

*INVITATION  
TO A  
ROUNDTABLE*

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**A Discussion of  
Return on Investment  
in Adult Education**

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by  
**James Parker and Gail Spangenberg**

with a panel of state  
and national leaders

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**March 17, 2014**



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**Council for Advancement of Adult Literacy**

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**1221 Avenue of the Americas - 44th Floor  
New York, N.Y. 10020  
<http://www.caalusa.org>**

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### **Council for Advancement of Adult Literacy**

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CAAL extends heartfelt thanks to program officers Irene Lee and Jennifer Liversedge for their interest, insight, and thoughtful support.



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## REVIEWERS COMMENTS

**LARRY GOOD, Chair, Founder, and Senior Fellow, Corporation for a Skilled Workforce, Michigan** – The Roundtable report makes a timely and enormously valuable contribution to reframing how we approach adult education policy in the United States. Framing the issue of basic skills development in Return-on-Investment terms is fundamental to building the policy and political support required to make a scalable impact on the largest challenge to U.S. workforce competitiveness. The concrete descriptions of the strategies in the six profiled states offer some great ideas for policymakers and practitioners at all levels to consider adopting, and as a set offer important clues about how to reframe basic skills development within the 21st Century economic context. The reflections on the meaning of the PIAAC results are must reading; as the report notes, PIAAC's methodologically solid international comparisons paint a dire picture about risks of there being a significant portion of the U.S. workforce that will be left behind in a rapidly changing, skills-centered economy. The ideas from the Roundtable about messaging, funding, and changing practice, all grounded in an ROI framework, provide me with some great ideas about how we move adult education to the forefront of policy and action that is so badly needed. Thanks to CAAL for doing this important convening and report.

**CHERYL KING, Senior Policy Advisor, Kentucky Council on Postsecondary Education (Study Director, National Commission on Adult Literacy)** – CAAL's comprehensive paper on ROI is for everyone interested or involved in improving adult education and workforce development. In **Invitation to a Roundtable** CAAL provides an excellent overview of promising state and federal programs working to improve metrics and data systems. But it also provides a realistic overview about the many barriers impeding the sharing of data among organizations with similar goals, the lack of funding to address technology infrastructure needs, and the inability of some to keep up with the current realities of the contemporary workplace. It's been said that we treasure what we measure, and CAAL has again raised the right issues at the right time about the importance of ROI and its impact on performance and quality. Can America compete globally when we rank below most other countries in average literacy, numeracy, and problem solving in technology-rich environments? Can we eradicate the skills shortage when only 30% of our adults have an associate or bachelor's degree? Can programs be improved if we don't know what's working and what isn't? **Invitation to a Roundtable** is a call to action. Urge your colleagues to read it and begin the dialogue and planning required to incorporate ROI into your organization. Our nation's future depends on it.

**ED MORRIS, Executive Director (Retired), Adult and Career Education, Los Angeles Unified School District** – If California had been more engaged in serious Return-on-Investment activity a few years ago, the Adult Education fiasco and the destruction it caused might not have occurred. But we have been given a new opportunity to restore Adult Education through collaboration and careful planning over the next couple of years, and ROI will be an essential element of that plan and our future success. With Adult Education programs nationwide adjusting to new economic realities, CAAL has again demonstrated critical insight and leadership in fostering discussions on ROI. As evolving economic conditions have brought ROI to the forefront of decision-making in all financial sectors, **Invitation to a Roundtable**, along with CAAL's earlier report, **Stepping Up to ROI in Adult Education**, should be required reading for adult educators everywhere and used to inform local discussions and near-term planning.



**NICOLE SMITH, Senior Economist, McCourt School of Public Policy, Georgetown University Center on Education and the Workforce** – CAAL has shown a tremendous amount of foresight in putting together its panel on ROI as it relates to adult education. As we continue to recover from this recession, many state funding formulae are now based on a measured assessment of ROI for all social and economic investments. A better understanding of ROI in Adult Education puts CAAL and others in a better position to press for continued investment. The narrative on the value and role of education as a social good has slowly shifted backwards into the pipeline away from adult education, first towards higher ed, then K-12, and now most recently early childhood education. The flow of resources in turn has more and more favored younger adults and children. Though it is clear that the returns to investment are highest in children of pre-school age, this approach to human capital investment has created a false dilemma, pitting adults against children. The fact remains that the adult ed cohort will continue to need training to keep up with changing job requirements. Moreover, since the cohort of adult ed workers includes the unemployed, underemployed, disabled, returning veterans, and formerly incarcerated, robust estimates of ROI at all levels is a step in the right direction.

**JOHAN UVIN, Deputy Assistant Secretary, Office of Career, Technical, and Adult Education (formerly OVAE), U.S. Department of Education** – Your November 2013 ROI Roundtable was effective for many reasons. One is that a national conversation about the issue of ROI for adult education was long overdue. CAAL should be commended for organizing this session. A second reason is the thought that went into putting together the group of participants. The group's composition reflected expertise from various disciplines, not just adult education, all necessary to have a well-informed discussion, and there was research, program, policy, and practice expertise. The make-up reflected the cross-sectoral partnerships needed to examine how ROI is best done given the multiple subpopulations and contexts of adult education. The level of preparation was excellent including the background materials prepared by CAAL and the mini-presentations by various participants. The high quality of the preparation elevated the level of the discussion to where it needed to be. In addition, the discussion was structured in a way that encouraged the participants to expand or create knowledge together progressing from building shared understanding of constructs and moving toward specific opportunities and possible solutions. The resulting report, **Invitation to a Roundtable**, is built on the same inclusive spirit that marked the Roundtable. It offers useful suggestions on how to proceed and should open the door to other good thinking about this very important topic.

## **INVITATION TO A ROUNDTABLE: A Discussion of Return-on-Investment in Adult Education**

### **A. INTRODUCTION**

In September 2013, based on a national survey of state ABE directors or designates, CAAL published *STEPPING UP TO ROI IN ADULT EDUCATION: A Survey of State Activity*.<sup>1</sup> This paper reported on the states' activity, from the perspective of the respondents, in collecting and using return-on-investment data in their workforce adult education programs. It examined six states in detail (AR, CT, KY, NJ, OR, and VA), and proposed several next-step actions for government, research, business, and philanthropy in building future state capacity to meet the ROI challenge.

As states engage in more comprehensive planning, form local and state coalitions to bring more groups and interests to the planning table, and organize to provide a wider array of effective workforce and college readiness services, state ABE directors are in the midst of a seismic shift in Adult Education, as they are increasingly called upon to provide an array of new services. More and more, they are one of many teams of interest engaged in statewide planning for Adult Education. To tap into a wider range of interests, CAAL decided to build on its survey by bringing together an invitational Roundtable of other kinds of national and state leaders, which we did on November 8, 2013 in New York City. Our goal was to provide a richer range of insights and strategies to help states build ROI capacity in Adult Education.

We designed the day around a few topical panels. One focused on current ROI updates and issues in six leadership states (AR, CA, IN, KY, MN, and VA). A representative of the much-heralded Arkansas WAGE program was invited but was unable at the last minute to attend; he nevertheless provided ROI data. Another panel considered the challenges in developing ROI evidence for special needs subgroups (ESL, Immigrants, Corrections, the Working Poor, and Family Literacy). A third presented key findings from PIAAC, so that the participants could begin to consider how PIAAC data might help add substance and direction to state ROI planning and data collection efforts. A fourth considered the relevance of ROI efforts in Canada for the U.S.

To conclude the day, the participants were asked for next-step suggestions in several areas: research; strategic activities for state and federal government; projects or measures to help states factor special-needs groups into their services and ROI activity; and steps that can/should be taken by philanthropy, business, unions, and community colleges to foster development of state ROI activity in Adult Education. They were urged to give special consideration to low-skilled adults.

This paper, **INVITATION TO A ROUNDTABLE: Strategies and Insights to Help Build ROI Capacity**, reports on the CAAL Roundtable. It does so in a conversational format adapted

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<sup>1</sup> STEPPING UP TO ROI IN ADULT EDUCATION, by James Parker and Gail Spangenberg, is available from the CAAL website at <http://www.caalusa.org/SteppingUptoROI.pdf>.

from the transcribed conversation that invites you, the reader, to the table. It should be read as a companion paper to STEPPING UP. The main body of the paper presents elements of the various discussion strands, often paraphrasing what the participants said, and it synthesizes the next-step suggestions and ideas (beginning on p. 19) generated by the discussion. Appendix I provides a brief biography of the authors. Appendix II lists the Roundtable participants. Appendix III provides a few resources to supplement the comprehensive resource listing provided in our STEPPING UP report. Appendix IV contains informational handouts developed for the ROI Roundtable regarding PIAAC and the Arkansas WAGE program.

The Annie E. Casey and Charles Stewart Mott Foundations provided grant funding for the ROI Roundtable and this report, and McGraw Hill Financial provided extensive in-kind support.

## **B. SOME ROI CAUTIONS**

“Why is it important to bother about ROI?” CAAL asked the group at the outset. “Because,” said the U.S. Department of Education representative, “we know we are funding things that work, but we also know we’re funding things that don’t work. We need to be able to say that if a person participates in this program or that, you can count on certain types of economic or social or service returns.”

But determining ROI is not a simple matter. The CAAL survey showed ROI to be both mixed in definition and in a state of flux. For example, at the time of the survey, according to ABE state directors and designates, 26 states were measuring one or more of the workforce education indicators for Adult Education proposed in the still-to-be-enacted Workforce Investment Act. Eleven states tracked workforce readiness certificates as a program outcome or said they soon would be. Some 21 states were able to measure at least one or some of the general program benefits/outcomes (such as GED acquisition) thought to be timely by studies of CAAL, the Department of Education, and others. Some 22 states were giving serious attention to trying to measure the use of new technology on the job. Only a few states were doing nothing at all.

Add to this mix certain other variables, and the challenges of ROI are obvious. For example, one participant noted that to develop ROI data solely on the measures CAAL surveyed in STEPPING UP, state data systems will have to be pushed even more than they are now. “ABE, postsecondary, and even workforce groups will have to reform their systems and upgrade them so that they can track students into not only postsecondary education but can do very significant wage record matches.” Developing data systems and engaging in well-targeted ROI is going to “be critical over the next couple of years,” he said, and hopefully it will “bring a higher profile to adult education and in a favorable way.”

Another participant asserted that ROI is more complex than CAAL’s work suggests because part of what we need to be doing is tracking costs. She pointed out that tracking costs requires more than just looking at Adult Education state budgets because programs must increasingly leverage resources from a number of different other agencies as well as government, foundations, and the business community. It isn’t very helpful, she said, to “track and talk about benefits without also talking about costs.” And to complicate the matter, we don’t always know whom or what program to credit for an outcome. For example, who would be credited if a student was both a TANF recipient and an enrollee in adult education and/or college?

Moreover, ROI, in the view of several participants, is not just about employment or college readiness gains or workforce skills programming, and we should not lose sight of that. There are many other kinds of valuable Adult Education activities, both formal and informal, and states need to document evidence on successes and impacts in those program areas, too.

And finally, as we strive to develop better ROI state capacity so as to make a solid investment case, we should keep in mind other societal costs that drain state budgets. For instance, high school drop-outs are two times as likely to be unemployed, three times as likely to be in poverty, and eight times as likely to be incarcerated. Facts like this are strong selling points and critically important to effective messaging.

### **C. PACESETTERS: ROI Unfolding in Six States**

Even though the states have a considerable distance to go on the ROI front overall, most are paying greater attention than just a few years ago to ROI definitions, program evaluation, outcomes, and impact in workforce/workplace adult education.

According to CAAL's survey, two-fifths of the states have invested time, effort, and expense in special initiatives over the past few years. Many states can list specific outcomes of their workforce programs to increase worker skills and performance in the workplace and some can provide quantifiable data about those outcomes. Most understand the limitations of the National Reporting System, and most feel that NRS performance data does not tell the complete story of their actual program accomplishments and range of services. Some await and hope for new legislative requirements or guidelines to support ROI-type data systems and outcome measurements they would like to undertake. The best efforts are based on partnerships with a variety of interest groups and extensive cooperation with business, as well as an understanding of Adult Education's changing service role.

Six leadership states are discussed below. Kentucky, Virginia, and Arkansas were profiled in depth in STEPPING UP. (Note: Although last-minute difficulties prevented Arkansas' representative from joining the Roundtable, its adult education and workforce skills effort is among the most highly developed in the nation. It is discussed below in terms of data submitted to CAAL for its Roundtable presentation.)

#### **1. California**

Over the past five years, as widely publicized, California lost large portions of its state Adult Education funding. That funding, including WIA, shrank from about \$753 million annually to about \$200 million. However, thanks in part to leadership from the community college system and a savvy and committed governor, Adult Education has recently been given the opportunity to "plan itself back into existence." \$25 million has been set-aside over the next two years for local groups to plan and apply for comprehensive programs covering elementary, basic skills, high school diploma, immigrant and ESL programs, and career-technical education. The Department of Education and the California Community College Chancellor's Office have been charged to collaborate to develop, coordinate, and support these changes.

In this new initiative, local consortia must include provisions in their plans to accelerate a student's progress--such as modularization, career pathways, contextualized basic skills, orientation programs, and bridge programs. They must also include research-based program strategies that accelerate students' learning and move these adults quickly through a pipeline. The development of metrics to determine ROI and the impact of ROI on these programs will be a requirement. The focus of services, to be organized through regional consortia, are to be elementary and basic skills, classes required for high school diploma or equivalency, services for immigrants and ESL, and programs for disabled adults. Outcomes to be tracked are certificate attainment, persistence in classes, and readiness for job training and college, all according to "research-based metrics." And, of equal significance, the plans must include new ways to advance professional development.

A website has been set up for the new California initiative to keep people informed about progress, issues, and activities as the future planning goes forward.<sup>2</sup> ROI evidence clearly will be an increasingly essential part of the overall California effort. "Plan and plan well," initiative leaders have been charged, and "come to us in 2015 with evidence that you have."

## **2. Indiana**

Under leadership from the State Chamber of Commerce, Indiana is well advanced in its adult education and workforce skills programming and its use of ROI data.<sup>3</sup> The adult education structure there has been substantially reformed, a goal achieved in part by an in-depth partnership with the business community and a shift of governance from the Department of Education to the Department of Workforce Development. Our Roundtable participant gave heavy emphasis to the importance, not just in Indiana, but around the country, of developing an approach that taps into the various funding streams at the disposal of Adult Education today. But, she said, "to think about that and to do it in a new way takes a lot of work because you have to really press the flexibilities of those funding streams, and you must be more client-centered than program-centered. You also have to move toward funding outcomes instead of inputs, and that takes a lot of work, too. You must track these things very carefully to continually make the case for funding."

The state's work is closely tied to ROI thinking. Its plan includes three key provisions: (a) an outcome-based performance funding structure; (b) a new data system that tracks everything much more carefully and comparatively among programs, and (c) a system where data is shared by three key agencies-- the Department of Education, Department of Workforce Development, and Commission for Higher Education. The goal of collaboration is to connect education to wage and employment experience.

Bridge programming is at the core of everything. Under this rubric, Indiana tracks career pathways of possible relevance to adult students. It also tracks industry-recognized credentials earned while enrolled in adult education and subsequent to getting a GED/equivalent, student

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<sup>2</sup> California's new website is at <http://ab86.cccco.edu> .

