of participants in the …* **reading strategies** *from the 27* **research** *studies in teaching* **reading comprehension strategies** *…*

(from https://www.researchgate.net/profile/Barbara-Schirmer-2/publication/233997332_Teaching_Reading_to_Children_Who_Are_Deaf_Do_the_Conclusions_of_the_National_Reading_Panel_Apply/links/09e4150df165740124000000/Teaching-Reading-to-Children-Who-Are-Deaf-Do-the-)

[20] The science of reading: Four forces that modified, distorted, or ignored the research finding on reading comprehension (https://ila.onlinelibrary.wiley.com/doi/abs/10.1002/rrq.389)

… on phonics and early reading, in this article, we chose to study what happened to the … article, comprehension research functions as a case study to explore how an area of research has …

(from https://www.uv.es/infabra/Luckner 2008 A SUMMARY OF THE READING COMPREHENSION.pdf)

[21] A summary of the reading comprehension research undertaken with students who are deaf or hard of hearing (https://www.jstor.org/stable/26234485)

… present study was to identify, review, and summarize the research published in professional peer reviewed journals related to reading comprehension and … The literature search terms …

(from https://www.jstor.org/stable/26234485)

3. Results of Survey 2: Overall skills and gaps

This third part presents the results of the second ad-hoc survey conducted as part of the iRead4Skills project. The survey studied how reading difficulties impact individual well-being, including personal confidence, acquisition of other skills (mathematics, computer literacy, soft skills, etc.), and access to employment among adults who have undergone reading education in Adult Learning (AL) and Vocational Educational Training (VET) centres. These impacts are mainly examined from a subjective perspective, through individuals' perceptions of the consequences of their reading difficulties on various aspects of their lives.

The survey was distributed to the population studied by partner training centres in seven countries: Argentina, Belgium, Spain, France, Mexico, Portugal, and Switzerland. The centres invited the target audience to complete the survey online via email. The survey was available in three languages: Spanish, French, and Portuguese. Respondents were given the option to answer the survey in multiple sittings between 12 October and 30 November 2023. Participation in the survey is voluntary.

A total of 455 individuals participated in the survey, with the overwhelming majority (90%) responding in Portuguese. The remaining 10% of respondents were split between Spanish (8%) and French (2%). Due to the limited number of participants who responded in Spanish and French, the subsequent analyses were conducted on the combined sample rather than separately by language. It is worth noting that no participants residing in Belgium, Switzerland, or Mexico took part in the survey. It is important to acknowledge that a considerable number of respondents either chose not to provide their opinion or were unable to answer certain questions. Therefore, the analyses presented in this study are solely based on the responses of those who provided their opinion on the specific question being studied. The analyses do not purport to be representative of all individuals who have undergone reading training in the countries studied, but only of the respondents who have expressed their opinions. No weighting was applied.

This part of the report is structured as follows. The first section presents the characteristics of the respondents and their motivations for taking reading training. The second section examines the respondents' feelings of skill mismatch in their daily and professional lives. The third section explores how respondents feel their reading difficulties have impacted their lives. The fourth section discusses the changes in the respondent's personal situation since the training.

3.1. Socio-demographic characteristics and reasons for taking a reading course

3.1.1 Socio-demographic characteristics

The sample of respondents comprises 48% women, 31% men, and 21% individuals who chose not to disclose their gender. Of those who provided their age (80% of respondents), 54% were under 45 years old. Specifically, 18% were under 30, 36% were between 30 and 44, 38% were between 45 and 59, and 8% were 60 or older.

Of the respondents who disclosed their country of birth (79% of all respondents), 82% were born in the country where they currently reside. Out of the respondents who provided information on their country of residence, 90% reported living in Portugal.

Slightly more than 50% of the respondents who provided their marital status are either married or in a common-law relationship. 13% of respondents who expressed an opinion on their state of health suffered from chronic or serious health problems.

Out of the respondents who provided information on their level of education (74% of respondents), 53% had a level of education that corresponded to primary education at most. A majority of respondents experienced difficulties at school: 64% of those who provided information on this subject. At the time of the survey, 77% of respondents were employed[16], 20% were seeking employment, and 15% were inactive due to studying, retirement, or being at home.

Table 1 shows the main socio-demographic characteristics of the respondents.

Table 1. Socio-demographic characteristics of respondents

	With missing observations	Without missing observations
Gender		
Male	31%	39%
Female	48%	61%
Non-binary	0%	0%
No answer	21%	-
Age		
Under 30 years old	14%	18%
30-44 years	29%	36%
45-59 years	30%	38%
At least 60 years	7%	8%
No answer	20%	-
Country of birth		
Born in the country of residence	64%	82%

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[16] 77% of respondents answered this question.

No answer	21%	-
Marital status		
Married or common-law	41%	54%
Widowed	1%	1%
Divorced or separated	9%	13%
Single	24%	32%
No answer	25%	-
Education level		
Primary education at most	39%	53%
No answer	26%	-
Country of birth		
Spain	5%	6%
France	1%	2%
Portugal	71%	89%
Argentina	2%	3%
No answer	21%	-
Health status		
Suffers from chronic or serious health problems	8%	13%
No answer	42%	-
Employment status		
Working	50%	65%
Unemployed/looking for work	15%	20%
Retired	1%	1%
Studying	10%	13%
At home	1%	1%
No answer	23%	-

3.1.2 Reasons for taking a reading course

The survey results indicate that 87% of respondents had received reading training at training centres to improve their situation on the labour market[17]. Of those, 49% took the training to enhance their job performance or career prospects, 37% to increase their chances of finding a job or changing jobs, and 1% to reduce the risk of job loss (see Graph 1). Only 5% of the respondents took this training with the intention of better meeting their daily needs.

