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This module introduces users to the Program for the International Assessment of Adult Competencies, or PIAAC. It provides users with basic information about the study's target population, sample and study designs, data collection rounds, topics, sources, and methods, and publications, and other resources. Also included is a brief history of national and international adult literacy assessments. The module also highlights topics for which data are available for analysis, identifies the unique features of PIAAC administration and describes how the study was implemented.

The module provides a broad overview of the topics for which data are available for analysis to help you answer the fundamental question: "Are PIAAC data for me?" The subsequent PIAAC training modules contained within this system will discuss some of these topics in greater detail, and will address questions about how to effectively use the dataset for your analytic purposes.

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PIAAC is an international, large-scale assessment conducted in respondents' households. It was developed by the Organization for Economic Cooperation and Development, or OECD, and is managed by an international consortium. The goal of PIAAC is to assess and compare the basic skills and the broad range of competencies of adults around the world. The assessment was first administered in 2011-12, in 24 countries or regions. It was administered to a sample of approximately 5,000 individuals per country, aged 16 to 65 years old.

Approximately 166,000 adults throughout the world participated in the survey. The direct assessment was administered in 32 languages and the background questionnaire was administered in 36 languages.

International and national reports were released in October of 2013. International reports are available from the OECD, and U.S. national reports are available on the NCES web site.

More information regarding the overall structure and administration of PIAAC can be accessed by clicking on the corresponding underlined screen text.

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Twenty-four countries participated in Round 1 of the PIAAC data collection, and nine countries are slated for participation in Round 2. Please note that country participation is voluntary, and may expand in the future.

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All participating countries follow the quality assurance guidelines set by the OECD consortium, and closely follow all the agreed-upon standards set for sample design, implementation of the assessment, and the reporting of results. In addition, they are responsible for accurate translation of instruments from English to their own language, and for collecting and processing data for their country.

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PIAAC builds on knowledge and experiences gained from previous national and international adult assessments.

In 1985, the U.S. Department of Education, or ED, conducted its first household assessment of adult literacy called the Young Adult Literacy Survey, or YALS. YALS surveyed 21- to 25-year-olds.

In 1989, the U.S. Department of Labor conducted a Survey of Workplace Literacy that included a nationally representative sample of first-time applicants who were determined eligible for the Job Training Partnership Act. It also included a separate, nationally representative sample of people who were served by state employment service offices, who had filed an unemployment insurance claim.

In 1992, the National Center for Education Statistics, or NCES, of the U.S. Department of Education conducted the National Adult Literacy Survey, or NALS. NALS served as the first national assessment of adult literacy administered to adults of all ages, and had a nationally representative sample of 13,600 individuals aged 16 and older residing in households. In addition, another 1,000 adults were surveyed in each of 12 states that chose to participate in a special study designed to provide state-level results that are comparable to the national data. Finally, approximately 1,100 inmates from 80 federal and state prisons were interviewed to gather information on the proficiencies of the prison population.

The International Adult Literacy Survey, or IALS, was the first international large-scale literacy assessment developed by Statistics Canada and the Educational Testing Service, or ETS, in collaboration with participating national governments. It was first conducted in 1994 with nationally representative samples of adults, aged 15-65, from seven countries, including 3,846 U.S. participants. Between 1994 and 1998, 22 countries administered IALS in three waves.

More information about YALS, DOL Workplace Literacy study, NALS, and IALS can be found by clicking on the corresponding underlined screen text.

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Concurrent with the further waves of IALS, Statistics Canada sponsored the development of the Adult Literacy and Lifeskills, or "ALL" Survey, to improve on IALS. ALL was administered to nationally representative samples of 16- to 65-year olds in 11 participating countries in two waves: first, in 2003 and again between 2006 and 2008. In the United States, a nationally representative sample of 3,420 adults ages 16–65 participated in ALL.

The 2003 National Assessment of Adult Literacy (NAAL), sponsored by NCES, was the most comprehensive measure of adult English language literacy conducted in the U.S. since the 1992 NALS. NAAL sampled over 19,000 adults representing the entire population of the U.S. adults aged 16 and older residing in households and federal and state prisons.

PIAAC is the third international study of adult literacy with nationally representative samples of a minimum of 5,000 adults ages 16–65. It built on the frameworks and best practices of the previous assessments and used the most advanced methods of conducting large-scale assessments.

More information about ALL, NAAL, and PIAAC can be found by clicking on the corresponding underlined screen text.

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The goal of PIAAC is to provide comparative data and analysis for economic, education, and social policy development within countries; provide information on basic skills and a broad range of competencies of adults in participating countries; and develop international benchmarks of adult skills. Other goals include; comparing key 21st century cognitive and workplace skills needed for individuals to participate in society and for economies to prosper; and, to facilitate international comparative analysis of skill-formation systems and their outcomes.

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In addition, PIAAC provides data and analysis on relationships between individuals' cognitive skills and background variables such as educational background; workplace experiences and skills; professional/occupational attainment; and the use of information and communications technology.