<sup>3</sup> For detailed information about the Indiana initiative, see <http://www.readyindiana.org>. Also see <http://www.insideindianabusiness.com/contributors.asp?id=1129>.

completion, attainment of actual credentials, students' entry into employment in the occupation for which they studied, and wage data changes over time. The Indiana Business Research Center and Ball State University have been conducting comparative analyses of the data collected.

On a different track, the Indiana Commission for Higher Education recently embarked on its second ROI report for the postsecondary system. It is drawing on data from the three key agencies cited above. In addition, a new Career Council was recently created by legislative statute to oversee the state's adult education and workforce development effort – including attention to the functioning and further development of its longitudinal data system.

It is interesting to note that on the basis of well-defined learning outcomes and an excellent data system, the state of Indiana has apparently “gone from fifth to third in the country in terms of sheer numbers of credentialed manufacturing workers.” But one of the Roundtable participants pointed out that *“almost all states are now getting federal resources for their longitudinal data systems and the focus and insistence on incorporating adult education into that system is not as strong as it should be.”* She stressed that *“every state should be paying attention to that because having adult education as part of the total system is critical.”*

### **3. Kentucky**

For the Kentucky representative, the most important element of service planning provision and of determining ROI is having a “clear, concise, consistent, comprehensive message that’s compelling.” It is important to develop a context using good data and have a call to action that everyone understands. In his state, the context, or message, is shaped largely by an understanding of the relationship between educating workers and potential workers and state economic development. Good ROI evidence is vital. Our participant said that everyone is being pushed to do more with less and less funding these days, and he noted that unless we plan well in a clear context and can show specific outcomes we could find ourselves doing less and less because we will have “nothing at all” in terms of funding.

The analysis shows that Adult Education must help prepare adults for postsecondary education. The data also shows compellingly that “the more you learn, the more you earn.” Kentucky takes these propositions seriously as it tracks return-on-investment. To give one example, about 20 percent of all school graduates in the state hold the GED or an alternate diploma. On average, these graduates earn about \$9,400 more a year than a non-graduate in the state. And the potential increased earnings for GED graduates in just 2012-13 will be nearly \$2.5 billion over a 30-year career, a cohort whose unemployment rates will also be substantially lower.<sup>4</sup> This kind of analysis and outcome data is an ongoing part of messaging in Kentucky.

Kentucky has managed to reduce its working age unemployed population from 21% only a short time ago down to 15% at the present time. In the process, the state has moved ahead of six other states on this measure and they benchmark their program against those other states. Moreover,

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<sup>4</sup> For this and other KY ROI information and analysis, see <http://www.kyae.ky.gov/NR/rdonlyres/743D9794-89AC-4EB1-9D96-12076665385B/0/KYAEProfile.pdf>.

Adult Education has been established as a department level agency, an organizational change thought to be partly responsible for this success. Adult education is planned at a high policy level, and its department level status enables it to work with a wider range of key partners across the state. Adult education leaders meet regularly with the Department of Workforce Investment, the chancellor of the community college system, and the business community, among others.

Many of Kentucky's 120 counties are not located near a community or technical college. Thus, it is seen as important for Adult Education to help individuals in those areas obtain high school equivalency diplomas, national career rating certificates, and some level of employability skills, and then to connect these with occupational skills training.

Because it believes messaging to be so important, Kentucky is looking at branding its ROI results with a *Skill Up Kentucky* label, which it sees as a way to engage people and get them to understand the importance of workforce skills, and college and job preparedness. "If you look at how state budgets are cut up," said our participant, we "educate, medicate, and incarcerate, and too little goes to educate. We must stop the pipeline leaks, and be sure we recruit and retain adult education students and move them to needed outcomes. To do this, we must remember that it's about the students. We should think not only about messaging but about how to re-engineer the adult education system to make it responsive to contemporary needs."

#### **4. Minnesota**

In Minnesota, Adult Education leaders believe that the single largest ROI variable of interest at the federal level is the size of the state's commitment. So they are considering how to enhance federal NRS data by reporting outcomes per capita or incentivizing an increased state match with increased flexibility for how federal funds are spent. This is considered a priority issue because "it is the federal law that drives ABE programming in Minnesota, and even though the state provides more dollar for dollar than the federal government does, the federal law is much better than our state ABE law. We need it and its funding to be solidly in place."

In addition, together with the governor's workforce development council (the state WIB), Minnesota has implemented a "proof of concept" ROI service model that includes benefit categories and cost categories. The benefit categories are change in earnings and fringes, change in taxes, and change in public benefits such as TANF and SNAP reductions.

Overall, the Minnesota ROI effort currently includes data from the Adult Education system, the Department of Labor, and SLEDS<sup>5</sup> (the Statewide Longitudinal Education Data System). The state is presently trying to merge these data systems into a single state longitudinal system. They indicate that they have been helped in this regard by their participation in the Joyce Foundation's Shifting Gears program.<sup>6</sup>

The work is also being supplemented by other data gathering activity. To give one example, Adult Education has established a set of "direct data sharing agreements" between adult basic

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<sup>5</sup> The SLEDS website can be accessed at [http://mnp20.org/working\\_groups/longitudinal\\_data\\_system.html](http://mnp20.org/working_groups/longitudinal_data_system.html)

<sup>6</sup> For information about Shifting Gears, <http://www.joycefdn.org/shifting-gears>.

education, the workforce system, the human resource system, and higher education, so that data can be tracked over time in a more complete and useful way. To give another, Minnesota has a large immigrant and refugee population. They cannot presently be isolated as a subgroup within the current data system, so that issue is being addressed collaboratively with the Department of Human Services.

## 5. Virginia

Virginia's workforce education program, *Plugged In VA*<sup>7</sup>, was started with innovation funds from the governor in 2008. The first program, an intense six-month program for low-skilled adults testing at a 9<sup>th</sup>-grade equivalency level, was rolled out in a single rural location in 2009. It is now operating in 13 locations which are expected to grow to 39 by the end of the 2014 fiscal year. Because of its focus and early achievements, the program has apparently become a guiding force for adult education in the state as a whole. Partnering primarily with local community colleges and prospective employers, the goal is to move these low-skilled adults to college readiness and jobs in high demand, high-wage industries. Programming is linked to the results of labor market research in different regions of the state.

Based on achievements demonstrated through ROI data and good messaging, *Plugged In Va* has been able to attract new funding from local industries and the local WIB, and by 2010 the program was already doing so well that it achieved a line item in the governor's budget.

Virginia was a participant in the Policy to Performance Project of the U.S. Department of Education. According to our Virginia participant, this experience was highly valuable because it provided the opportunity to bring in new kinds of partners. Adult Education is working with local WIBs and businesses, community colleges, and various departments and agencies of state government including Social Services. It also works with the Virginia Manufacturing Association, the Board of Veterans Services, and the Virginia Employment Commission (VEC brings in Department of Labor funding).

The curriculum is customized to fit the specific local context, and internships, career readiness certificates (geared to Work Keys), and digital literacy are features of the program. Career readiness certificates are offered at bronze, silver, and gold achievement levels, which are recognized by employers. The state is now piloting badge systems, awarding badges based on skills and expertise that industry partners want to see.<sup>8</sup> *Plugged In VA* is also attracting attention from other states. For example, Kentucky is looking at the model as a way to extend its own outreach and services.

*Plugged In Va* focuses on low-skilled adults at upper levels of proficiency, 9<sup>th</sup> grade equivalency and above. But the state is sensitive to the needs of much lower-skilled adults and is trying to address those needs through several pilot programs, a few of which are considered quite successful. Virginia is committed to serving hard-to-reach populations, including those with ESL

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<sup>7</sup> <http://www.pluggedinva.com>

<sup>8</sup> See [http://lincs.ed.gov/publications/pdf/AIR\\_Digital\\_Badge\\_Report\\_508.pdf](http://lincs.ed.gov/publications/pdf/AIR_Digital_Badge_Report_508.pdf), which explores the potential of badges for use in adult education programs.



needs. The state's data system apparently does a very good job of tracking and evaluating every student who goes through the *Plugged In Va* program, but it does not yet track them well after they move into other programs. A pilot program is in place to correct this limitation.

## 6. Arkansas

Arkansas' adult education program is one of the most comprehensively planned and evaluated in the country.<sup>9</sup> It is carried out substantially in cooperation with business and industry. Among its instructional strands, as in many states, are GED preparation, basic ABE classes for adults functioning below 12<sup>th</sup> grade level, ESL instruction, and programs to lift basic skills to enhance employability (through its Career Readiness Certificate and WAGE programming).

The state has a solid data gathering operation, which enables it to determine outcomes and impacts of all kinds, including detailed economic benefits from adult education services.

For example, according to information supplied to the CAAL Roundtable, the state's return on investment from its GED funding in 2008-2009 netted a rate of return on investment of 43% or nearly \$27 million over and above the \$18 million investment also recovered over the 10-year working career of the GED recipient. "Similar results apply to other years," the state Association of Continuing and Adult Education says. In addition, lifetime total health savings for high school graduates in Arkansas is estimated to be about \$40,500 per person compared to a non-graduate, or some \$211 million over a working career for the 2008-2009 cohort.

It should be noted that the WAGE program, which awards hundreds of certificates each year, is given free to business and industry partners, incumbent workers, and adults seeking employment. It has developed several dozen competencies for its students in four areas: Communications, Math, Reading, and Writing. Participants can enroll at any time and exit when their individual goals are completed. (See Appendix IV for a listing of the WAGE competencies and additional outcome data.)

### **D. A PARKING LOT ISSUE: Using Social Security Numbers**

During discussion of the Minnesota ROI and planning experience, there was a lively exchange among the participants about the varied use of social security numbers across the country for gathering and matching data. There is considerable variety among the states, including those present at the Roundtable:

- Minnesota has statutory authority to *ask* for social security numbers but does not *require* them. It is able to get social security numbers for about 80 percent of its program participants. The state gets a good deal of useful data in this way, although the data system was characterized as "a fuzzy matching engine" meaning that the state is not always precisely sure what the data represents, a problem they are working on now.

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<sup>9</sup> For detailed information: <http://ace.arkansas.gov/adultEducation/Pages/default.aspx> .

- Kentucky uses social security data and in some cases (usually with ESL adults) issues a unique student ID number for tracking/matching.
- In California, some community colleges collect social security numbers, and some important data matching starts with that. Where there are no social security numbers, first and last name, date of birth, and zip code information is used by the community college system. The K-12 system uses social security numbers to match for GED, but they do not do wage or unemployment insurance data matching.
- The Chamber-driven effort in Indiana involves different agencies that use different identifying numbers for data analysis purposes.<sup>10</sup> For example, for workforce purposes it uses social security numbers. For adult education it uses student test numbers (STN), and for higher education it uses an assigned unique number. To match across differences, it takes an algorithmic approach to connect the various data points.
- Virginia does not require social security numbers for adults who receive services through its state-funded programs; however, social security numbers are the only way *Plugged In Va* can match data with the Virginia Employment Commission (VEC), so learners are encouraged to provide them at intake. A pilot now in process with the state’s longitudinal data system is expected to eliminate the need to use social security numbers.

One of the national participants pointed out that a number of states are prohibited by law from collecting social security numbers. He said that about 21 states have legal or other issues with using them as a route to data matching. However, these states and some national groups that work with states have found other ways to get the data they need. For instance, the highly ambitious and accomplished national credentialing program of the Manufacturing Institute of the National Association of Manufacturers gets close to 90% of what they need without the use of social security numbers by matching its program data with public sector data.<sup>11</sup>

A final set of comments on the need to use social security numbers has to do with immigration reform. It was noted that we should keep in mind that social security numbers are a key way to verify continuous employment, which “is going to be really important for the undocumented and for many youth and adults as well.” The discussants agreed that the question of how and whether to use social security generated data needs to stay on the agenda as a “parking lot issue.”

## **E. ROI & SPECIAL-NEEDS POPULATIONS**

The purpose of this strand of the discussion was to explore issues that may be unique to state planning and ROI activity for certain “special needs” groups: ESL/immigrants, the corrections population, the working poor, and family literacy.

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<sup>10</sup> For detailed information on how the Indiana data gathering and accountability system works, go to <http://www.doe.in.gov/accountability/data-collection> .

<sup>11</sup> For details about the Manufacturing Institute, its bold and successful Certificate program, and its approach to determining outcomes, see <http://www.themanufacturinginstitute.org/About/About-Us.aspx> .

## 1. ESL/Immigrants

The ESL representative pointed out that up to half of the students in the adult education system are immigrants at the beginning ESL level.<sup>12</sup> Yet beyond the NRS, she said, “we don’t have any data that shows what difference we’re making with these folks.” We know in general that these students “learn a little bit more English and tend to move up one level, usually not more than that.” This is not nearly enough for the ESL student to “make significant life changes in terms of economic gain, quality of life, and moving into jobs that pay family-sustaining wages.” We need to focus in our planning and ROI activity on a more rigorous education for this sub-group and “to help people understand that it is worthwhile to persevere.” As we advance understanding of ROI, there’s not much point, she stressed, in collecting outcome data that’s geared to a system that is not really responsive to actual service needs. “There’s a strong need to have ESL appear in the longitudinal studies that the states collect. And one of the things we need to know going forward is which adult education students started in an ESL program as they move up through levels of learning.”

It was observed that we have a tendency in adult education service provision to lump all ESL students into the same category when it comes to programming, regardless of their proficiency level. Programs need to be designed differently for low-skilled adults with ESL needs than they are for well-educated adults who just happen to need to learn English. The discussants felt that we should be building our system to take that difference into account, and track data accordingly.

Another potential problem has to do with creaming. In current reauthorization bills, a low-skilled immigrant or refugee is unlikely to be served with WIA dollars, given the outcomes that would be required. So there is a danger that the creaming we already do in adult education and workforce skills development will get worse. We need to be diligent in protecting against that.

On the immigration front generally, it was observed that as much as 50% of low-wage workers in the U.S. are foreign born, and that we haven’t even begun to make the investment needed to provide the adult ESL services they need. It is as though “having low wage workers is something we mean to do.” Up to now, we have had the hope that the children of these people would have better success, but “we are beginning to see that the children are not succeeding.” That’s what the pre-K initiative is all about. We need a sort of Even Start program back, someone said, but not call it that, and we need a substantial investment in services for low-literate ESL parents as well and pre-K services, which should be a key element in thinking about ROI.

The Roundtable discussion was organized largely on economic return on investment, looking mostly at programs that integrate workforce development with adult basic education and ESL. But a number of participants stressed that there are other big social and political goals for students and programs, goals that focus on the role of community member and family member as well as worker. ROI also needs to take account of these outcomes.

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<sup>12</sup> *Federal Adult Education: A Legislative History 1964-2013*, recently published by the U.S. Department of Education, indicates that between 2001-2011 ESL students comprised an average of 44% (47% in 2006-07) of Adult Education (WIA Title II) enrollments (although WIA appropriations accounted for only about 12% of Adult Education funding). The report can be accessed at [https://lincs.ed.gov/publications/pdf/Adult\\_Ed\\_History\\_Report.pdf](https://lincs.ed.gov/publications/pdf/Adult_Ed_History_Report.pdf).