Graph 1. Main reasons why respondents took the reading course (in %)
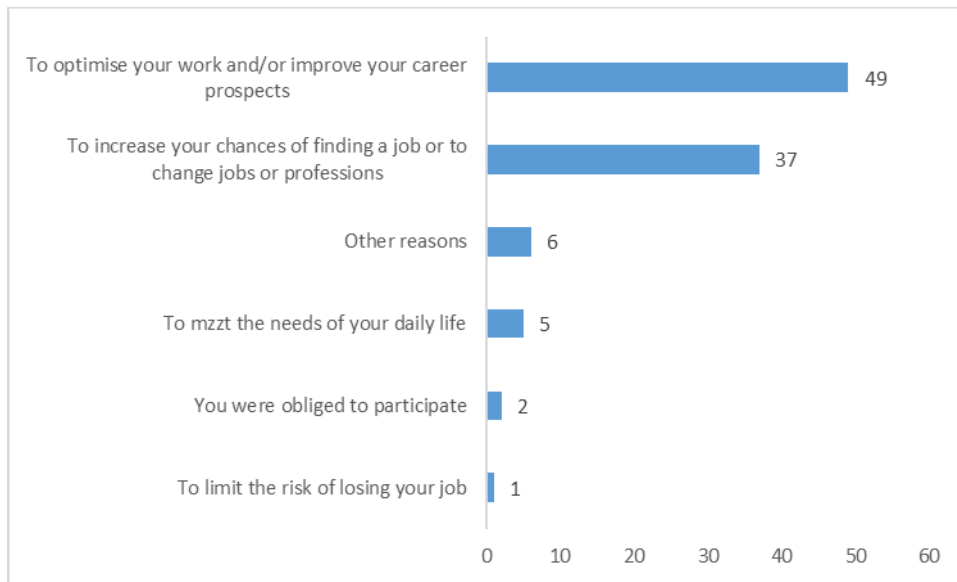
Field: Respondents who provided information on their motivation to follow a training course (n=311)

Half of the respondents did not indicate whether they had completed the training. Among those who did, 66% had completed the training. Only a small number of respondents provided information on the time elapsed since they completed the training[18]; of those who did, 21% completed it less than a month ago and 25% more than a year ago.

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[17] It should be noted that 32% of respondents did not wish to provide information on their reasons for taking the course.

[18] Only 32% of respondents gave this information.

3.2. Feeling of skills mismatch in daily and professional life

This section focuses on the perception of skills mismatch by respondents in their daily lives and, if applicable, at work. The discussion begins with the perception of skills mismatch in reading, followed by other areas such as mathematics or computing.

3.2.1 Feeling of skills mismatch in reading

In everyday life

Prior to taking the course, most respondents did not perceive their reading skills as inadequate for their needs (see Graph 2). Specifically, 72% of respondents believed that their reading skills surpassed their daily requirements, while only 12% felt that their reading level was insufficient. This result does not indicate that the respondents did not face any reading difficulties. Instead, it suggests that the majority of them were able to manage their daily lives despite these difficulties. Reading difficulties may cause individuals to limit their needs. Additionally, it is worth noting that 39% of the respondents did not provide their opinions on this matter.

A higher proportion of men (80%) than women (68%) reported having high reading skills in relation to their everyday needs. Similarly, individuals under 40 (78%) reported higher reading skills compared to their older counterparts (67%). Respondents with an education level no higher than primary school are more likely to consider their reading skills as weak compared to their everyday needs than those with a higher education level. The proportion of respondents who considered their reading skills as weak was 14% for those with no higher than primary school education, compared to 6% for those with a higher education level.

Graph 2. Pre-training perception of reading skills in relation to everyday needs (in %)
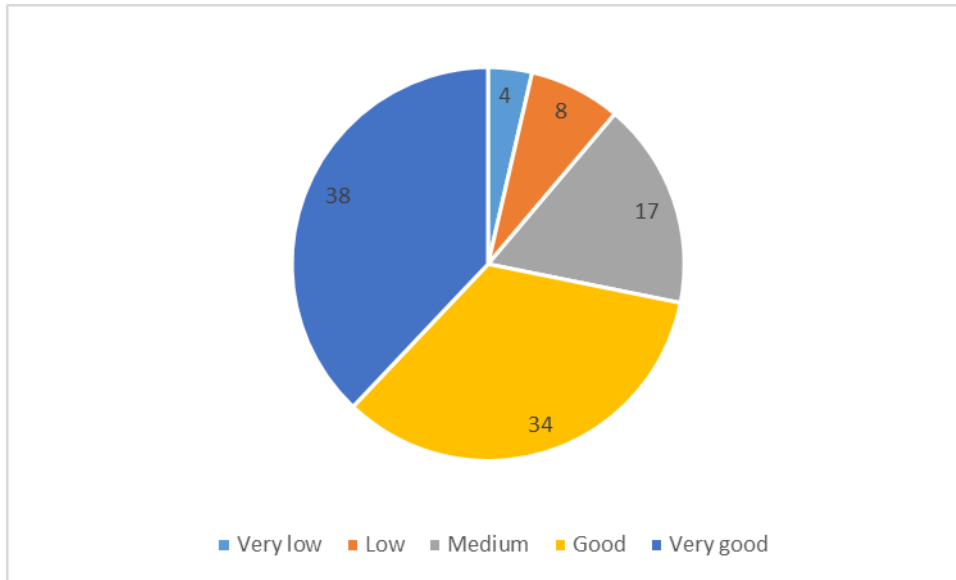
Field: Respondents who expressed themselves on the adequacy of their reading skills and their everyday needs prior to training (n=277).

