



# PIAAC: A New Strategy to Assess Adult Competencies and Their Social and Economic Impact in the United States and Internationally

U.S. government agencies, public and private employers, and adult and workforce education and training programs have a new resource that they can use to gain a better understanding of the skills of the U.S. adult working-age population: the **Program for the International Assessment of Adult Competencies (PIAAC)**. PIAAC is coordinated internationally by the Organization for Economic Cooperation and Development (OECD). Within the United States, PIAAC is sponsored by the U.S. Department of Education’s National Center for Education Statistics (NCES). Results from the first round of PIAAC were released in October 2013.

## What is PIAAC?

PIAAC is a new study that assesses key cognitive and workplace skills. The rich international comparison of the adult workforce (ages 16–65) that it provides will enable the United States to develop a better understanding of its global competitiveness and benchmark how well education and training systems are meeting emerging skill demands.<sup>1</sup> Twenty-three participating countries and regions, including the United States, assessed more than 165,000 adults in PIAAC in 2011–2012. Nine countries are currently collecting data in an additional round of PIAAC this year.

The United States is currently conducting a National Supplement and a Prison study that together almost double the size of the U.S. PIAAC sample, enabling us to enhance the information available about the skills of subgroups of high interest to policymakers, businesses, and educators. The National Supplement will survey a target population of 3,600 adults including: unemployed adults (ages 16–65); young adults (ages 16–34) and older adults (ages 66–75). The Prison study will extend PIAAC to 1,200 adults 16–74 currently incarcerated in federal, state, and private prisons.

A companion online assessment tool, **Education & Skills Online**, will allow individuals and organizations to assess these key competencies in real time, on demand, when it becomes available in summer 2014.

## What does PIAAC measure?

PIAAC is an assessment of literacy in the information age. It uses a broad definition of literacy that focuses on the “interest, attitude and ability of individuals to appropriately use socio-cultural tools, including digital technology and communication tools, to access, manage, integrate and evaluate information, construct new knowledge, and communicate with others.”

*The cognitive skills that are directly assessed in PIAAC reflect a broader range of skills proficiencies—at both the low and high ends of the skills spectrum—than those examined in previous adult assessments.*

<sup>1</sup> PIAAC was developed and is being administered for the OECD and its member countries by a team of international experts, coordinated by ETS.

PIAAC directly assesses four sets of skills:

- » Literacy
- » Reading components (for assessing low literacy levels)
- » Numeracy
- » Problem-Solving in Technology Rich Environments

The **Background Questionnaire** that is administered to every adult who participates in PIAAC includes questions about a range of additional skills and competencies needed in the workplace. These include:

- » communication skills
- » interpersonal skills needed for collaborative teamwork
- » planning and self-management skills
- » problem-solving skills
- » personal traits important for success in work and learning

*Taken together, the information collected through the cognitive assessment and the Background Questionnaire paints a conceptually holistic, research-based picture of the strengths and weaknesses of the U.S. adult workforce.*

## What is unique about PIAAC's approach to assessment?

**PIAAC is the first large-scale household assessment that is computer-based.**

PIAAC is the first large-scale assessment of adults in their homes administered in two modes: laptop computer and paper-and-pencil. While respondents with little or no familiarity with computers took the paper-and-pencil version of the assessment, most adults completed PIAAC on computer.

Being computer-based allows:

1. participants to respond to items that are specifically targeted to their performance levels
2. assessment of an individual's ability to manage information and solve problems
3. collection of information on how long it takes participants to complete items (and the strategies they use to solve problems)

*PIAAC collects information on strategies and processes that adults use when navigating computer-based environments to conduct day-to-day tasks.*

**PIAAC contextualizes information about skills proficiencies with a rich Background Questionnaire.**

PIAAC's Background Questionnaire is much more extensive than those used in earlier adult assessments. In addition to collecting information about the usual range of demographic characteristics, PIAAC collects detailed information about:

- » workforce status
- » the kinds of work that individuals perform (and the salary they are paid for that work)

- » the skills required to carry out a particular job (and how frequently and extensively they are used)
- » individuals' education levels
- » the kinds of ongoing education and training that individuals participate in (and who sponsors it and the extent to which it is work-related)

In addition to information on these topics collected in every country and region, the U.S. Background Questionnaire collects information on health status to better understand the relationships between skill levels, other demographic information, and health.