To reinforce this point, the participant from New York City spoke about ROI in connection with an anti-deportation program for undocumented young adult immigrants in the City. He said the New York City Council has made an 18 million dollar investment in providing high school equivalency seats in the program. The program participants will hopefully be eligible for “deferred action” on deportation once they meet certain criteria. At this point, it is apparently not clear to the program staff precisely what outcomes should be measured. He posed these questions: Isn’t re-engagement with the adult education system an ROI outcome in itself? Isn’t it an outcome when a person gains the ability to help elderly parents navigate the system of services available to them? Isn’t it also an outcome when an undocumented immigrant gains the ability to access legal services?

## **2. Corrections**

OCTAE (Office of Career, Technical, and Adult Education, formerly OVAE) has a major new commitment to correctional education, a critical area of unmet need in Adult Education. As a result of powerful research findings from a 2013 Rand Corporation report<sup>13</sup> and work by the Vera Institute of Justice<sup>14</sup> and others, OCTAE is presently testing a new model approach in re-entry education through a variety of demonstration projects. OCTAE sees an enormous ROI opportunity because recidivism is what most people who work at all levels of the prison system seem to care about.

The demonstration projects are being carried out through a partnership between OCTAE and the Department of Justice. There is strong ROI data to support their work, and further ROI results will be generated by the demonstrations.

The direct costs of confinement are readily available and widely known to be huge. Depending on the level of security involved in confinement, “the annual cost may range anywhere from \$35,000 to \$95,000 per person, and for that amount you can actually send a person to Harvard...” The indirect costs are even larger, so we’re only touching the tip of the iceberg. By contrast to these enormous direct and indirect costs, the direct cost of providing the education considered in the Rand study was somewhere between \$1,400 and \$1,700 per person.

Moreover, Rand’s study concludes that participants in correctional education have “43 percent lower odds of recidivating” than nonparticipants. And the evidence shows them to have a substantially higher likelihood of post-release employment (13%). The Rand findings make a powerful case for education participation and intervention.

To some extent, that report shows the effects of correctional education on the odds of recidivating according to program type: adult basic, secondary, vocational, and postsecondary education. However, analysts believe that more research is needed to firmly show cause-and-

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<sup>13</sup> The Rand Corporation study was the result of an award given under a mandated competition by the Second Chance Act of 2007. It is titled **Evaluating the Effectiveness of Correctional Education: A Meta-Analysis of Programs that Provide Education to Incarcerated Adults**, by Lois Davis, Robert Bozick, et al, and available from [http://www.rand.org/pubs/research\\_reports/RR266.html#abstract](http://www.rand.org/pubs/research_reports/RR266.html#abstract) . Also see the slide-set used for Corrections in CAAL’s Nov. 8<sup>th</sup> ROI Roundtable, at <http://www.caalusa.org/DeptEdCorrections&Reentry.pdf> .

<sup>14</sup> <http://www.vera.org/centers/substance-use-and-mental-health-program> .

effect relationships between recidivism and program type. It is interesting to note that inmates exposed to computer-assisted instruction learned slightly more in reading and substantially more in math in the same amount of instructional time.

A key goal of OCTAE'S corrections work is to reduce the risk to government investments in corrections education by focusing on proven programs and "doing all the ROI work before program implementation." A program operating at NYC's Riker's Island was cited as an exemplary model. The program uses the specific outcome measure of "number of bed days," and the prison knows that if they can reduce bed days by a predetermined number they can actually shut down a wing and achieve substantial savings. Because planners of the Riker's program did so much advance analysis and knew what measure(s) were suitable for their context, they were able to attract funding from third party resources, such as Goldman Sachs and the Bloomberg Foundation.

### **3. The Working Poor**

Even though the "working poor" category cuts across other many groups of low-skilled adults in need of service, CAAL felt a strand focused on it would add an important element to the ROI Roundtable discussion. The participant on this topic directs The Working Poor Family Project (WFPF), a 12-year old national initiative supported by the Casey, Ford, Kresge, and Joyce Foundations. The project's purpose is to strengthen state policies on behalf of low-income working families. Its work is carried out in 23 states, primarily through support to nonprofit organizations that do the policy work. WFPF is motivated by a belief that the ability of low-income working parents to move up in jobs and achieve economic success depends on their access to and successful participation in adult education and higher education programs.

WFPF plans and evaluates its activity on the basis of data drawn annually from the Population Reference Bureau on the number and percent of low-income working families at the national and state levels. This data shows that one of three working families in America is low-income, up from one in four 12 years ago. A key characteristic of low-income working families is that large numbers of them do not have the education or skills needed to get better jobs. For example, 30 percent of these families have a parent without a high school diploma or equivalent, and 50 percent have a parent with no experience at any level of postsecondary education. Many of these people are working very hard in the jobs they have but they are "falling short." Thus, as WFPF works with the states, it gives heavy attention to moving family members into ABE and college education.

Messaging was underscored as having very high importance for the working poor. The way we speak about and frame the need and the outcomes for the working poor should reflect that these people *want* to work, to participate, and to do better. Decision-makers are sometimes skeptical about that. In particular, our message and ROI framework should make it clear to state legislatures and state government that not only are these deserving people, but that the odds are often stacked against them. We need to pay better attention to how interventions are structured, to be sure they are really designed to serve this working population.

This means developing connections to social services, and realizing that we have to think about adults out there working now as well as young adults coming out of the K-12 system. And then

we need to think about ROI in terms of the benefits of specific strategies. We shouldn't be thinking only about cost effectiveness, but also about how well we achieve the specific program outcomes we set for those we serve. Put another way, we should have a solid understanding of how effective our strategies are in reaching predetermined goals before we try to do cost benefit analysis.

In the United States, it was said, skills pay off more than in almost any other country in the world, and having low skills dramatically increases our problems of inequality and low earnings. We know that adults in low-skilled occupations face a higher risk of losing even elementary skills because they're not using them in their jobs. So as we develop services and strategies, we should be aware that more highly-skilled occupations tend to provide more opportunities for using, maintaining, and improving skills. We shouldn't be preparing the low-skilled working poor to compete with people holding low-wage jobs.

In short, our panelist said, even though we are not doing a very good job of determining ROI for the working poor, positive things are happening to move us in the right direction. For example, OCTAE is currently working to develop strategies that *pertain to the needs* of the working poor. They are not focusing on the working poor per se, and that emphasis is very encouraging. OCTAE is also putting real energy into building the state longitudinal data systems that are so important to everything. Moreover, it is clear from CAAL's survey and this discussion that a number of states are really rethinking the structure and purpose of adult education and workforce skills development. That's quite a lot to build on.

#### **4. Family Literacy**

Family literacy is not a "special-needs" group in the same sense that the other three subgroups are. But it should not be overlooked in discussions of ROI because it is an essential component of the Adult Education system. Because it is one of the leading players in family literacy, the Barbara Bush Foundation for Family Literacy was represented at the Roundtable. It has been engaged in ROI activity in a major way and provides another window into the collective ROI experience.

The Foundation celebrates its 25th anniversary this year. It decided a couple of years ago that it should know more about the outcomes of the programs it funds and launched an ongoing data gathering effort involving a wide array of its funded projects. Depending on program type and purpose, it began to collect data on such variables as the following: grade-level improvements, set-up costs, operation and maintenance costs, sustainability, impact on family literacy levels, impact on student vocabulary and listening comprehension, retention rates, and parental engagement. Heavy emphasis is being given to the degree to which a program is self-sustaining after five years, and to its scalability (how replicable it is).

The data gathered in the effort is being fed into a "dashboard" that creates graphs so that staff can easily evaluate the results. The Foundation has already undergone some restructuring and set new policy directions, and it is beginning to focus its grant-giving on certain models and program approaches.

For example, in September 2014, the Foundation will open its first charter school wrap-around family literacy program in Detroit in cooperation with the YMCA and an already-large charter school provider in the city. It will also develop its charter school model in a few other states. Moreover, as part of its future mission, it will “focus more on parents than we usually do.” It was noted that conversations about early childhood development too often overlook the fact that “it’s not the child who determines the poverty level of the household, but the parent.” The Foundation recognizes that parents need to be enabled to hold high-wage jobs and earn a family-sustaining wage.

The Foundation’s overall goal in its data gathering is to “enable the staff to determine if the Foundation’s spending gets a good return on investment.” The Foundation also considers the impact a funded program’s experience will have on its own cash flow.

## **F. PIAAC AS IT RELATES TO ROI & STATE PLANNING**

PIAAC is the largest, most innovative, most complex study of adult skills ever undertaken. As such, it is a very rich data set that adult education leaders need to be aware of and that should be factored into planning and policymaking at every level. For that reason, CAAL included a major strand on PIAAC in the ROI Roundtable, for the benefit of participants who were not yet familiar with the findings. A surprising number were not.

Appendix IV (pp. 35 ff.) gives the specific PIAAC findings presented at the Roundtable—through an array of charts and figures adapted from the extensive PIAAC databases operated by the National Center for Educational Statistics, the American Institutes for Research, and the Organization for Economic Cooperation and Development (OECD).<sup>15</sup>

### **1. The Key Is Adaptability**

Everyone understands that the forces of globalization and advances in technology have changed the world dramatically almost overnight. But everyone does not necessarily understand the consequences of that change for individuals and societies in terms of the increased need for education and solid basic skills. The game has changed from when many of us in Adult Education were young. Now there are a whole different set of rules. It’s important to understand this when thinking about the PIAAC data. “It’s not necessarily the strongest or the most intelligent among us who will determine our future, but the ones that are most adaptable.”

Our success in adapting to the changes at home and abroad will very likely “determine both the rate and shape of our economic growth and decisions we make about how to share that growth.” Unfortunately, “although America’s productivity has continued to grow in recent decades after World War II...we just don’t share it the way we did in the decades after the war.”

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<sup>15</sup> For an array of reports, analysis, and data on PIAAC, go to <http://piaacgateway.com>, <http://nces.ed.gov/surveys/piaac>, and [www.oecd.org/site/piaac](http://www.oecd.org/site/piaac).

## **2. The Good of PIAAC**

PIAAC provides a much better understanding about “the distribution of human capital and of proficiencies at the national and international levels.” And it’s a good complement to the many school-based surveys that are done. In the U.S., by the time students reach 12<sup>th</sup> grade many have already left school. So this product of the schools is what we’re often looking at instead of the larger issue of human capital of the population overall. Unlike the school surveys, PIAAC is administered through face-to-face interviewing via computer in the homes of a nationally representative sample of adults. And for the first time in a large-scale international assessment, reading components have been incorporated.

“PIAAC adds another dimension to our understanding of how well we’re doing and how well our schools are doing.” The data sheds light on the extent to which skills translate into better opportunities for individuals and economies. “It can help us evaluate how effective our education and training system is and also how well our social workplace practices develop the required skills and proficiencies,” said a member of the PIAAC team.

## **3. Changing Trends in Routine and Non-Routine Job Tasks: What It Means**

Between 1960 and 2009, according to research by D.H. Autor and B.M. Price (2013),<sup>16</sup> we’ve seen “a significant decrease in the amount of tasks in jobs that require routine skills, manual or otherwise.” Since 1980 three on-the-job occupational routines have steadily declined: manual tasks of a routine and non-routine nature, and routine cognitive tasks. During this same period, heavy increases have occurred for non-routine analytic and non-routine interpersonal tasks, or in everyday language, in problem-solving, critical thinking, and communications skills.

In effect, jobs have become more complex, the structure of the economy has changed, and so have the outcomes. This makes research on trends and gaps in lifetime earnings all the more important. Between 1978 and 2008, according to the PIAAC team, the lifetime earnings of male high school dropouts dropped by about 34%. We haven’t made much progress. If you’re a male high school dropout today, “you still see your expected lifetime earnings drop by 28%, whereas with an associate degree it’s 16% and with a bachelors there’s a *gain* of about 4%. The people who have benefited the most are those with master’s degrees. They have had a 33% increase. What we’re seeing is “this hollowing out of the middle class”—a very real outcome!

People with higher levels of education are increasingly advantaged in U.S. society—not “because they’re making so much more, but because others are making so much less.” This in turn is a function of what employers are willing and able to pay in a global economy where they have a larger pool from which to hire.

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<sup>16</sup> Autor, D.H. and B.M.Price (2013), “*The Changing Task Composition of the US Labor Market: An Update of Autor, Levy, and Murnane (2003)*,” MIT Mimeography, June 2013.



#### **4. Mediocrity & Increased Inequality**

PIAAC was administered to some 166,000 adults in 24 participating countries ranging from 16-65 years of age. These adults represent some 724 million people living in households in these countries. Here are a few of the specific U.S. findings<sup>17</sup> as highlighted at the Roundtable:

- The U.S. performed significantly below the international average in Literacy, Numeracy, and a new ground-breaking scale called Problem Solving in Technology Rich Environments. About one in six adults in the U.S. scores at level 3 and lower on the Literacy measure. One of every three adults is at level 3 and below in Numeracy.
- Older adults are doing better than the international average on the Literacy measure, but 16- to 24-year-olds, who will be in the job market for the next 30 years or more, score much lower than the international average.
- The U.S. ranked last in terms of the percentage of 16-24 year olds who performed in levels 2 and 3 (the two highest levels) on the Problem Solving measure.
- Blacks and Hispanics are 3-4 times more likely to have poor skills than whites.
- In the U.S., a greater percentage of those who were born outside of the country perform at the lowest proficiency levels in Literacy and Numeracy than those born here.
- U.S. skilled workers had the same percentage of top performers in Literacy as the international average, but unskilled workers had a greater percentage of low performers than internationally.
- The U.S. average literacy score in PIAAC (2012) is not significantly different than in 2003, but it is lower than in 1994. Our 2012 average numeracy score is lower than in 2003.

It is clear from just this short list that the U.S. findings stand as a huge challenge for the U.S. economy in terms of wage stagnation and rising inequality. It also suggests that serious thought should be given by policy makers to refocusing investments more on the 16-24 age group because “older generations are moving out of the job market, and younger generations are coming into it.”

It was observed during the PIAAC discussion that some countries are doing a much better job of adapting to changes in the world labor force than others. “The U.S. is living off its past investments and not doing enough either currently or in thinking about future investments.”

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<sup>17</sup> See Appendix IV.

Finally, the concluding set of Roundtable comments on the challenge of PIAAC for the U.S. is worth including verbatim here:

“If I’m a policymaker and looking into the future I have to come to two conclusions. One is that our schools are failing large segments of our population. The other is that if we care about income distribution and distribution of skills we have to be worried about the PIAAC findings. Our best, the top 20%, are as competitive as any country in the world. But it’s the gap between the best and the worst that drives down the average and creates the inequality.

“If we believe that the U.S. economy can go forward on the top 20% and that they can drive the economy, which some people seem to believe, we can ignore the PIAAC findings. But if we care about the other 80% [30 million or more adults over age 16 tested at the lowest levels], if we care about not wanting them to be behind, if we care about the fact that our kids are growing up increasingly in poverty, then it is clear that major investments are needed to reverse inequality and the education declines we are showing. We ought to care about ‘the distribution.’ We should *want* to bring up the bottom!”