When examining reading difficulties, it is evident that prior to training, respondents experienced an average level of difficulty of 1.6 in decoding words, 1.9 in comprehending the main idea of a text, and 2 in summarising or reading quickly on a scale of 0 (no difficulty) to 10 (a lot of difficulty).

Graph 3 illustrates the level of reading difficulties encountered by respondents in various areas. A small number of individuals who expressed their views reported experiencing challenges prior to undertaking the course. The category of reading that presents challenges for a greater number of participants is comprehension of instructions. 16% of respondents expressed difficulty in understanding instructions, in contrast to 9% encountering challenges with classified ads. It is important to consider that a significant proportion of respondents did not provide answers.

Graph 3. Level of reading difficulty before taking the course
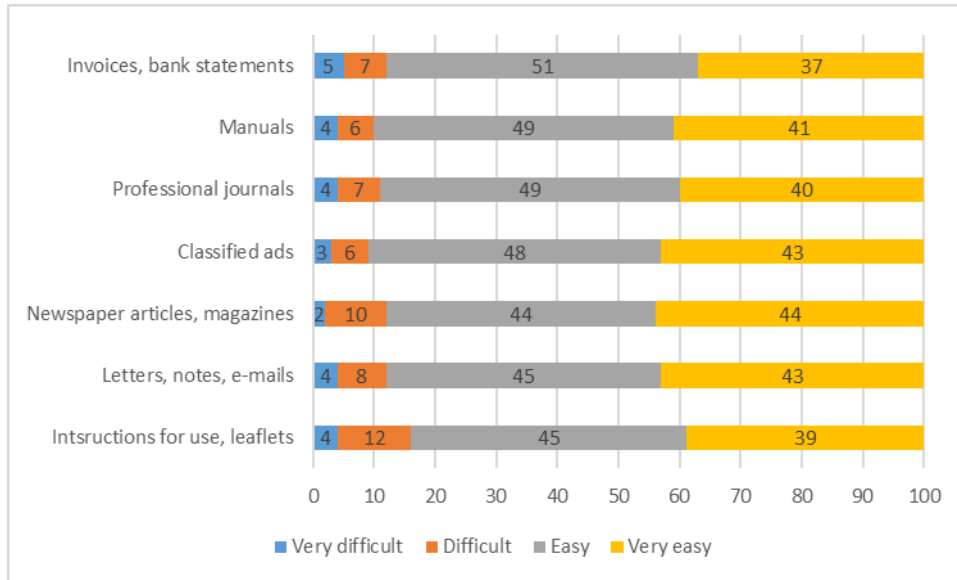
Field: respondents who gave an opinion on their reading difficulties before the training course (n varies from 260 for reading professional journals to 270 for reading letters, notes or emails).
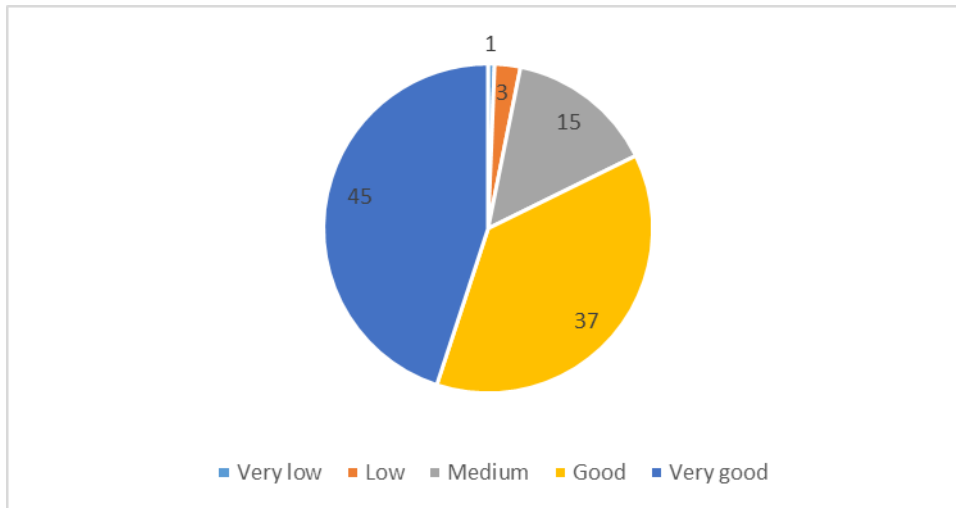
At the time of the survey, only 5% of respondents judged their reading skills as weak compared to daily needs, this figure was 12% before the training. When examining individual differences in perception, it was noted that 16% of respondents felt that their reading abilities were more capable of meeting their daily needs. 76% of respondents believe that their reading skills meet their needs in the same way as before the training, while 8% believe that their abilities are now less adequate. These statistics do not imply that the training did not achieve its goal. On the one hand, it could have raised awareness among respondents about their difficulties, and on the other hand, their needs may have changed as a result of the training.

In working life

Before taking the course, most employed respondents believed their reading skills were sufficient for their job.[19] Specifically, 3% felt that their skills were insufficient, 15% that they were average, and 82% that they were good (see Graph 4). Individuals below the age of 40 were more inclined than their older counterparts to perceive that their reading skills as well-suited for their main job (90% compared to 77%).