*Having information on the distribution of skills proficiencies across the adult population will enable national, state, and local governments to make better decisions about how to target resources for education and training.*

## How PIAAC can inform decision-making in the United States

Information in the Background Questionnaire can help policymakers and workforce leaders better understand the answers to questions such as these:

### Distribution of skills

- » How does the U.S. adult population compare to adult populations in other countries and regions in terms of average levels of skills proficiency and skill use?
- » What proportion of the adult population has low skills proficiencies?
- » How are skills distributed among subgroups defined by sex, age group, and region? Are certain subgroups characterized by low skills proficiencies?
- » How are skills proficiencies distributed across different levels of schooling?

*PIAAC will enable businesses to make decisions about what kind of training they need to offer to foster a globally competitive workforce.*

### Skills and employment

- » How are skills related to earnings and other indicators of labor market success?
- » Is information about skills proficiency a better predictor of employment status than educational level or credentials?

### Skills and industry sectors

- » How are skills proficiencies distributed across sectors of industry?
- » Are certain sectors of industry characterized by particularly low levels of skills proficiencies?
- » How do the skills levels within these sectors in the United States compare to those in other countries and regions?

### Skills and lifelong learning

- » Are there differences across subgroups of the U.S. adult population in their participation in lifelong learning opportunities? What factors account for these differences?

## How can PIAAC help streamline instruction and training?

Data from PIAAC can be used to create profiles of the skills displayed by adults working in different occupations and industry sectors. Adult education and workforce training programs can use this information to assess the effectiveness of their curricula in meeting labor market needs and to develop customized learning plans for adults—including dislocated workers—to prepare them for employment in growing sectors and occupations.

Adult education and workforce training programs can also use Education & Skills Online—a new online assessment tool aligned with PIAAC—to assess in real time the skills of individual adults on the PIAAC measures of literacy, numeracy, reading, and problem-solving in technology-rich environments. Individuals can compare their results with the skills profiles of workers in various occupations and sectors. Programs can use this assessment to help determine the best skills development pathways for adults, based on their workforce goals. Programs can also use Education & Skills Online to measure progress as adults move through a skills development program.<sup>2</sup>

Adult education and workforce training programs can also use the detailed frameworks for each of the cognitive assessment modules to develop curricula and guide instruction.<sup>3</sup>

These tools can help programs develop streamlined pathways for adult learners based on their work-related goals. At the same time, programs can use them to put in place a data-driven continuous improvement system to promote program effectiveness.

## What tools are available to access and share PIAAC results?

### Accessing the data itself...

- » The **PIAAC Results Portal** enables you to produce figures and tables that take an in-depth look at the U.S. results as well as compare the performance of U.S. adults to adults in other participating countries (<http://nces.ed.gov/surveys/piaac/results/makeselections.aspx>).
- » The **International Data Explorer (IDE)** is a web-based tool that produces customizable tables and graphs using data from PIAAC. It is free of charge and does not require any advanced statistical software or knowledge (<http://piaacdataexplorer.oecd.org/ide/idepiaac/>).
- » The **U.S. PIAAC IDE**, developed by NCES, adds U.S.-specific variables to the IDE (such as information on race/ethnicity and preventative health practices) and organizes variables in detailed subcategories. The U.S. PIAAC IDE is available here: <http://nces.ed.gov/surveys/international/ide/>.
- » **PIAAC Public-Use and Restricted-Use Data Files** contain individual unit record data in SAS and SPSS formats.
- » The **International Data Files** for each of the participating countries in PIAAC (except Australia) are available for download (<http://vs-web-fs-1.oecd.org/piaac/puf-data>).
- » The **U.S. National Public-Use File** contains some additional variables beyond those in the International U.S. Public-Use File, including U.S.-specific variables. The U.S. National Public-Use File is available for download here: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014045>.

<sup>2</sup> For more information on Education & Skills Online, visit the OECD website at [http://www.oecd.org/site/piaac/ENG\\_Brochure%20Education%20and%20Skills%20Online%20SAS\\_Feb%2014.pdf](http://www.oecd.org/site/piaac/ENG_Brochure%20Education%20and%20Skills%20Online%20SAS_Feb%2014.pdf).

<sup>3</sup> For a summary of the assessment domains in PIAAC, see <http://www.oecd.org/site/piaac/Summary%20of%20assessment%20domains%20in%20the%20Survey%20of%20Adult%20Skills.pdf>.