## **G. ROI IN CANADA’S ADULT EDUCATION**

In Canada, ROI for adult education investment is part of the National Economic Action Plan. Although the country doesn’t have a department of education as such, its forward-thinking minister of employment (equivalent to our secretary of labor) understands the adult skills challenge there. He provided funding to the Conference Board for a new Center on Skills and Postsecondary Education.<sup>18</sup> Our Roundtable participant holds high-level responsibilities at the Center, which is a five-year independent, nonpartisan initiative to examine and plan for Canada’s advanced skills and education needs.

The Center does not advocate, but influences the national dialogue through “evidence” and hard facts. “We aim to get the attention of a broad canvas of people, something the U.S. also should do.” The results of PIAAC make it clear that “we are failing ourselves importantly,” where the skills and capacity of our people are concerned. The Center is a major new approach for addressing this challenge.

### **1. ROI is Needed to Get Buy-In**

Robert Reich said “the only unique asset a business has is its workforce,” which should automatically be a basis for investing in human capital development. But several problems make this difficult for Adult Education, according to our panelist. For one thing, he said, employers don’t trust human capital development as much as machines or equipment because of high employee turnover. “Machinery and equipment cannot resign and move elsewhere,” some of them say. In addition, “the average Canadian in the mid-1970’s was 28, today the average Canadian is near 40. In many countries, including Spain, Italy, Russia, and Japan, people are getting older too. But in others, like India, the working population is young. Another force at work in the U.S. and Canada is that so many people cannot afford to retire, so “we’re going

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<sup>18</sup> For information about the Center, go to <http://www.conferenceboard.ca/spse/default.aspx> .

backwards in retirement age.” A fourth factor is that employers and government officials often make decisions on an emotional basis rather than through careful analysis of actual experience, such as the cost impact to business from underutilization of workers.

ROI is considered by the Center and its Conference Board parent to be “part of a suite of tools” that is needed to put this kind of intelligence together with understanding of the emotional responses that the various players have. “We don’t just show GDP changes when we make the case with government and business, but we also provide evidence in terms of lost tax revenue due to underutilization, and other cost factors.” Various studies in Canada have shown huge economic costs attributable to underutilization of adult skills.

The important point is that in Canada the case is made strategically and with understanding that buy-in is needed from all sorts of people, individuals as well as business and government.

## **2. Everybody Cares About Something**

Employers in Canada actually do care about many outcomes, our panelist said. They want evidence of many things -- like how to deconstruct work and find out if it changes time-on-task, or error rates, or cycle times. They need to know about and keep data on on-the-job accidents and absenteeism, and want to know about such soft skills as worker satisfaction, employee confidence, and empowerment. They want to know about the depth of employees’ computer skills, and about how “communications courses” for employees (which may involve literacy instruction) impact on safety and productivity. If Adult Education can access or develop information on these and other things employers care about, if they can factor in employee or workforce cultural behaviors, and if they can then put the pieces together in a persuasive relevant way, this will do a lot to achieve buy-in.

In Canada, health costs are going through the roof, as they are in the U.S. Changing health outcomes for people through education and skills upgrading is “a lot more efficient and effective than delivering more health care.” This is an area of high interest in the country, and literacy is being linked to health and safety in ways that influence the government agenda. Healthier people obviously need less care—research shows a strong connection between education level and health status.

Still another area of high interest is to tap the role of unions, which have a long history of successful programming. “Unions actually care about this and can be significant players in some sections of the economy.”

## **3. Changing Job Expectations**

Studies show that people around the world who used to put up with drudgery and repetitiveness in their jobs are not willing to do that anymore. In the U.S., research indicates that only 25% of our workers are challenged on their job, and 50% of American workers say they don’t like their jobs, an all time high! When asked what they plan to do about it, 60% of those workers said they plan to quit.

One reason suggested for this phenomenon is that the social media and various other technologies have given many people greater access to skills and education development and this is not being caught by planners. It was observed that every child texts today, so it isn't necessarily that they can't read and write, maybe they just don't want to. We haven't examined that. People are more accomplished in some ways that they used to be and thus have a higher expectation of jobs, which, even for college graduates, is not being met. They also know more about the world from the outreach of our communications technology and they know what kind of jobs are available in other countries. In short, it's not a zero sum world any longer. Special planning needs to be done around this issue! We haven't even begun to think about this new challenge.

## **H. RECOMMENDATIONS**

CAAL's STEPPING UP report ended with several recommendations to advance ROI understanding and practice. They are directed to federal and state government; research, policy, and advocacy; building business involvement and awareness; getting ready to document WIA ROI measures at the state level, and correcting NRS data limitations that impede state-level ROI work. To supplement that first set of ROI recommendations, the Roundtable concluded with several more ideas:

### **1. Use PIAAC**

PIAAC gives us extremely valuable data to guide advancements in teaching and learning, and to better define quality and effectiveness for our core constituencies. We need to draw on the PIAAC data and analyses as we shape the common taxonomy necessary for messaging and communicating ROI in a way that reflects program purposes, beneficiaries, and outcomes for various groups.

### **2. Develop State Databases**

We are making progress in longitudinal database development across the states, but we need to give closer attention to developing coherent, integrated, and accessible databases that generate consistent, comprehensive data analyses at both the state and national levels.

We should be able to generate data on the variety of measures that push the state data systems—in the areas of adult education, postsecondary, and workforce programs. A key goal should be to track students from one program type to another and to enable significant wage record matches.

Almost all states receive federal resources for developing their longitudinal data systems (LDS). The focus on incorporating Adult Education into that system is not as strong as it should be. Participants recommended that every state pay attention to this oversight due to the critically important role of Adult Education in moving all categories of low-skilled adults toward readiness for college and employability.

### **3. Get the Message and Definitions Right**

Throughout the discussion, the importance of effective and consistent messaging was stressed. To this end we need to draw on PIAAC, as noted above, and to engage in activities that move us toward common agreement on what the important ROI indicators are for different service contexts and program goals. We need to make it everyone's business to be sure that we all know from the start what we will get out of funding and participating in specific programs. Business and community college groups need to be at the table in such planning and evaluation activities.

Across the board in Adult Education there should be special focus on determining the key measures that relate to ROI for serving special-needs groups—not just those represented at the Roundtable, but those who plan to enter the workforce, homemakers, incumbent workers, and others. ROI database development should reflect all of the groups.

We also must better define and rethink the skills that employers need and say they need in order to devise appropriate ways to measure those skills. One participant suggested that state and local planners redirect some of the effort they now focus on legislators to employers. Employers know what the pipeline looks like. They know what credentials already exist in the market. Employer-based data would allow programs to help clients make better decisions about the education and training they pursue again at all ages. For example, it is important to determine a program's value to the employer, such as added productivity and surge costs. But most ROI calculations do not now do this very well. Nor do they factor in cultural behavior skills that have an impact on job performance.

### **4. Develop and Support the Research Agenda**

We need to develop cost modeling tools in the context of ROI that focus on macro-economic impacts related to government(s), sectors, and private sectors and firms. PIAAC suggests many new areas for research, including secondary analysis of the PIAAC data itself.

We should involve a wide variety of players in the research—the research universities (to begin to develop our next generation of researchers<sup>19</sup>), the National Governors Association, national and state chambers of commerce, the National Association of Manufacturers, workforce investment boards, and other groups that understand data analytics.

WIA Title II funding levels and program goals provide an essential framework for what the states do in adult education and workforce skills development, but state funding for those education activities is many times greater than federal dollars. So both federal departments and the states must be able to show Congress and their own legislatures how their investments in

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<sup>19</sup> The American Institutes of Research was present at CAAL's ROI Roundtable. A recent AIR initiative picks up on this Roundtable recommendation through a new research program on topics related to PIAAC. Successful competitors for \$8,000 grants will be presented at an invitational PIAAC research conference in late 2014. Proposals are due March 28, applicants will be notified of awards in mid-April, and the papers will be due by the end of September. For more information, go to <https://community.lincs.ed.gov/discussion/researching-and-reporting-piacc-data>.

adult education and higher level education/training result in measurable social and fiscal gains. Research that enables them to develop that capacity is important--see Appendix III for two recent CAAL papers (items 1 and 2 on page 30) that illustrate the power of such data. Among other variables, states should be able to do evaluations that calculate the net gain of participation in programs to the students and the net value to the taxpayer.

The fact that we have done little to understand the serious challenge of social media, especially its use by young people, affects planning for Adult Education. We need research on this topic.

Finally, one participant commented that a question we never get to in our research is whether it's the program or the policy that produces a desired outcome. He urged impact studies that shed light on this matter.

## **5. Involve Employers, Business Associations, & Unions**

CAAL and many other research and policy groups have stressed in recent years how critical it is for adult education programs to partner with employers, business associations, workforce development agencies, and union programs. This was another recurring theme of the Roundtable and it is evident in many of the suggestions given above. But beyond these, the participants made two specific suggestions:

- Undertake activities that help manufacturing associations, workforce boards, union programs, and other business related entities better understand ROI data analytics. Then link this research and return-on-investment to innovative strategies to deliver services.
- Give priority to identifying common measures between agencies and organizations that are involved in the same kind of workforce and literacy efforts.

## **6. Involve Governors**

Many ROI leadership states have sought and received valuable support from their governors. A governor's support for workforce education and ROI development is critical to the success of programs, contributions to state agencies, and political recognition of program outcomes.

## **7. Face Funding Realities**

Much of the vital work outlined above will not be possible without new funding, a reality we need to face squarely. Substantial new funding will be required from government, philanthropy, and business to develop and spread exemplary program services and good ROI models and to support the research we should undertake to advance service and related ROI. Some of the top priorities are:

- Good service and ROI models need to be identified and then scaled up. CAAL's 2013 ROI survey and the Roundtable discussion identified examples of both. But there are many other candidates worthy of consideration. Some of the participants called for activities that are innovative in the way services and ROI activities are carried out, and many recognized the importance of collaboration.

- “Dual generation” programming was a theme touched on throughout the discussion as needing higher priority. Several participants stressed that we should fund projects related to parents and children together in dual generation settings, and for enhancing the employability of parents. Some noted that this will especially important if/when a new immigration bill is enacted.
- The growth of credentialing at the state and national levels was also frequently mentioned. We need accelerated programs for people with higher levels of education, even when their English is minimal. We should be trying to help them get credentialed and then make sure they are ending up in good jobs. But more generally, we need to invest in interventions that combine adult literacy, career pathways for lower-level literacy adults, bridge programs, and integrated education in which stackable credentials are an important feature.
- Much of the development and programming work discussed in this paper must go hand-in-hand with professional development of teachers and leaders. Special projects should be funded to address and reward professional development needs.
- In addition to national and state funding from traditional adult education sources, as Adult education focuses more and more on moving adults to readiness for college and jobs—which requires coordination with other kinds of service organizations—states should be giving more attention to defining nontraditional funding streams. This includes those that target out-of-school youth 16-24 years of age, corrections education, unions, workforce development generally, and community colleges.

In pursuing nontraditional funding approaches, one participant pointed out that the relationship many politicians have to ROI is inconsistent. They ask for ROI evidence all the time but they often ignore it. It is a special challenge for program planners and providers that policymakers often do not understand how hard it is to actually collect ROI data, he said. Sometimes they impose unrealistic deadlines and rarely do they want to pay for it. “In my experience, people can either run a program or collect data, but they are usually hard pressed to do both at the same time.” So while ROI is increasingly a precondition for funding, it doesn’t guarantee it. This is another reason to be thinking about ways to fund Adult Education programs beyond the traditional federal or state appropriations routes.

## **I. CONCLUSION**

By its very nature, any full day of discussion about Return on Investment (ROI) in Adult Education is apt to be complex, even sometimes confusing. Often in the CAAL Roundtable we found ourselves immersed in the entire adult education enterprise. Each issue we probed shed new light on our topic but it also opened the door to many others that we could not fully address due to time constraints. But several messages were loud and clear:

- Adult Education is undergoing fundamental restructuring and needs to do even more of it. As we go forward in the Adult Education enterprise in America, we need to think differently about the focus and outcome of our services and about the increasingly important role of ROI evidence.

- A good deal of adult education and training is going on in this country that is neither widely enough recognized nor documented, and for which the cost and overall ROI are not known. So we have much to learn. We need to understand ROI in Adult Education far better than we do.
- It is important to raise the profile of Adult Education in national and state thinking. Many of the measures proposed as a result of the discussion will help achieve that.
- In its own right as a system, Adult Education needs its own ammunition, which should be just as powerful as K-12 and higher education. PIAAC and ROI data are tools to that end.

The purpose of this entire CAAL ROI effort was and is to extend and advance adult education and workforce skills services to millions of adults, way beyond the small number now being served. With the help of many experienced professionals, this paper has suggested some next-step actions to help move us in that direction. But it would be folly to think that significant service outreach and related ROI work can be achieved without substantial new funding. The data available through PIAAC and the research and policy work carried out for years by many national leadership groups including CAAL make a powerful case. In his concluding remarks, one researcher stated: “We’ve got to get our children off to a good start, and it’s one of the best investments we can make. But we’ve got a problem with our adults *now*, we’ve got so many people in need. Let’s get our act together. We need substantial new investments in Adult Education.”

It is obvious that we have a huge skills gap in America, and that it fuels poverty and inequality. So, whether we’re talking about immigrants, or low-skilled adults of any age, or Blacks and Hispanics, or low-income people, or any other group in need of services, we need to pay attention and step up to the challenge. ROI evidence can help us do that.

And, finally, the best should not be the enemy of the good! Our ROI data may not be perfect at this stage but much of it is very solid and useful. What we have is here to be used, and we can and need to act without delay! ■



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## APPENDIX I

### ABOUT THE AUTHORS

**JAMES PARKER** (Policy & Research Associate, Council for Advancement of Adult Literacy) joined CAAL part-time in 2006 after retiring from federal service, and undertakes other independent consulting work. He has conducted research in workforce education, business partnerships, and adult learner certification. He also has contributed to many of CAAL's legislative initiatives. He began his career with the U.S. Department of Commerce, and also served with the Library of Congress, District of Columbia Public Health, and the U.S. Department of Education. At Education his roles included Coordinator of Programs for Mid-Atlantic, Southern, Mid-West and Mountain States; National Coordinator for Professional Development and Workforce Education; and Project Manager for Competency-Based Adult Education, Workplace Literacy, Homeless Adult and State Leadership projects. Mr. Parker has written and edited numerous books and other publications on competency-based education, workforce education, program policy and evaluation, professional development, and adult education futures.

**GAIL SPANGENBERG** (President, Council for Advancement of Adult Literacy) founded CAAL in 2001. In 2006, she initiated and managed the National Commission on Adult Literacy study of adult education, whose *Reach Higher, America* report was released in June 2008. She has since directed CAAL's follow-up and implementation activities, including Congressional support to develop the Adult Education and Economic Growth Act. Prior to forming CAAL, Ms. Spangenberg served lengthy terms as chief operating officer of the Business Council for Effective Literacy and program officer in nontraditional education at the Ford Foundation. She was a member of the Harold Howe II team that studied the governance, funding, and facilities needs of the City University of New York (for Mayor Koch). She has directed several major studies, including a study of the New York State Regents External Degree and College Proficiency Examinations Programs, and a study under Library of Congress auspices on the role of public libraries in adult literacy (*Even Anchors Need Lifelines*). She has written widely on adult education and open learning. She was a key player in developing the National Literacy Act of 1991 and in creating the National Institute for Literacy.