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In the United States, PIAAC is sponsored by the National Center for Education Statistics, in close collaboration with the U.S. Department of Labor. For each participating country, the assessment was conducted in the official language or languages of participating countries. In the U.S., the PIAAC direct assessment was conducted in English only, however, the background questionnaire was administered in both English and Spanish. Four percent of participants could not complete the

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assessment because of language difficulties or learning or mental disabilities. One percent of participants could not complete it for other reasons.

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The PIAAC assessment draws upon a nationally representative sample of non-institutionalized adults, 16-65 years old, residing in the country at the time of data collection, irrespective of nationality, citizenship, or language.

Adults in other non-institutional collective dwelling units, such as workers' quarters or halfway homes, are also included in the target population, as are adults living at school in student group quarters, such as a dormitory, or fraternity or sorority house.

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The target population excludes adults in institutional collective dwelling units, such as prisons, hospitals, and nursing homes. It also excludes adults residing in military barracks and military bases.

In the United States, a nationally representative household sample was drawn from the most current Census Bureau population estimates.

Adults who are unable to complete the assessment because of a hearing impairment, blindness/visual impairment or physical disability are considered in scope; however, they are excluded from PIAAC response rate calculations.

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In addition to participating in the 2011 PIAAC International sample in Round 1, also known as the "main study", a National Supplemental survey was conducted in 2013 and 2014 to increase the sample size of key U.S. subgroups of interest by focusing on unemployed adults, ages 16–65; young adults, ages 16–34; and, older adults, ages 66–74.

In addition, in 2014, a Prison Study was conducted in the U.S. for inmates incarcerated in state, federal, or private prisons who were ages 16 to 74. The prison sample received the PIAAC assessment with a modified background questionnaire tailored specifically to address the experiences and needs of this subgroup.

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The U.S. main study sample design for PIAAC was a probability sample designed to obtain a nationally representative sample of the target population of adults ages 16 to 65 years old.

For the main study, individuals were interviewed and assessed from August 2011 to April 2012 for a total of 5,010 completed cases. Although the goal was to select one

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person per household, a maximum of two persons could be selected from a single household. A 70% response rate was achieved for this U.S. sample.

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For the National Supplement Study, individuals in the sample were interviewed and assessed from August 2013 to April 2014. Similar to the main study, the goal was to select one person per household. However, the sampling rules within households are based on sample sizes, instead of sampling rates, so that the maximum number selected within a household can be controlled. The maximum is seven; however, it was very unlikely to select this many because it is rare to have more than two unemployed individuals in a household, and to have the other necessary combination of characteristics, represented by the three key groups, within a single household.

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PIAAC is unique from all previous international and adult assessments in the following ways:

It is the first large-scale assessment administered on laptop computers to respondents in their homes. Those who cannot take the assessment on a computer are administered a paper-based version of the assessment.

It is an adaptive assessment. Participants taking the computer-based assessment respond to a series of items targeted to their performance levels.

Assessments are conducted on an integrated computer system that combines a computer-assisted personal interview (CAPI) with computer-administered cognitive instruments.

It incorporates automated measurement, wherein the computer logs key strokes and time spent on items, which provides researchers the potential to learn about strategies, particularly on problem-solving in digital environments, and to enhance measurement precision.

PIAAC incorporates centralized, well-defined and strictly monitored standards. All participating countries must follow the quality assurance guidelines set by the OECD consortium and adhere to common technical standards set for survey design, implementation of the assessment, and the reporting of results developed by teams of international experts.

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PIAAC was administered in face-to-face interviews in each respondent's residence or a nearby public space. Interviewers use computer-assisted personal interview technology, or CAPI, to ask the respondents questions in order to complete the background questionnaire, or BQ.

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The BQ portion of the study was followed by a self-administered competency assessment. The primary mode of delivery for the direct assessment was a laptop computer; however respondents who were unable to use a computer were provided with a paper-based assessment booklet.

Respondents who took the paper-based assessment and those with very low literacy skills also respond to a set of reading component measures.

Approximately two hours was needed to complete the interview, including the screener which determines eligibility to participate, the background questionnaire, and the assessment.

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The PIAAC background questionnaire collects a range of information about respondents, including demographic characteristics, education and training, present and past work experience, social and linguistic background, literacy and numeracy practices, and the use of information and communication technology.

PIAAC also contains a module on skills use that collects data on what skills participants regularly use in their job and in their home life.

The PIAAC direct assessment measures key information processing skills across four domains: literacy, numeracy, problem solving in technology-rich environments, and reading components.

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The PIAAC module on skills use employs an innovative “job-requirements approach” that asks employed adults about how intensively and how frequently they use a number of generic skills in the workplace.

Information is collected about four broad categories of generic work skills: cognitive skills, physical skills, learning skills, and interaction and social skills. Cognitive skills encompass reading, writing, mathematics, and the use of information and communication technologies. Physical skills involve the use of gross and fine motor skills.

Learning skills cover activities such as instructing or coaching others, learning (formally or informally), and keeping up-to-date with developments in one’s professional field.

Interaction and social skills cover collaboration and cooperation, planning work and time use for oneself and others, communication and negotiation, and customer contact.