- » The **U.S. Restricted-Use File** contains the most comprehensive and detailed information, including U.S.-specific variables and some variables not available in the public-use file (such as more detailed information on age or occupation). Access to the U.S. Restricted-Use File requires an NCES restricted-use license (see <http://nces.ed.gov/pubsearch/licenses.asp>).

## Understanding the survey and the data

- » OECD has published several reports on the PIAAC results across all participating countries:
  - *Skilled for Life? Key Findings From the Survey of Adult Skills* ([http://www.oecd.org/site/piaac/SkillsOutlook\\_2013\\_ebook.pdf](http://www.oecd.org/site/piaac/SkillsOutlook_2013_ebook.pdf))
  - *OECD Skills Outlook 2013: First Results From the Survey of Adult Skills* (<http://dx.doi.org/10.1787/9789264204256-en>)
  - *The Survey of Adult Skills—Reader’s Companion* ([http://www.oecd.org/site/piaac/Skills%20\(vol%202\)-Reader%20companion--v7%20eBook%20\(Press%20quality\)-29%20oct%200213.pdf](http://www.oecd.org/site/piaac/Skills%20(vol%202)-Reader%20companion--v7%20eBook%20(Press%20quality)-29%20oct%200213.pdf))
- » Two reports are available on the U.S. PIAAC results:
  - NCES’s First Look report: *Literacy, Numeracy, and Problem Solving in Technology-Rich Environments Among U.S. Adults: Results From the Program for the International Assessment of Adult Competencies 2012* (<http://nces.ed.gov/pubs2014/2014008.pdf>)
  - The OECD Country Report: *Time for the U.S. to Reskill? What the Survey of Adult Skills Says* ([http://skills.oecd.org/Survey\\_of\\_Adult\\_Skills\\_US.pdf](http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf))
- » Two videos from C-SPAN that look at what PIAAC tells us about labor markets and skills in the United States and around the world
  - Anthony Carnevale talks about young adults’ job skills and the modern workplace (<http://www.c-span.org/video/?315646-5/young-adults-job-skills-modern-workplace>)
  - Jack Buckley and Ellen Scully-Russ talk about what governments and businesses can do to raise adult skills (<http://www.c-spanvideo.org/program/NCES>)
- » Papers and presentations from the 2013 ETS/OECD Research Conference (<http://piaacgateway.com/videos/>)
- » An OECD Working Paper on what PIAAC tells us about returns on skills, by Eric Hanushek et al. ([http://www.oecd-ilibrary.org/education/returns-to-skills-around-the-world\\_5k3tsjqmvtq2-en](http://www.oecd-ilibrary.org/education/returns-to-skills-around-the-world_5k3tsjqmvtq2-en))
- » *Coming soon*: Research reports analyzing the data by PIAAC researchers Harry Holzer, Bob Lerman, Michael Fix, Steve Reder, and Margaret Patterson

## Sharing and presenting results

OECD and NCES have developed a range of dissemination materials available on [piaacgateway.com](http://piaacgateway.com). These include:

- » A new brochure that summarizes key results (<http://piaacgateway.com/reports/>)
- » A one-page flyer about PIAAC for researchers
- » Infographics that can be distributed at meetings (<http://piaacgateway.com/infographics/>)
- » A short video on the importance of PIAAC featuring Tom Friedman, Andreas Schleicher, Irwin Kirsch, and others (<http://vimeo.com/79372616>)
- » A selection of PowerPoint presentations focusing on different aspects of the PIAAC data (<http://piaacgateway.com/presentations/>)

- » A brochure describing Education & Skills Online, the online assessment tool designed to provide individual-level results linked to PIAAC that will be available in early 2015 (brochure: [http://piaacgateway.com/reports/and\\_online\\_tool](http://piaacgateway.com/reports/and_online_tool): <https://piaac.squarespace.com/esonline/>)
  - » *Coming soon:* Toolkits that focus on key subgroups and topics, including:
    - What does PIAAC tell us about low-skilled workers in the United States?
    - What does PIAAC tell us about the future workforce in the United States?
    - What does PIAAC tell us about the relationship between parent education and adult skills/success in the United States?
    - What does PIAAC tell us about the relationship between health and adult skills in the United States?
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