## APPENDIX II

### ROI ROUNDTABLE PARTICIPANTS

New York City, Nov. 8, 2013

**Michael Bloom**

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The Conference Board of Canada  
Ottawa, ON

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PluggedIn/VA State Coordinator  
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Executive Director  
District 1199C Training & Upgrading Fund  
Philadelphia, PA

**Debra Jones**

Dean, Career Education Practices  
Workforce and Economic Development  
California Community Colleges Chancellor's Office  
Sacramento, CA

**Irwin Kirsch**

Director, Center for Global Assessment  
Educational Testing Service  
Princeton, NJ

**Irene Lee**

Director, Family Economic Success  
The Annie E. Casey Foundation  
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**James Lewis**

Senior Program Officer  
The Chicago Community Trust  
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**Margie McHugh**

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Migration Policy Institute  
Washington, DC

**Lennox McLendon**

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National Adult Education and Professional  
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Washington, DC

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Washington, DC

**Mark Musick**

James Quillen Chair  
for Excellence in Teaching & Learning  
East Tennessee State University  
Retired President, Southern Regional Education Board  
Member, National Commission on Adult Literacy  
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Susquehanna Group  
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**Jaleh Soroui**  
Project Director for PIAAC  
(Programme for the International Assessment of Adult Competencies)  
American Institutes for Research  
Washington, DC

**Gail Spangenberg**  
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Boston, MA

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Deputy Assistant Secretary  
Office of Vocational and Adult Education (OVAE)  
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**Todd Wagner**

State Director  
Adult Basic Education  
Minnesota Department of Education  
Roseville, MN

**Heide Wrigley**

Senior Researcher  
LiteracyWork International  
Las Cruces, NM

**Ira Yankwitt**

Executive Director  
Literacy Assistance Center  
New York, NY

## APPENDIX III

### RESOURCES

**1. *Labor Market Experiences, Earnings, Income Inadequacy Problems, and Civil Behavior of U.S. Adults by Educational Attainment: Consequences for Adult Education Programs***

This 22-page paper, prepared for CAAL in February 2014 by the Center for Labor Market Studies of Northeastern University (Ishwar Khatiwada, Andrew Sum, and Sheila Palma), is an update of information provided in 2008 in *Reach Higher, America*, the final report of the National Commission on Adult Literacy. <http://www.caalusa.org/EdLevelsSocialOutcomes.pdf>

**2. *Net Annual Fiscal Contributions of U.S. Adults Aged 18-64 by Education Attainment, 2009-2012***

This paper, prepared in January 2014 for CAAL by the Center for Labor Market Studies of Northeastern University, provides analysis of the fiscal gains to the nation and to individuals of high school and college graduation in America for adults aged 18-64. It also presents aggregated and state-by-state data for 15 states: CA, CO, FL, IL, KY, MD, MI, MN, NJ, NY, OH, OK, PA, TX, and VA. The paper is a partial update of data presented in *Reach Higher, America*. <http://www.caalusa.org/NetFiscalContributions09-12.pdf>

**3. *In This Together: The Hidden Cost of Young Adult Unemployment***  
Young Invincibles, January 2014

This new report determines that, on average, one unemployed 18- to 24-year-old will cost the federal and respective state government over \$4,100 annually in forgone tax revenue and benefits received. The costs to government grow as unemployed individuals age. On average, they estimate each unemployed 25- to 34-year-old will cost his or her federal and state government a staggering \$9,875 annually. <http://younginvincibles.org/wp-content/uploads/2014/01/In-This-Together-The-Hidden-Cost-of-Young-Adult-Unemployment.pdf>

**4. *Making a Market for Competency-Based Credentials***  
Corporation for a Skilled Workforce

The CSW has embarked on a multi-year initiative to increase the quality and use of competency-based credentials across the country. They are collaborating with leaders committed to realizing the potentially game-changing result of large-scale use of competency-based credentials by businesses, educators, workers, and students across the nation. Their new report is aimed at articulating a foundation for our collective work by analyzing the credentialing landscape, identifying promising credentialing approaches, and assessing what is needed to create a clear

and compelling credentials marketplace. *Making a Market for Competency-Based Credentials* compiles what they and the many leaders who informed this narrative have learned to date. <http://www.skilledwork.org/sites/default/files/MakingaMarketforCompetency-BasedCredentials.pdf>

### **5. *Developing Skilled Workers***

The Manufacturing Institute of the National Institute of Manufacturing

This is a recently-released toolkit for manufacturers on recruiting and training a quality workforce. It includes steps to take in partnering with business associations, community or technical colleges, and local workforce investment boards. <http://browndigital.bpc.com/publication/?i=187979>

### **6. *The Potential and Value of Using Digital Badges for Adult Learners***

American Institutes for Research

At their most basic level, digital badges are a new way to capture and communicate what an individual knows and can demonstrate. This report examines the nature, value, and potential impact of digital badges, an emerging electronic form of recognition of an individual's knowledge and skills. Badges can represent different levels of work and engagement, including more granular skills or achievements, marking in some cases small and/or very specific abilities. For this reason badges hold particular promise for certifying the skills of adult learners in basic education programs, many of whom have few, if any, formal credentials (such as diplomas), but who are obtaining functional skills that would be valued in a workplace setting if a mechanism for certifying those skills and knowledge was available. [http://lincs.ed.gov/publications/pdf/AIR\\_Digital\\_Badge\\_Report\\_508.pdf](http://lincs.ed.gov/publications/pdf/AIR_Digital_Badge_Report_508.pdf)

### **7. *Measuring Alternative Educational Credentials: 2012***

The U.S. Census Bureau reports that in fall 2012, more than 50 million U.S. adults, or one in four, had obtained a professional certification, license or educational certificate apart from a postsecondary degree awarded by colleges and universities. This is the Census Bureau's first-ever report on this topic. Among the adults included in the report, 12 million had both a professional certification or license and an educational certificate; 34 million had a professional certification or license; and 7 million had an educational certificate. Getting an academic degree is not the only way for people to develop skills that pay off in the labor market. [http://www.census.gov/prod/2014pubs/p70-138.pdf?eml=gd&utm\\_medium=email&utm\\_source=govdelivery](http://www.census.gov/prod/2014pubs/p70-138.pdf?eml=gd&utm_medium=email&utm_source=govdelivery)



**8. *Evaluating the Effectiveness of Correctional Education - A Meta-Analysis of Programs That Provide Education to Incarcerated Adults***

RAND Corporation

RAND examined the current state of correctional education for incarcerated adults and juveniles and where the field is headed, which correctional education programs are effective, and how these programs can be implemented across different settings.

[http://www.rand.org/content/dam/rand/pubs/research\\_reports/RR200/RR266/RAND\\_RR266.pdf](http://www.rand.org/content/dam/rand/pubs/research_reports/RR200/RR266/RAND_RR266.pdf)

**9. *Making Workforce Data Work: How Improved Education and Workforce Data Systems Could Help the U.S. Compete in the 21st Century Economy***

Workforce Data Quality Campaign (WDQC)

This signature report lays out the WDQC's policy priorities and includes real-world examples of the ways data is helping to strengthen education, governance, and business. It is designed to make a compelling case for improving education and workforce data, and to give state and federal leaders actionable ideas to move forward. <http://www.workforcedqc.org/resources-events/resources/making-workforce-data-work>

**10. *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***

This report presents results of the Program for the International Assessment of Adult Competencies (PIAAC). Results are reported for a representative sample of adults in the United States age 16 to 65 and are compared to an international average of adults in countries/regions that participated in the PIAAC 2012 assessment. The report presents average score results for three separate scales: literacy, numeracy, and problem solving in technology-rich environments and percentages of adults performing at different proficiency levels for each scale. Literacy and numeracy results are reported at Below Level 1, Level 1, Level 2, Level 3, and Level 4/5; problem solving in technology-rich environments is reported at Below Level 1, Level 1, Level 2, and Level 3. The report includes results for groups of adults as defined by various demographic characteristics (e.g., gender, age, race/ethnicity, and level of educational attainment) and level of skill use in and outside of work. Overall results in literacy and numeracy are compared to results from previous international assessments. <http://nces.ed.gov/pubs2014/2014008.pdf>

**11. *Time for the U.S. to Reskill? What the Survey of Adult Skills Says***

The basic skills of literacy and numeracy are of huge importance to our economies and societies. The OECD's new Survey of Adult Skills (PIAAC) assesses skills of literacy, numeracy and a newly assessed domain of "problem solving in technology-rich environments" in a number of countries. This special report, published alongside the main international survey, looks at the results for the United States and identifies their policy implications.

[http://skills.oecd.org/Survey\\_of\\_Adult\\_Skills\\_US.pdf](http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf)

**12. *Performance of U.S. 15-Year-Old Students in Mathematics, Science, and Reading Literacy in an International Context--First Look at PISA 2012***

First Look at PISA 2012 reports average scale scores and the percentage of 15-year-old students reaching selected proficiency levels, comparing the United States with other participating education systems. Results for three U.S. states are also reported.

<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014024>

**13. *Help Wanted: Projections of Jobs and Education Requirements Through 2018***

Center on Education and the Workforce, Georgetown University

This report presents a new approach to answering some critical questions about the emerging economy, including:

- When will the jobs come back?
- Where will the jobs be? Which states? Which industries? Which occupations?
- What postsecondary certificates and degrees will be required?
- Will the education system be able to keep up?
- How much will it cost to fund the postsecondary education America needs?

<http://cew.georgetown.edu/jobs2018>

**14. *Using Return on Investment (ROI) and Other Related Tools: Guidelines for Measuring Career and Technical Education (CTE) Internal Efficiency and External Effectiveness***

National Research Center for Career and Technical Education

This 70-page publication, funded by the Office of Career, Technical, and Adult Education (OCTAE) of the U.S. Department of Education, addresses many of the points discussed in CAAL's November 8<sup>th</sup> ROI Roundtable. It was published in June 2012 and written by Pradeep Kotamraju and John L. Mettelle.

[http://www.nrccte.org/sites/default/files/publication-files/nrccte\\_roi\\_guide](http://www.nrccte.org/sites/default/files/publication-files/nrccte_roi_guide)

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## **APPENDIX IV**

### **Materials From CAAL's November 8, 2013 ROI Roundtable**

#### **Adult Education in Arkansas**

Including the Workforce Alliance for Growth in the Economy (WAGE)

#### **OECD Education and Online Skill Assessment**

(Information about how it works and who can benefit from using it)

#### **PIAAC Slide-Set Presentation**

(the Program for International Assessment of Adult Competencies)



# **Workforce Alliance for Growth in the Economy™ Competencies**

## **Communication**

<p>C1 Speaking clearly and using language easily understood by the listener.</p> <p>C2 Speaking to inform another or to provide information.</p> <p>C3 Speaking to inquire or to collect information.</p> <p>C4 Speaking to persuade another.</p> <p>C5 Speaking politely, with respect to cultural diversity, regardless of personal feelings.</p> <p>C6 Speaking at a rate easily understood by the listener.</p> <p>C7 Speaking at a volume appropriate of the circumstances and the message.</p> <p>C8 Structuring spoken inquiries so that listener responds appropriately.</p> <p>C9 Restructuring a message, when necessary, to facilitate listener understanding.</p> <p>C10 Using proper telephone etiquette.</p> <p>C11 Using task-related words in the proper context.</p> <p>C12 Using tonal expression to facilitate communication, cooperation, and goodwill.</p> <p>C13 Using vocabulary appropriate to the circumstances and the message.</p> <p>C14 Understanding the meaning of and possessing self-awareness of body gestures.</p> <p>C15 Understanding the meaning of and possessing self-awareness of facial gestures.</p>	<p>C16 Understanding the meaning of and possessing self-awareness of posture.</p> <p>C17 Understanding the meaning of and possessing self-awareness of tonal expression.</p> <p>C18 Listening to advise, assist, or enable.</p> <p>C19 Listening to facilitate cooperation, goodwill, or teamwork.</p> <p>C20 Listening to learn or understand.</p> <p>C21 Listening for nonverbal clues, tonal expression, emotions.</p> <p>C22 Listening to obtain information to solve problems, make decisions.</p> <p>C23 Listening for omissions of information.</p> <p>C24 Recognizing the main intent of a spoken message.</p> <p>C25 Recognizing and organizing details of a spoken message.</p> <p>C26 Recognizing probable meaning of unclear communication by using context clues.</p> <p>C27 Screening irrelevant information and distractions.</p> <p>C28 Sorting relevant from irrelevant information.</p> <p>C29 Verifying accuracy by restating/repeating message.</p> <p>C30 Verifying comprehension by asking questions.</p>
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## **Math**

<p><b>M1 Reading, writing, and counting single and multiple digit whole numbers.</b></p> <p><b>M2 Adding, subtracting, multiplying, and dividing single and multiple digit numbers.</b></p> <p><b>M3 Using addition, subtraction, multiplication, and division to solve problems.</b></p> <p><b>M4 Rounding off single and multiple digit numbers to complete a task or subtask.</b></p> <p><b>M5 Comparing whole numbers to determine variations.</b></p> <p><b>M6 Reading and writing common fractions to complete a task or subtask.</b></p> <p><b>M7 Adding, subtracting, multiplying, and dividing common fractions to solve problems.</b></p> <p><b>M8 Comparing decimal and proper fractions to determine variation.</b></p> <p><b>M9 Carrying our arithmetic computations involving dollars and cents.</b></p> <p><b>M10 Reading and writing decimals to one or more places to complete a task or subtask.</b></p> <p><b>M11 Rounding off decimals to one or more places to complete a task.</b></p> <p><b>M12 Adding, subtracting, multiplying, and dividing decimals to one or more places.</b></p> <p>M13 Reading, writing, and computing percents to complete a task or subtask.</p> <p>M14 Using percents to determine increase or decrease.</p>	<p><b>M15 Converting fractions to decimals, percents to fractions, fractions to percents, percents to decimals, common fractions or mixed numbers to decimal fractions, and decimals fractions to common fractions or mixed numbers to complete a task or subtask.</b></p> <p><b>M16 Solving problems by selecting and using correct order of operations.</b></p> <p><b>M17 Computing averages, ranges, means, medians, ratios, or proportions.</b></p> <p><b>M18 Reading numbers or symbols from time, weight, distance, and volume measuring scales.</b></p> <p><b>M19 Using a measuring device to determine an object's weight, distance, and volume in standard or metric units.</b></p> <p><b>M20 Performing basic metric conversions involving weight, distance, and volume.</b></p> <p><b>M21 Using a calculator to perform basic arithmetic operations to solve problems.</b></p> <p><b>M22 Determining if a solution to a mathematical problem is reasonable.</b></p> <p><b>M23 Estimating answers to a mathematical problem when an exact answer is not needed.</b></p> <p><b>M24 Reading a bar, line, circle, or other graph to analyze interpret or compare data points.</b></p> <p><b>M25 Using descriptive statistics to describe data.</b></p> <p><b>M26 Solving problems using a systematic method.</b></p> <p>M27 Applying geometric functions to determine the properties, measurement, and relationships of points, lines, angles surfaces, and/or solids.</p>
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## Reading