Graph 4. Perceived reading ability before training compared with the needs of the main job

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[19] 15% of respondents who were in employment before taking the course did not give an opinion and are not included in these statistics.

Field: respondents who were employed before the training and provided feedback on the adequacy of their reading skills in relation to their main job (n=158).
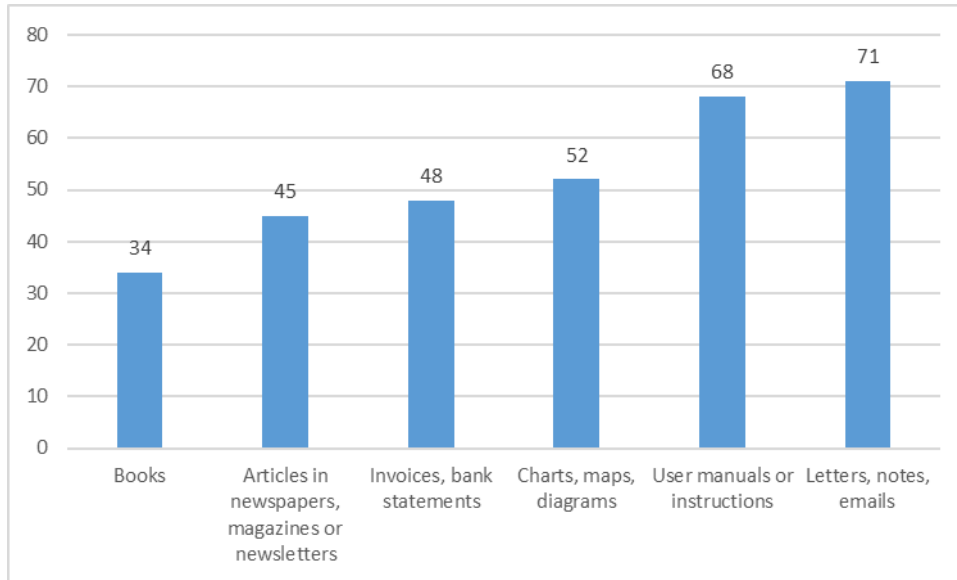
At the time of the survey, 87% of employed respondents[20] believe that their skills are good or very good in relation to the requirements of their main job, compared to 82% who thought so before the training.

We surveyed employed individuals to determine the types of reading they engage in while at work. According to the results, books were the least frequently mentioned type of reading, with only 34% of respondents encountering them. On the other hand, reading notes or emails was the most frequently mentioned type, with 71% of respondents mentioning it (refer to Graph 5). [21]

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[20] 25% of employed respondents at the time of the survey did not express their views on their reading abilities in relation to the requirements of their main job.

[21] These statistics are based on employed individuals who have indicated the type of reading they typically engage in as part of their job. This accounts for 70% of employed respondents.

Graph 5. Type of reading in the context of main job (in %)

Field: respondents who were employed at the time of the survey and provided information on the type of reading in their main job (n=172).

Within the scope of their work, 32% of respondents encounter difficulties when reading letters, notes, or emails. Additionally, 39% of respondents face challenges when reading books and manuals, as shown in Graph 6. Those who experience difficulties seem reluctant to seek help, with a higher proportion of respondents choosing not to seek assistance, except for when reading user manuals or instructions, where half of those facing difficulties do seek help.

Graph 6. Difficulties encountered in the employment by type of reading
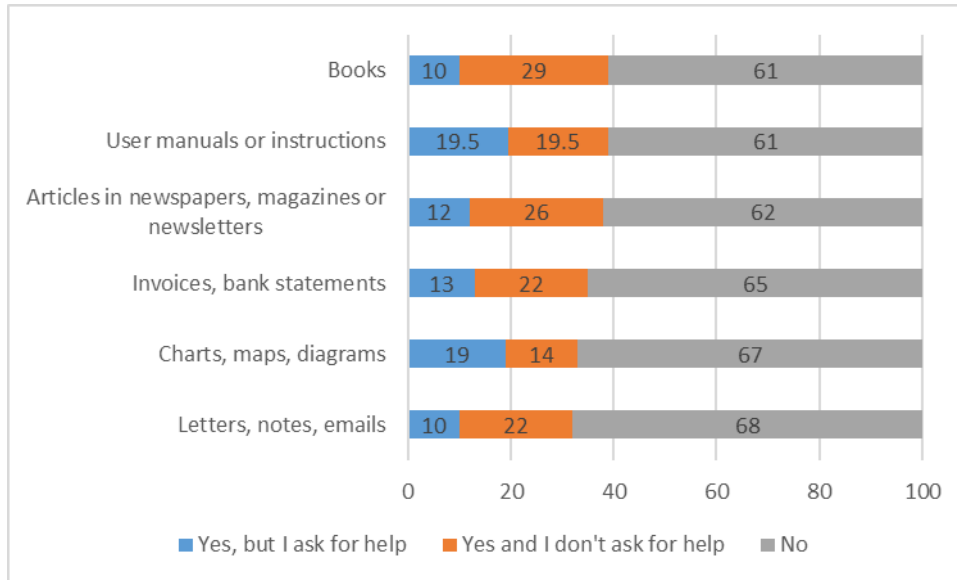
Field: respondents who are employed at the time of the survey and have declared reading a specific material (n varies from 68 for Articles in newspapers to 108 for Letters, notes, emails.

### 3.2.2 Feeling of skills mismatch in other domains

In everyday life

Respondents were asked about their skills in four areas: speaking the official language of their country of residence, writing in that language, and mathematical and computer skills. However, 42% of respondents did not indicate whether their skills in these areas were in line with their everyday needs.