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In addition to the background questionnaire, PIAAC collects information on key information processing skills of participants through direct assessment in four domains:

- The literacy domain assessment is either paper- or computer-based;
- Reading components assessments are only paper-based;
- The numeracy domain assessment is either paper- or computer-based; and
- The problem solving in technology-rich environments assessment is only computer-based.

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All countries were required to administer the literacy and numeracy modules.

The United States assessed all four domains.

Please note that all PIAAC cognitive assessment items are authentic, culturally appropriate, and drawn from real-life situations that are expected to be of importance or relevance in different contexts. They are intended to reflect the purposes of adults' daily lives across cultures, even if they are not necessarily familiar to all adults in all countries. In addition, they are designed to maximize cross-language validity.

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To better acquaint you with the PIAAC assessment, let's look at a few of the items tested. Here is an example of a PIAAC literacy domain item of average difficulty that focuses on the personal context and print medium of the literacy construct, and assesses the cognitive process of "access and identify". This includes task aspects such as locating items of information in a text, finding required information that is directly and plainly stated in the text, and making inferences and having rhetorical understanding may be required. Further examples of task aspects of PIAAC items are detailed in the module titled "Data Collected Through the PIAAC."

This particular item asks respondents to look at a list of preschool rules and highlight the information in the list that answers the question "What is the latest time that children should arrive at preschool?"

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This PIAAC reading components example item asks respondents to circle the word that matches the picture.

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Here is an example of a PIAAC numeracy item of average difficulty that focuses on the everyday or work context and dimension and shape content of the numeracy construct, and assesses the process of "Act upon, use, estimate." It asks respondents to look at

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the thermometer and type the answer to the question “If the temperature shown decreases by 30 degrees Celsius, what would the temperature be in degrees Celsius?”

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This is part of a PIAAC example item for the problem-solving in technology-rich environments domain in which respondents must access and evaluate information in the context of a simulated job search, in the web technology dimension of the problem solving in technology-rich environments construct.

The item asks respondents to imagine that they are looking for a job, have located the five job search websites shown, and want to use a site that does not require them to register or pay a fee. Respondents are then asked to bookmark all the sites that meet their requirements.

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The complex PIAAC design makes the study an important source of data for policymakers. It provides the following types of information:

- Information on relationships between the four domains assessed: literacy, reading component skills, numeracy, and problem solving in technology-rich environments, or PS-TRE ;
- Information about component skills among lower performing adults and among those who report not being familiar with using a computer;
- Accurate estimates of population distributions and a baseline measure of problem solving in technology rich environments for estimation of trend over time;
- Strategies and processes adults use when responding to the problem solving tasks; and
- Trends in numeracy based on shared items with the ALL survey, and trends in literacy and numeracy based on shared items with IALS, which includes items that are also shared with NAAL via NALS.

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The OECD Skills Outlook 2013 was released by OECD on October 8, 2013. It provides a summary of the first results and key findings from PIAAC.

The report provides cross-country comparisons of adult skill levels, as well as an examination of how skill proficiency in the four domains is distributed among adults according to various socio-demographic characteristics in different countries.

The publication also presents the skill proficiency level of workers and illustrates how information-processing and generic skills are used in the workplace.

An additional highlight of the publication is insight into how literacy, numeracy and problem solving skills are associated with other aspects of well-being, such as labor-market participation, employment, earnings, and health.

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The OECD Skills Outlook 2013 can be accessed by clicking the corresponding underlined screen text.

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NCES also released a report in October 2013 to provide an introduction of PIAAC data for the U.S. This publication, known as the “First Look” Report, includes a comparison of overall scores and proficiency levels for the U.S. and other countries, as well as proficiency levels by respondent characteristics that are relevant to the U.S. context, including race/ethnicity and immigration status, among other measures. The NCES “First Look” Report, can be accessed by clicking the corresponding underlined screen text.

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There are a variety of specialized tools available to conduct analyses of the PIAAC data. Web-based tools include the OECD International Data Explorer, or IDE, which contains national data files for all participating countries except Cyprus, and allows users to easily create statistical tables and charts that can be exported for personal use. The NCES IDE is similar to the OECD IDE, but includes U.S.-only variables in addition to the international variables and data for all countries except Australia and the Russian Federation. The NCES PIAAC Web Portal provides ready-made tables and charts for the most common PIAAC data queries.

More information regarding available PIAAC data tools can be accessed by clicking on the corresponding underlined screen text.

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This module has provided you with a general overview of PIAAC and described the study’s target population, the sample and study designs, and the data collected. It also provided a brief history of national and international adult literacy assessments. Additionally, this module has highlighted topics for which PIAAC data are available for analyses. Also touched upon were the unique features of PIAAC administration and the study’s implementation.

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Publications and resources that have been presented in this module are summarized in this slide. These resources can be accessed by clicking on the corresponding underlined screen text.

In the next modules, you will find more detailed information on the main features of PIAAC, PIAAC data files, assessment and sampling designs, and analysis tools provided by OECD and NCES for both novice and more experienced researchers.

You may now proceed to the next module in the series or click the “Exit” button to return to the landing page.