<p>R1 Recognizing and using task-related words, abbreviations, acronyms, and codes.</p> <p><b>R2 Identify factual details and specifications within a text.</b></p> <p><b>R3 Following sequential procedural directions to complete a task.</b></p> <p>R4 Determining the main idea of printed media or an activity.</p> <p>R5 Using table of contents, indices, or screen menus to locate information.</p> <p><b>R6 Locating pages, titles, paragraphs or charts needed to answer questions or solve problems.</b></p> <p><b>R7 Skimming or scanning to determine whether text contains relevant information.</b></p> <p>R8 Cross-referencing within a document or program screens to locate information.</p> <p><b>R9 Using a completed form to locate information to complete a task.</b></p> <p>R10 Combining task-related information from multiple sources.</p> <p><b>R11 Selecting parts of text, visual materials, or an activity to complete a task.</b></p> <p><b>R12 Identifying similarities and differences in objects.</b></p> <p><b>R13 Determining the presence of a defect or damage.</b></p> <p><b>R14 Classifying or matching objects by color, size, or significant marking.</b></p> <p>R15 Classifying, sorting, or arranging documents.</p> <p><b>R16 Distinguishing between relevant and irrelevant information in text or visuals.</b></p>	<p><b>R17 Using common knowledge for safety.</b></p> <p><b>R18 Applying preventative measures prior to task to minimize problems.</b></p> <p>R19 Knowing appropriate procedure for emergencies.</p> <p><b>R20 Selecting appropriate course of action in emergency.</b></p> <p><b>R21 Reading two or more column charts to obtain information.</b></p> <p><b>R22 Locating chart information at intersections of rows and columns.</b></p> <p>R23 Cross-referencing charted information within printed media.</p> <p>R24 Applying information from tables, graphs or flow charts to locate malfunctions or selected actions.</p> <p>R25 Using flow charts to sequence events, arrive at a decision, or problem solve.</p> <p>R26 Identifying components within a schematic.</p> <p>R27 Isolating problem components in schematics, tracing to cause of problem.</p> <p><b>R28 Identifying details, labels, numbers, parts of an illustration, parts from a key or legend.</b></p> <p><b>R29 Following sequenced illustrations as a guide.</b></p> <p>R32 Making inferences or drawing conclusions from printed media.</p> <p><b>R33 Interpreting codes and symbols.</b></p> <p>R34 Identifying objectives, intent, and all essential and supporting details of a document.</p>
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## Writing

<p><b>W1 Spelling task-related words and abbreviations correctly.</b></p> <p>W2 Writing key technical words and abbreviations correctly.</p> <p>W3 Writing symbols accurately.</p> <p><b>W4 Keyboarding accurately.</b></p> <p><b>W5 Entering appropriate information onto a form.</b></p> <p>W6 Recording essential information that involves more than one sentence.</p> <p><b>W7 Recording essential information in phrases or simple sentences accurately and precisely</b></p> <p>W8 Transferring numbers, codes, dates, and figures from written sources onto appropriate sections or a form.</p> <p>W9 Writing a report including necessary support documentation or classification.</p> <p>W10 Writing brief, descriptive accounts of activities or transactions performed.</p>	<p>W11 Outlining a situation by identifying key ideas and supporting details.</p> <p>W12 Summarizing essential details for a written communication.</p> <p>W13 Selecting relevant details for a written communication.</p> <p>W14 Stating general impressions of an event or situations as they relate to specific reporting goals.</p> <p>W15 Summarizing events and precise dialogue in an accurate, complete, and objective manner.</p> <p>W16 Summarizing the major points presented in a written communication.</p> <p>W17 Generating a written communication according to a specific format.</p> <p>W18 Identifying objectives, intent, target audience of a written communication.</p> <p>W19 Generating a written communication, arranging events sequentially.</p> <p>W20 Generating written presentation of proposed courses of action, justifying one over the other.</p> <p>W21 Appraising a written communication and making adjustments to improve clarity.</p>
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*Bolded items represent the WAGE™ program core competencies.*

Patricia Bates  
Chair, AACAE Legislative Committee  
870/314-8635



Sandra Miller  
President, AACAE  
870/291-1239

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## Why Adult Education is Needed

- 491,863 Arkansans 18 years of age or older function below a 12<sup>th</sup> grade level
- 268,781 working-age Arkansans have less than a high school diploma
- 399,755 of Arkansans lack basic literacy skills
- 79,002 Arkansans 5 years or older speak English “less than very well”
- 12,500 students dropped out of high school in the 2008-2009 school year

## Primary Functions of the Adult Education Division

- Provide basic academic education skills to pass the GED® tests
- Conduct classes to improve basic academic skills for those who *function below 12<sup>th</sup> grade level*
- Provide instruction to improve basic academic skills to enable students to enter post-secondary education or training
- Provide basic academic skills training to enhance employability
  - Career Readiness Certificate (CRC)
  - Workforce Alliance for Growth in the Economy (WAGE)<sup>™</sup>
- Provide English for Second Language (ESL) instruction

## Adult Education Results for 2008-2009

• GED's awarded	7,443
• GED pass rate in U.S. is 73%; pass rate in Arkansas	85%
• Students served	51,295
• Students making grade level educational gains	79%
• Students entering Post-Secondary	2,386
• Students who gained Employment	4,804
• Students who retained employment	3,362
• WAGE Certificates Earned	707
• Enrollment in ESL	7,189
• State funds expended for 2008-2009	\$18,025,693
• Federal funds expended for 2008-2009	\$ 5,269,613

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## Economic Benefits to Arkansas Resulting from 2008-2009 Funding

- Studies show that a high school graduate earns an average of \$8,860 more per year than a non-HS graduate. The GED is a step that places the employee in this higher earnings category. Using 2008-2009 state investment of \$18 million and applying these study results to the 7,443 GED's gives
    - Projected Additional State Income Tax per Year (3% rate) **\$1,978,349**  
➤  $(\$8,860 \times 7,443 \text{ GEDs} \times 0.03)$
    - Projected Additional State Sales Tax per Year (6% rate) **\$3,165,359**  
➤  $(\$8,860 \times 0.80 \times 7,443 \times 0.06)$
    - Projected Total Annual State Tax Benefit from Added Earnings **\$5,143,708**
  - Of the \$18,025,693 expended for adult education, \$14,400,000 (80%) is for salaries for adult education employees. The state realizes **\$1,123,200** directly back in income and sales taxes from these salaries each year.
  - According to the 2000 U.S. Census, individuals with some college earn an average of \$4,290 per year more than high school graduates. In 2007-2008, 2,386 students from adult education entered post secondary education. This generates **\$10,235,940** in taxable revenue resulting in **\$921,234** annually in additional state taxes.
  - GEDs earned by prison inmates directly reduce recidivism by 6.1%. 850 GEDs were earned in Arkansas prisons in 2005. The lower recidivism rate means that 52 of these do not return to prison. This means an annual savings to the state of **\$1,138,800**. Also, recent legislation allowing 90 days meritorious good time for earning the GED produces further savings in housing cost of **\$4,400,000** due to early release of this graduating class of 850. These are annual benefits.
  - Using these annual benefits and assuming a conservative 10 year working career for the GED recipient, the net present value of state adult education funding, after return of the \$18,025,693 state funding, for the 2008-2009 GED class is **\$26,642,618**, generating a rate of return on investment of **43%**. That is, the State of Arkansas gets **all funding dollars back plus an additional \$27 million** for money invested in the Adult Education program in 2008-2009. Similar results apply to other years.
  - In addition to the above specific benefits, lifetime total health savings for the high school graduate, compared to a non-graduate, is estimated to be \$40,500. In 2007-2008, 5,216 students aged 16-24 earned their GED in Arkansas. The total savings in public health care over their lifetimes is \$211,248,000. Also, the lifetime total welfare cost-savings for a high school graduate is estimated to be \$3,000. Again using the 5,216 students aged 16-24 who earned their GED in Arkansas in 2007-2008, this would produce a total state welfare cost-savings over their lifetimes of \$15,648,000.
  - Educational attainment of parents positively impacts the family literacy environment.
-



## EDUCATION AND SKILLS ONLINE ASSESSMENT

### The Online Version of PIAAC (forthcoming in January 2014)

#### A joint Initiative of the OECD and the European Union

#### WHAT IS EDUCATION AND SKILLS (E&S) ONLINE?

> **E&S Online** is an assessment tool designed to provide individual-level results that are linked to the OECD Survey of Adult Skills (PIAAC) measures of literacy, numeracy and problem solving in technology-rich environments. All results are comparable to the measures used in the Survey and can be benchmarked against the national and international results available for the participating countries.

#### WHO CAN TAKE THE ASSESSMENT?



> **E&S Online** has been developed and validated for a population ranging from 16 to 65 years. It can be used for adults of any age who want to demonstrate their workforce-readiness skills and benchmark themselves with adults of similar background in their country or internationally. Institutions, organisations or local governments can use the online tool to assess the skills of a particular population with

the goal of providing training or for research purposes.

#### WHAT IS MEASURED?

> **E&S Online** measures a set of cognitive and non-cognitive skills that individuals need for full participation in modern societies. These skills and knowledge include being able to understand and use printed and electronic texts, reason with numbers, and solve problems using information and communication technologies. Literacy and numeracy skills have been shown to be important foundation skills needed for the development of higher-order problem-solving skills. The assessment also measures reading-component skills to better understand the difficulties faced by those who demonstrate poor reading literacy skills. It also includes non-cognitive skills modules that allow individuals or organisations to obtain information on the use of skills at work and at home, and respondents' health and well-being.

#### WHAT INFORMATION WILL BE PROVIDED?

> **E&S Online** will provide individuals and/or organisations with an easy-to-read report after the assessment is completed. These reports will characterise the strengths and weaknesses in each cognitive area assessed. Scores will be reported in terms of proficiency levels that are related to the complexity of the tasks performed.

> **E&S Online** will also provide summary information in each non-cognitive area selected and tested. In addition to obtaining descriptive and summary information, individuals and/or organisations will be able to benchmark their results against the results of the OECD Survey of Adult Skills, both from their own country and internationally.

#### OECD Survey of Adult Skills (PIAAC)

The Survey is an initiative of the OECD that assesses the proficiency of adults in key information-processing skills essential for participating in the information-rich economies and societies of the 21<sup>st</sup> century. These are: *literacy, numeracy, and problem solving in technology-rich environments.*

The Survey allows countries to analyse the level and distribution of skills among their adult populations as well as the extent of skills use in different contexts. Thirty-three countries have participated in this survey, which will allow for international benchmarking. First results will be published in October 2013.

#### Participating Countries

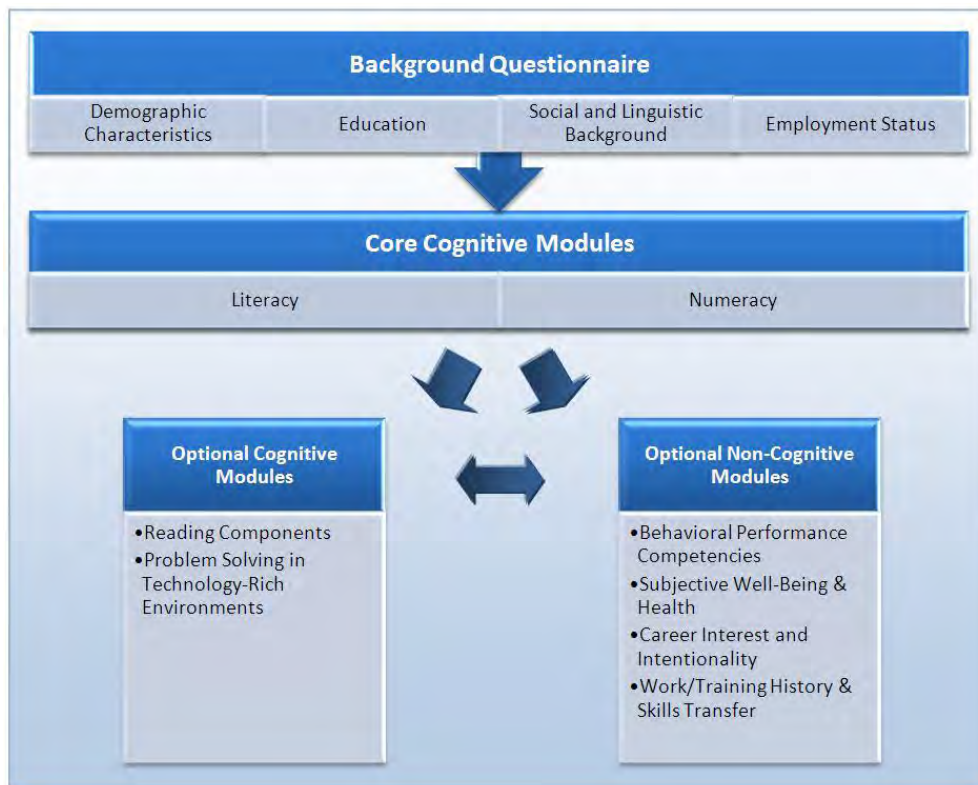
Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, \*Indonesia, Ireland, Israel, Italy, \*Lithuania, Japan, Korea, the Netherlands, New Zealand, Norway, Poland, \*the Russian Federation, \*Singapore, the Slovak Republic, Slovenia, Spain, Sweden, Turkey, the United Kingdom, and the United States.

\* OECD Partner Countries

## HOW IS THE ASSESSMENT ADMINISTERED?

- **E&S Online** is a fully computerised measure of cognitive and non-cognitive skills. It is available on the Internet, and incorporates flexibility and adaptability to provide reliable and valid measures of critical skills associated with work, home and the community.
- **E&S Online** allows individuals to choose which skills they want to assess. As a baseline, individuals receive a core set of background questions followed by a set of tasks that will provide information about their literacy and numeracy skills. They can elect to receive information about their reading-component skills, problem-solving skills and selected non-cognitive skills.
- **E&S Online** is available in several languages: English (Canada, Ireland, UK, US), French (Canada, France), Spanish (Spain, US), Czech, Italian and Japanese.

## The Main Elements of the Education & Skills Online Assessment



### Background information

The background questionnaire contains questions on demographic characteristics, social and linguistic background, education, and employment status. It has been designed to provide information on such issues as the relationships between education and training and skills development, and also to benchmark the performance of test-takers against that of individuals with similar backgrounds and experiences.

### Non-cognitive modules

The non-cognitive modules of E&S Online provide information about aspects of the personality, interests and work history of test-takers. This information may help individuals to think about their occupational choices. These modules assess various factors that can have a direct impact on training and success in the workplace:

- ▶ Behavioural Performance Competencies
- ▶ Subjective Well-Being & Health
- ▶ Career Interest and Intentionality
- ▶ Work/Training History & Skills Transfer

## Cognitive modules

The direct-assessment component of the survey evaluates the skills of adults in two core domains – literacy and numeracy – and two optional domains – reading components and problem solving in technology-rich environments. These are considered to constitute “key” competencies since they provide a foundation for the development of other, higher-order cognitive skills and are prerequisites for gaining access to and understanding specific domains of knowledge. In addition, these skills are necessary in a broad range of contexts, from education through work to everyday life.