Of those who expressed an opinion, a minority felt that their skills were poor in relation to their everyday needs (see Graph 7). In terms of language proficiency, 4% and 6% of respondents feel that their speaking and writing skills in the official language of their country of residence are poor, respectively. The feeling of inadequacy is more pronounced in mathematics and computing, with 22% of respondents believing that their skills in these two areas are insufficient for their day-to-day needs. It is important to note that these results do not indicate the absence of difficulties. Rather, they suggest that the respondents possess skills that are commensurate with their needs, their needs may be limited.

A higher proportion of women (27%) than men (17%) report inadequate computer skills for their daily needs. Individuals with a primary school education or lower are more likely to report insufficient skills in mathematics and computer science (26% and 27%, respectively) compared to those with higher education levels (16%). Moreover, those over 40 are more likely to have insufficient computer skills than younger individuals (31% compared to 12%).

Graph 7. Matching skills in non-reading areas to everyday needs
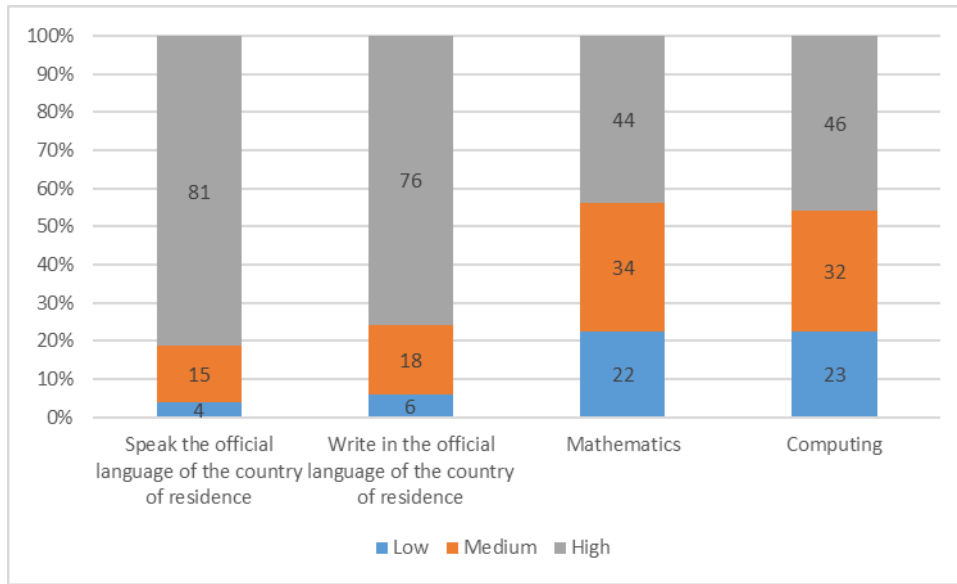
Field: Respondents who expressed themselves on their current abilities (speaking the official language n=263; writing in the official language n=264; mathematics n=264; computing n=266).

Working life

The perception of inadequate reading, writing, mathematical, and computer skills required for the job is not prevalent. In fact, the majority of respondents believe that their skills are sufficient for their job. For instance, 64% of employed respondents considered their mathematical skills to be high for their job (see Graph 8). A higher proportion of female respondents reported inadequate mathematical skills for their main job compared to male respondents (12% versus 0%). Similarly, respondents aged 40 or over reported more inadequacy than their younger counterparts (11% versus 0%).

Graph 8. Matching skills to professional needs
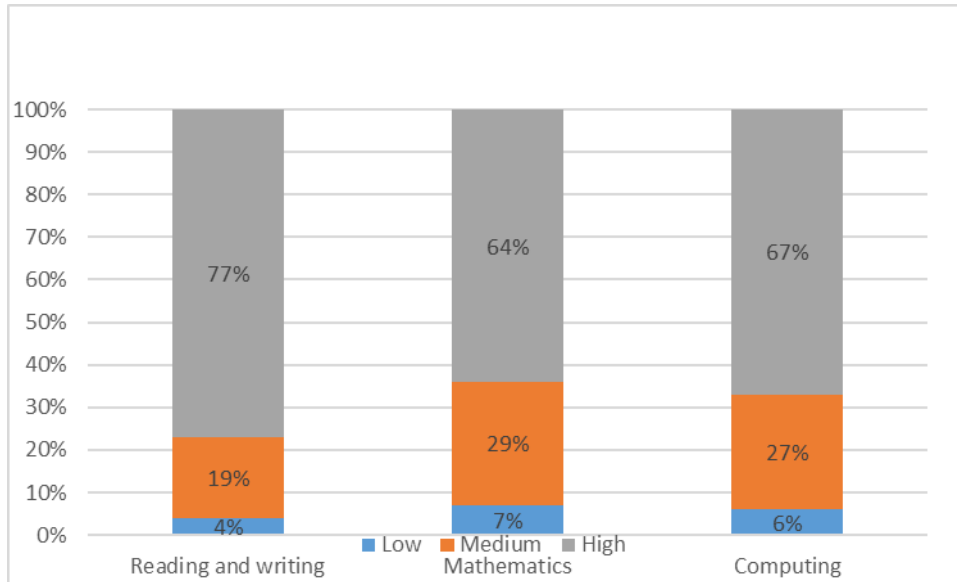
Field: Respondents in employment, at the time of the survey, expressed themselves on their current abilities (reading and writing n=161; mathematics n=150; computing n=140).