## Summary of the cognitive domains in Education & Skills Online

	Literacy	Numeracy	Problem solving in technology-rich environments
Definition	Ability to understand, evaluate, use and engage with written texts to participate in society, achieve one’s goals, and develop one’s knowledge and potential.	Ability to access, use, interpret and communicate mathematical information and ideas in order to engage in and manage the mathematical demands of a range of situations in adult life.	Ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others, and perform practical tasks.
Content	<p>Texts are characterised by :</p> <p>Medium:</p> <ul style="list-style-type: none"> <li>▶ Print-based</li> <li>▶ Digital</li> </ul> <p>Format:</p> <ul style="list-style-type: none"> <li>▶ Continuous or prose texts (narration, argumentation or descriptions)</li> <li>▶ Non-continuous or document texts (tables, lists, graphs)</li> <li>▶ Mixed texts (combination of prose and document elements)</li> <li>▶ Multiple texts (juxtaposition or linking of independently generated elements)</li> </ul>	<p>Mathematical content, information and ideas:</p> <ul style="list-style-type: none"> <li>▶ Quantity and number</li> <li>▶ Dimension and shape</li> <li>▶ Pattern, relationships, change</li> <li>▶ Data and chance</li> </ul> <p>Representations of mathematical content:</p> <ul style="list-style-type: none"> <li>▶ Objects and pictures</li> <li>▶ Numbers and symbols</li> <li>▶ Diagrams, maps, graphs, tables</li> <li>▶ Texts</li> <li>▶ Technology-based displays</li> </ul>	<p>Technology:</p> <ul style="list-style-type: none"> <li>▶ Hardware devices</li> <li>▶ Software applications</li> <li>▶ Commands and functions</li> <li>▶ Representations (text, graphics, video)</li> </ul> <p>Nature of problems:</p> <ul style="list-style-type: none"> <li>▶ Intrinsic complexity (number of steps, alternatives required for solution, complexity of computation and/or transformation, number of constraints)</li> <li>▶ Explicitness of the problem statement (largely unspecified or described in detail)</li> </ul>
Cognitive strategies	<ul style="list-style-type: none"> <li>▶ Access and identify</li> <li>▶ Integrate and interpret (relating parts of text to one another)</li> <li>▶ Evaluate and reflect on</li> </ul>	<ul style="list-style-type: none"> <li>▶ Identify, locate or access</li> <li>▶ Act upon and use (order, count, estimate, compute, measure, model)</li> <li>▶ Interpret, evaluate and analyse</li> <li>▶ Communicate</li> </ul>	<ul style="list-style-type: none"> <li>▶ Setting goals and monitoring progress</li> <li>▶ Planning</li> <li>▶ Acquiring and evaluating information</li> <li>▶ Using information</li> </ul>
Contexts	<ul style="list-style-type: none"> <li>▶ Personal</li> <li>▶ Work-related</li> <li>▶ Community</li> <li>▶ Education</li> </ul>	<ul style="list-style-type: none"> <li>▶ Everyday life</li> <li>▶ Work-related</li> <li>▶ Society &amp; Community</li> <li>▶ Education</li> </ul>	<ul style="list-style-type: none"> <li>▶ Personal</li> <li>▶ Work-related</li> <li>▶ Community</li> </ul>

## WHO ARE THE POTENTIAL USERS?

- Researchers who would like to have access to tests that allow for benchmarking to deepen and complement the results of their assessment efforts at a national or regional level.
- Organisations concerned with adult literacy and numeracy that seek literacy level benchmarks to compare with results of training.
- Universities, vocational education and training centres that can use E&S Online as a diagnostic tool for incoming students and their need for literacy courses.
- Government organisations interested in assessing the learning needs of unemployed adults, prison populations or economically disadvantaged adults.
- Public or private companies that want to use the results to help them assess and recruit employees and identify training opportunities for their workforce.
- Students or out-of-school youth transitioning to post-secondary education/training, who can use the results to assess their individual course needs.
- Adults of any age who either wish to re-enter an education or training environment or want to demonstrate their workforce-readiness skills.
- Any individuals who might want to compare their results with national and international results or to determine whether their skills have improved over time as the result of continuing education.

*DID YOU KNOW? Some adults who do poorly on literacy surveys have been shown to have strong basic reading and writing skills, but are unable to apply these skills to real-life situations.*



### Page Web

[www.oecd.org/site/piaac](http://www.oecd.org/site/piaac)  
[www.facebook.com/OECDskillsSurveys](https://www.facebook.com/OECDskillsSurveys)

### Contact

**William Thorn** (William.thorn@oecd.org)  
**Marta Encinas-Martin** (Marta.encinas-martin@oecd.org)



# CAAL Roundtable: PIAAC

**Irwin Kirsch, ETS  
Jaleh Soroui, AIR  
November 2013**

# Overview

- **Setting a context for PIAAC**
- **Key facts about the survey**
- **Selected National and International Findings**
- **ESOL, Online Assessment Tool**

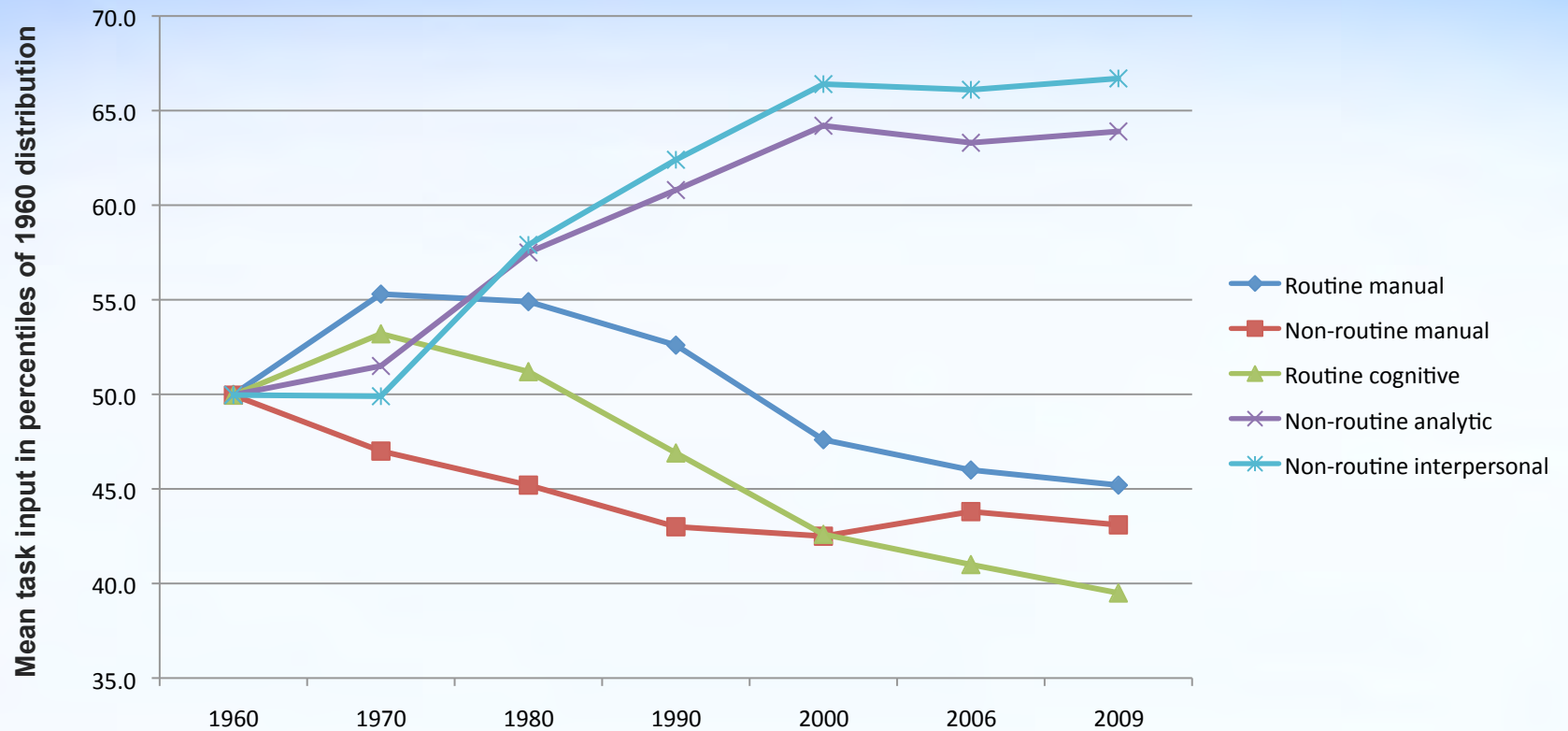


# Setting a Context

- America along with most countries around the world has undergone significant change over the last several decades.
- This change has been driven in part by globalization and the rapid development and diffusion of information & communication technologies.
- One consequence of these changes has been the increasing importance of education and skills to individuals as well as to society.



# Trends in routine and non-routine tasks in occupations, United States, 1960 to 2009



Source: Autor, D. H. and B.M. Price (2013), "The Changing Task Composition of the US Labor Market: An Update of Autor, Levy, and Murnane (2003)", MIT Mimeograph, June.



## Trends and Gaps in the Mean Lifetime Earnings\* of Males Ages 16-74 by Levels of Education

Educational Attainment	1978	2008	Dollar Change	% Change
HS Dropout	1,419,200	937,600	-481,600	-34%
HS Graduate	2,120,900	1,528,100	-592,800	-28%
13-15 yrs / Associates Degree	2,339,000	1,960,500	-378,500	-16%
Bachelor's Degree	3,033,100	3,158,800	125,700	4%
Master's Degree or Higher	3,392,144	4,506,386	1,114,242	33%

Source: Center for Labor Market Studies; 2013

\* In constant 2008 dollars

## Setting a Context (cont.)

- The theory of evolution tells us that it is not the strongest or the most intelligent of the species that survives. It is the one that is most *adaptable*.
- Our success in adapting to the current changes here in America and around the world will likely determine both the rate and shape of our economic growth in the future and how widely we share this growth.
- I believe the PIAAC data contain a lot of valuable information for policy makers and other key stakeholders.

## For example, PIAAC is able to

- provide a better understanding of the distributions of key skills and proficiencies both at the national and international levels?
- shed light on the extent skills translate into better opportunities for individuals & economies
- help evaluate how effective our education and training systems, and our social and workplace practices are in developing the required skills and proficiencies?



**Better Skills  
Better Jobs  
Better Lives**

A STRATEGIC APPROACH TO SKILLS POLICIES



skills.oecd: building the right skills  
and turning them into better jobs and better lives

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

First Look



NCES 2014-008  
U.S. DEPARTMENT OF EDUCATION





# Key Facts about the Survey



## Round 1 Participating Countries

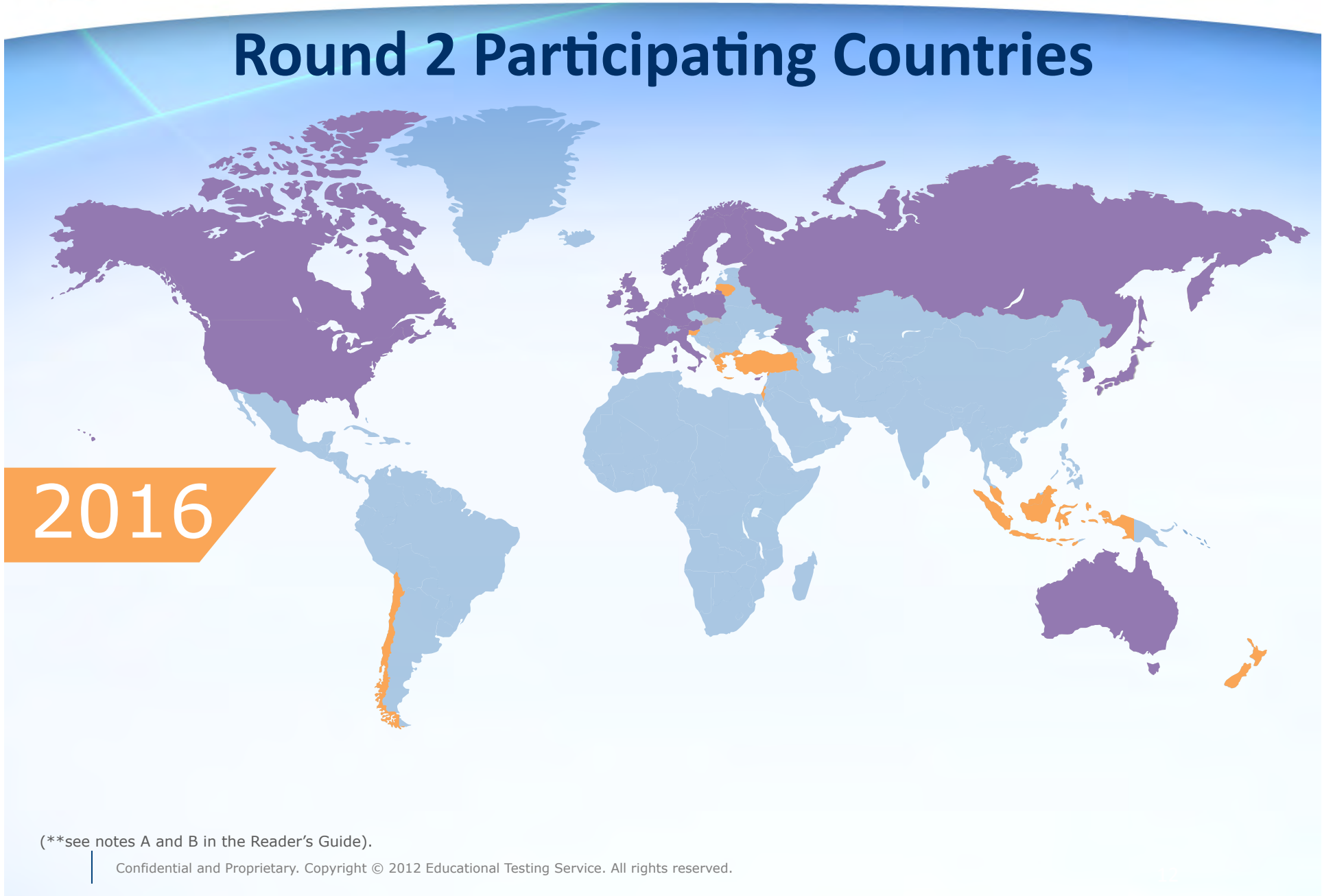
**Some 166,000 people representing more than 724,000,000 adults in 24 countries/economies ages 16-65 participated in the survey.**

**The cognitive instruments were offered in 32 languages/versions while the context questionnaire was offered in 36 languages/versions**

(\*\*see notes A and B in the Reader's Guide).



# Round 2 Participating Countries



2016

(\*\*see notes A and B in the Reader's Guide).

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# Which countries are participating?

## Round 1 Countries

Australia	Italy
Austria	Japan
Belgium	Korea, Rep of
Canada	Netherlands
Cyprus	Norway
Czech Republic	Poland
Denmark	Russian Federation
Estonia	Slovak Republic
Finland	Spain
France	Sweden
Germany	United Kingdom
Ireland	United States

## Round 2 Countries

Chile  
Greece  
Indonesia  
Israel  
Lithuania  
New Zealand  
Singapore  
Slovenia  
Turkey

## How is PIAAC carried out?

- PIAAC is administered in face-to-face interviews in the homes of nationally representative samples of adults
- The primary mode of delivery is laptop computers
- Adults who are unable to use a computer are provided with a paper and pencil assessment booklet
- Adults who took the paper and pencil assessment and those with very low literacy skills also responded to a set of reading component measures

# What Does PIAAC Assess?

The main instruments in PIAAC include ...