## 3.3 Respondents' perceptions of the consequences of their reading difficulties

The previous section presented respondents' perceptions of skills mismatch in areas other than reading. This section focuses on the consequences that respondents believe their difficulties may have on their daily lives.

As reading difficulties can have repercussions in other areas, this study aimed to investigate the potential impact of these difficulties on various aspects of life. Respondents were asked about the possible effects of their reading difficulties on seven areas, including mathematics, computing, employment opportunities, career advancement, daily activities, personal confidence, and relationships with others.

A significant proportion of respondents refrained from expressing their opinion on the subject. This proportion ranged from 50% when respondents were asked about the impact on their personal confidence to 53% when they were asked about the impact on mathematics.

Among the respondents who expressed an opinion on these seven areas (42% of respondents), half of them believed that their reading difficulties had not caused any difficulties in the seven areas studied. In contrast, 15% of respondents reported experiencing difficulties in the seven areas studied due to it (see Graph 9). Respondents under 40 reported encountering fewer difficulties than their older counterparts, with an average of 1.7 difficulties compared to 2.5 out of the seven areas studied.
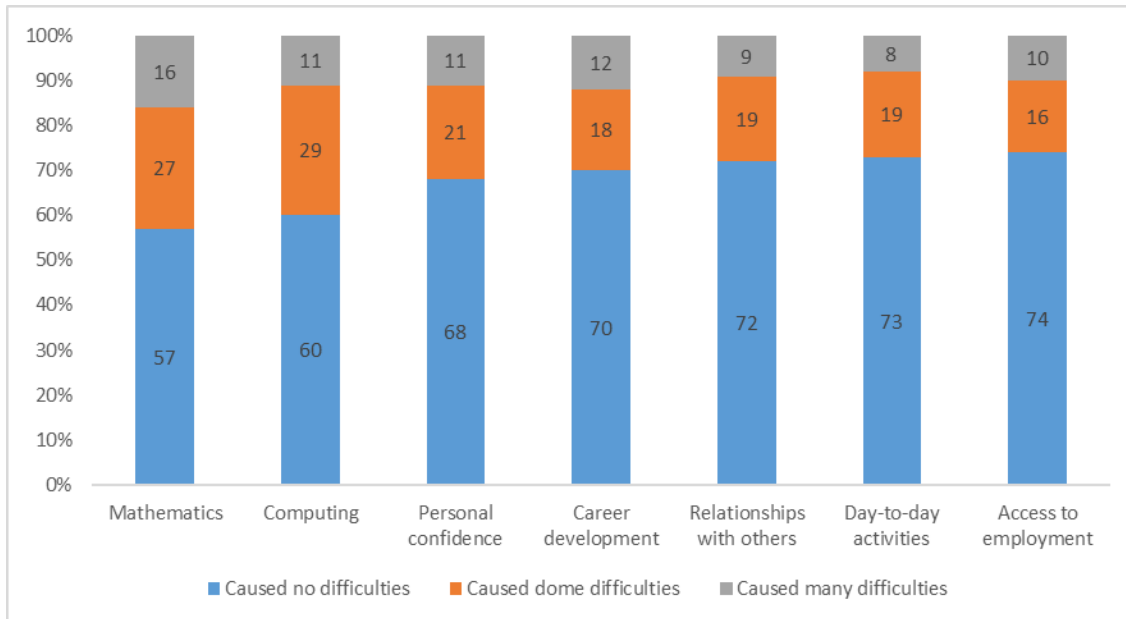
Graph 9. Distribution of the number of difficulties encountered
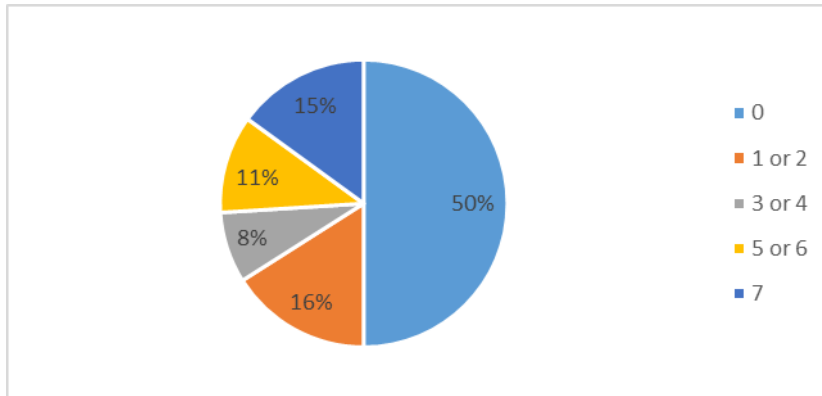
Field: Participants who shared their views on the seven challenges that may arise due to their reading difficulties (n=191).

Among the difficulties studied, mathematics difficulties are most frequently cited as a consequence of reading difficulties (43% of respondents who expressed an opinion), followed by computing difficulties (40%) and lack of personal confidence (32%) (see Graph 10).

Graph 10. Perception of the consequences of reading difficulties in seven areas

Field: Participants who shared their views on the seven challenges that may arise due to their reading difficulties (n varies from 214 for Mathematics to 229 for Personal confidence or Relationships with others).

We found that women were more likely than men to report that their reading difficulties had led to difficulties in mathematics (48% versus 33%) and computing (46% versus 31%). No statistically significant gender differences were found in the other areas studied. Additionally, those under 40 were less likely than their elders to report that their reading difficulties had led to difficulties with computers (31% vs. 48%), access to employment (20% vs. 30%), and daily life (20% vs. 32%). Immigrants report more frequently than natives that their reading difficulties have led to problems in their relationships. Individuals with an education level no higher than primary school are more likely to believe that their difficulties have affected their computer skills than others (44% vs. 31%).

3.4. Changes in the respondent's personal situation since training

In this section, we explore how the situation of the respondents has evolved since they underwent their reading training. More specifically, we are interested in the evolution of their human capital and their status in the job market.

3.4.1 Human capital evolution

In the survey, respondents were asked to assess the reading difficulties they believed they had before the training and those they currently perceive. When comparing the responses, we see, regardless of the item studied, that a majority of respondents express the same level of difficulties before the training and at the time of the survey. This proportion varies from 65% when summarizing a text to 86% when reading a manual (see Graph 11).

Graph 11. Evolution of reading difficulties before and after training
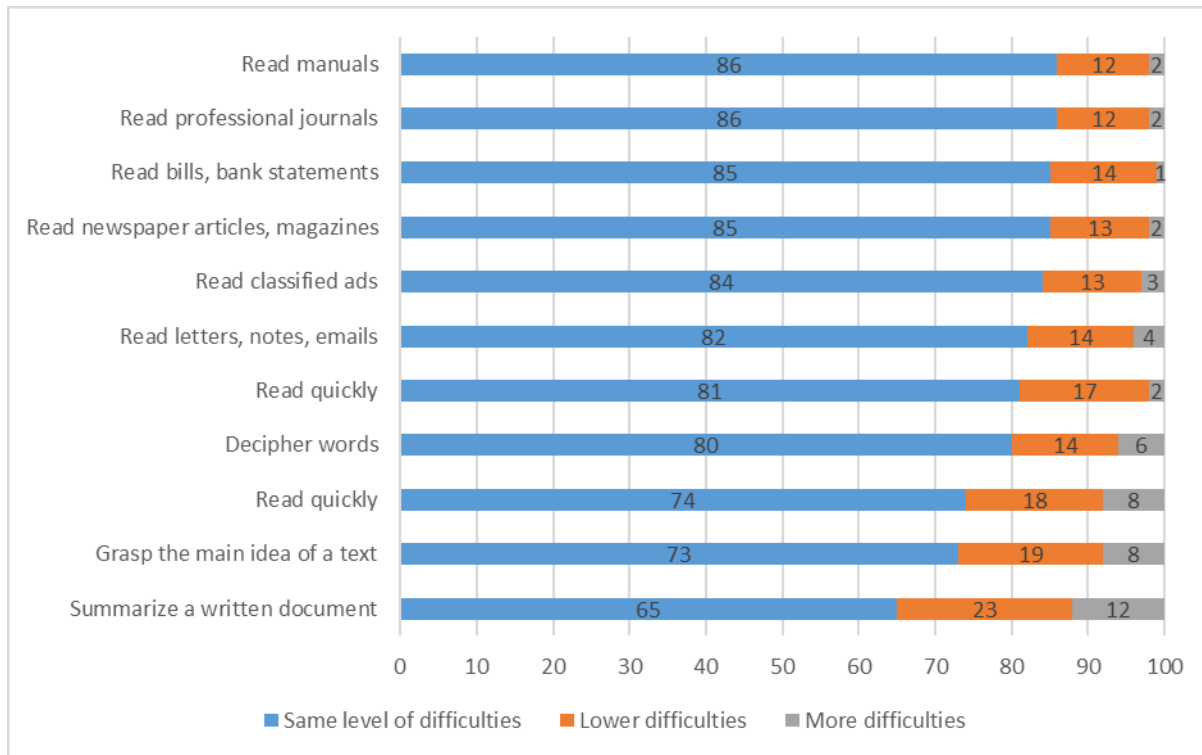
Field: respondents who provided information on their level of difficulty both before and after the training. The number of respondents varies from 251 for deciphering words to 268 for reading manuals.

A higher proportion of respondents have reported a decrease in difficulty when summarizing a document, with 23% experiencing a decrease compared to only 12% for tasks such as reading manuals. A percentage of participants, ranging from 1% for reading bills to 12% for summarising documents, reported experiencing more difficulties at the time of the survey than before the training. However, this does not necessarily mean that the training was detrimental to them. In fact, the training may have simply revealed the existence of pre-existing difficulties.

When directly asking respondents about the improvement of their reading skills facilitated by the training, 40% of employed individuals reported an improvement in their reading skills, while 4% did not. The remaining 56% did not express an opinion on the matter.

Those who reported an improvement in their reading skills were asked if they believed these new skills had helped improve other work-related skills. The skills studied include technical knowledge, communication skills, teamwork abilities, customer service knowledge, problem-solving aptitude, learning abilities, and planning and organizational skills. Between 10% (ability to work in a team) and 19% (technical knowledge) of respondents did not express their opinions. Among those who did, they think mostly that their reading skills have enabled them to develop other skills. Graph 12 shows that 51% of respondents strongly believe that their ability to work in a team has been positively impacted by their new reading skills. Customer service knowledge and learning abilities follow in descending order.

Graph 12. Improvement of skills in the frame of employment following the acquisition of new reading skills
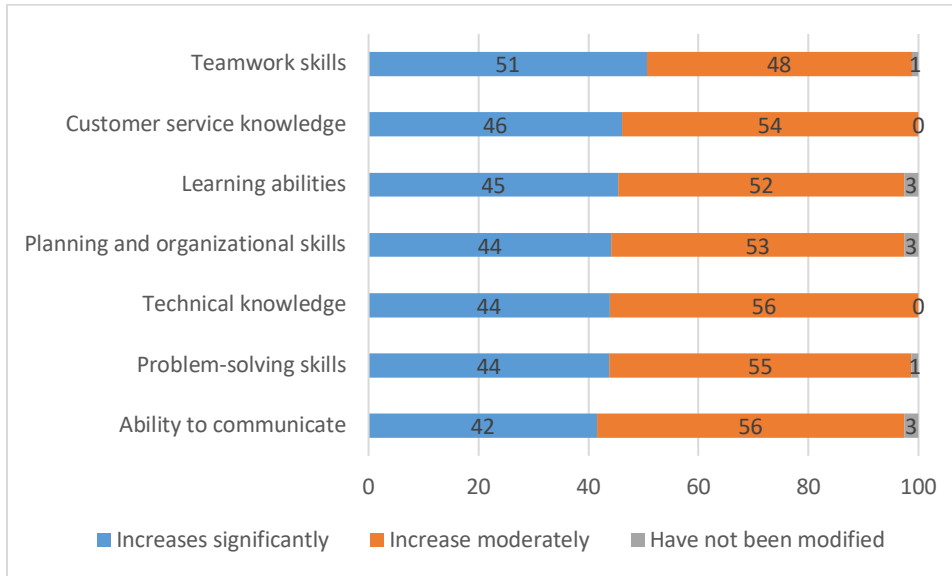
Field: Respondents who were employed at the time of the survey and believe that their reading skills have improved due to the training they received (n varies from 73 for Technical knowledge to 81 for Teamwork skills).

On average, respondents believe that three of the seven skills studied have significantly increased following the reading training. Those under 40 consider that their abilities have significantly increased in 4.1 areas on average, compared to 2.7 areas for their older counterparts. 66% of the respondents believe that enhancing their reading skills has enabled them to significantly improve at least one of the seven skills studied in their work (see Graph 13).

Graph 13. Number of areas, in the frame of work, where improving reading skills has led to a significant improvement in skills
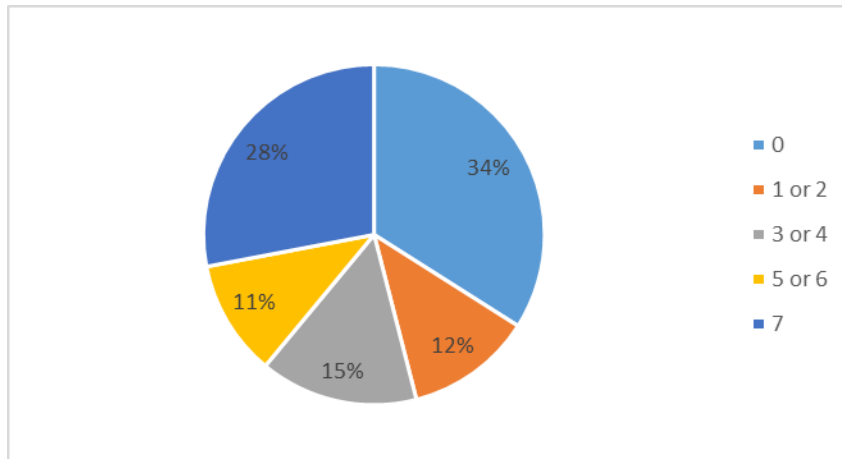
Field: Respondents who were employed at the time of the survey and believe that their reading skills have improved due to the training they received (n=67).

3.4.2 Evolution of the situation in the job market

Although a causal link cannot be established, it is observed that since the training, 9% of respondents who provided information about their employment status transitioned from unemployment or inactivity to employment. Additionally, 14% of those who were employed changed jobs or workplaces after the training. We asked the respondents about changes in their job characteristics. Unfortunately, too few provided this information, preventing us from presenting statistics.

4. Conclusion

The survey of individuals who have undergone training to enhance their reading skills revealed the challenges of conducting research on this group. Apart from Portugal, the response rate was extremely low. Furthermore, there is a high number of missing observations for certain questions due to respondents choosing not to answer or being unable to provide an opinion. This limitation restricts the possibility of utilizing certain questions and making comparisons based on the socio-demographic characteristics of the respondents.

In total, 455 individuals participated in the survey. It is important to note that the results cannot be generalised to individuals who have taken reading courses in the countries studied due to the non-representative sample. Nevertheless, the results enable us to draw conclusions and identify some of the challenges faced by these individuals.

The survey indicates that individuals who have received reading training tend to downplay their difficulties in this area. In fact, when asked about their reading level prior to the training, most respondents did not mention any difficulties. For some, the training appeared to have made them aware of their shortcomings, as they reported facing more difficulties at the time of the survey than before the training. It seems that respondents adapt their reading needs based on their skill level. To verify this hypothesis, a comparison of the reading needs of individuals undergoing training with those who have no difficulties in this area would be interesting.

Another observation is that employees who encounter reading difficulties at work are often hesitant to seek assistance. In fact, the majority of them do not ask for help when faced with a challenge.

Respondents had mixed views on whether their reading difficulties caused other types of difficulties. Half of the respondents reported no difficulties in the seven areas studied, including mathematics, computing, employment opportunities, career advancement, daily activities, personal confidence, and relationships with others. However, 15% felt that their reading difficulties negatively impacted these areas. Respondents aged under 40 reported encountering fewer difficulties than their older counterparts. It is important to note that nearly all employed respondents who felt their reading skills had improved agreed that these new skills had a positive impact on other professional abilities, such as teamwork.