- Background Questionnaire
- Reading Components
- Literacy
- Numeracy
- Problem Solving in Technology Rich Environments

# PIAAC vs IALS and ALL in the US

IALS	ALL	PIAAC
		Reading Components
Reading Literacy		Reading Literacy
Quantitative		
	Numeracy	Numeracy
		PS in TRE



# Selected Results

# U.S. average literacy score (270) lower than the international average (273)

## Lower than in 12 countries:

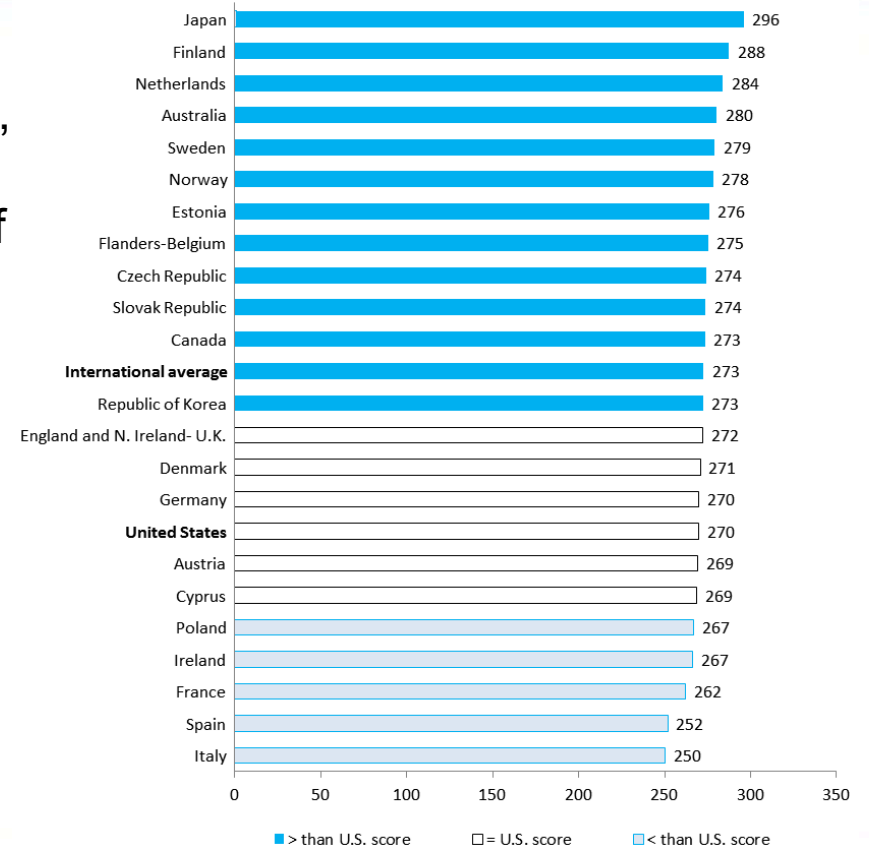
Japan, Finland, Netherlands, Australia, Sweden, Norway, Estonia, Flanders-Belgium, Czech Republic, Slovak Republic, Canada, Republic of Korea

## Not significantly different than in 5 countries:

England and Northern Ireland- U.K., Denmark, Germany, Austria, Cyprus

## Higher than in 5 countries:

Poland, Ireland, France, Spain, Italy



# U.S. average literacy score (270) lower than the international average (273)

## Lower than in 12 countries:

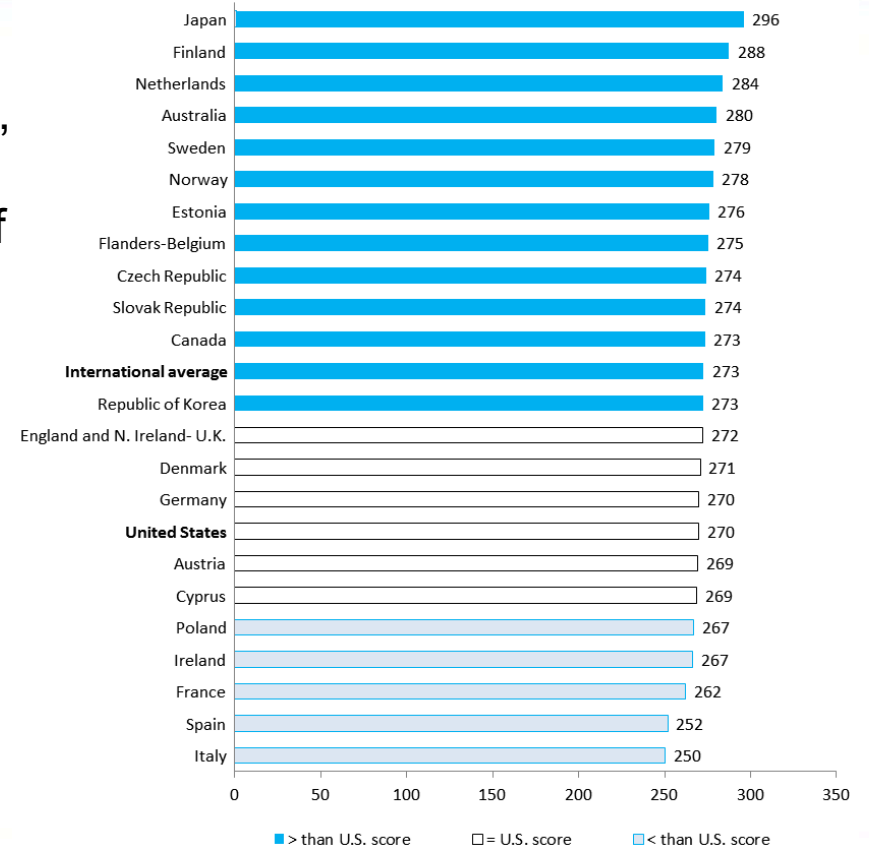
Japan, Finland, Netherlands, Australia, Sweden, Norway, Estonia, Flanders-Belgium, Czech Republic, Slovak Republic, Canada, Republic of Korea

## Not significantly different than in 5 countries:

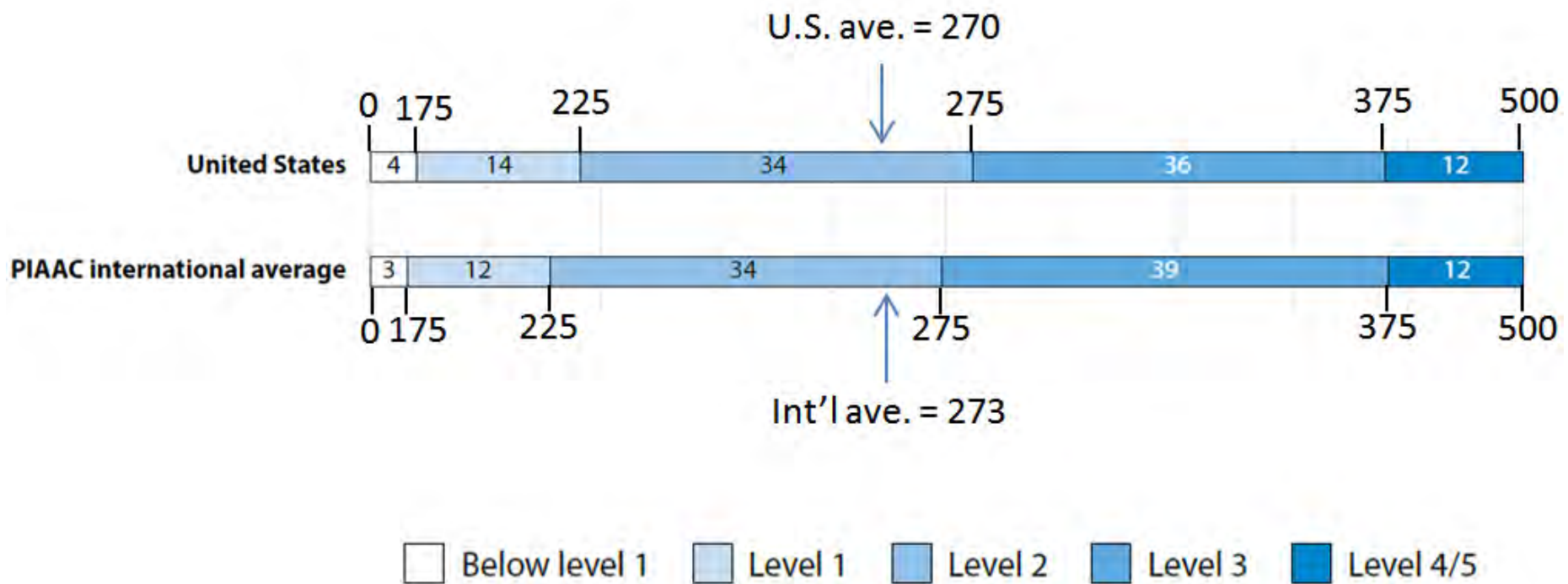
England and Northern Ireland- U.K., Denmark, Germany, Austria, Cyprus

## Higher than in 5 countries:

Poland, Ireland, France, Spain, Italy



# Higher proportion of U.S. adults at the bottom levels of literacy





# U.S. average numeracy score (253) lower than the international average (269)

## Lower than in 18 countries:

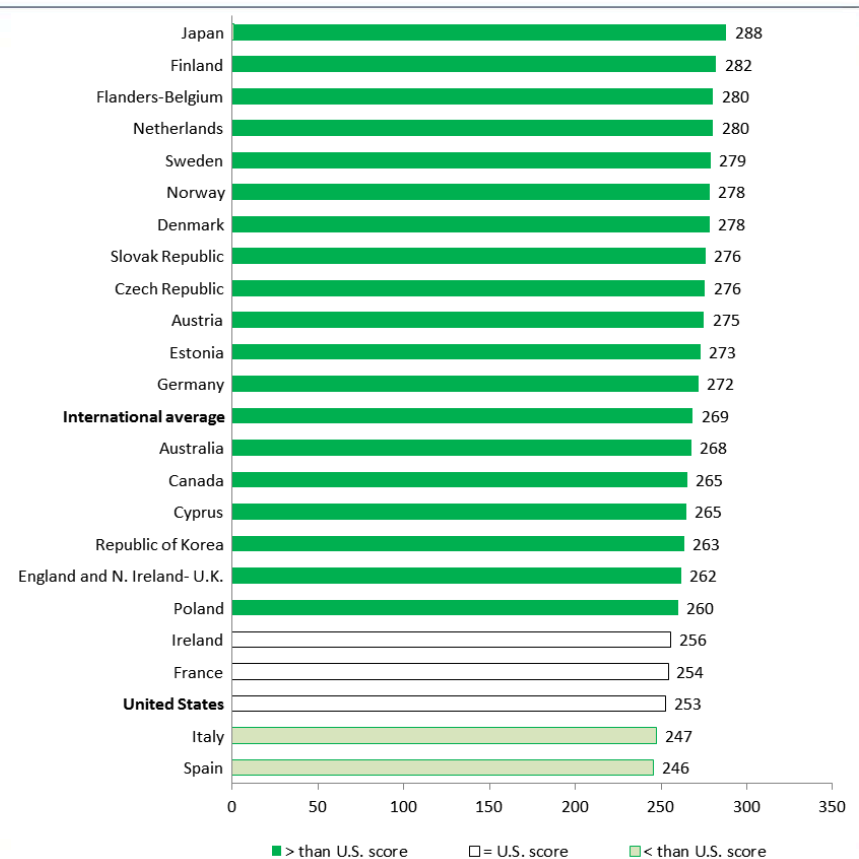
Japan, Finland, Flanders-Belgium, Netherlands, Sweden, Norway, Denmark, Slovak Republic, Czech Republic, Austria, Estonia, Germany, Australia, Canada, Cyprus, Republic of Korea, England and Northern Ireland- U.K., Poland

## Not significantly different than in 2 countries:

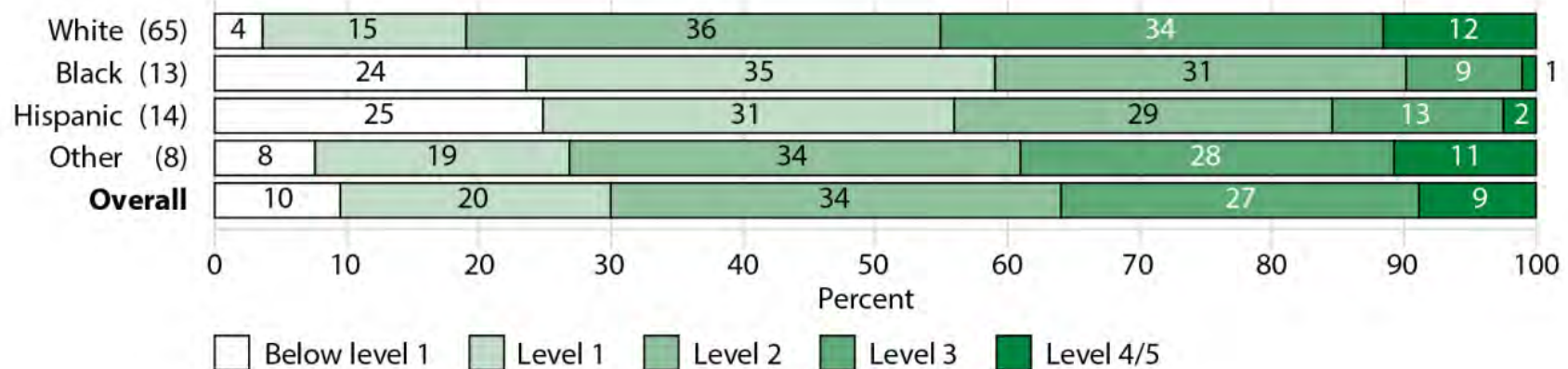
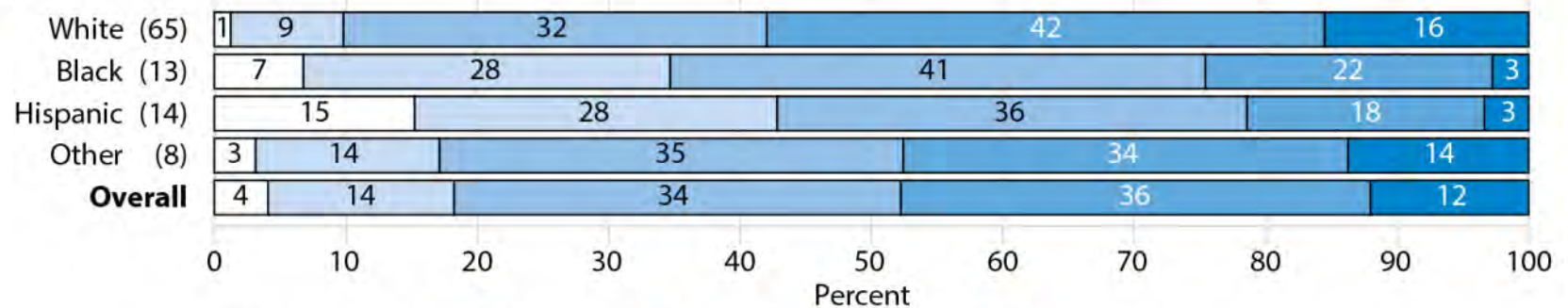
Ireland, France

## Higher than in 2 countries:

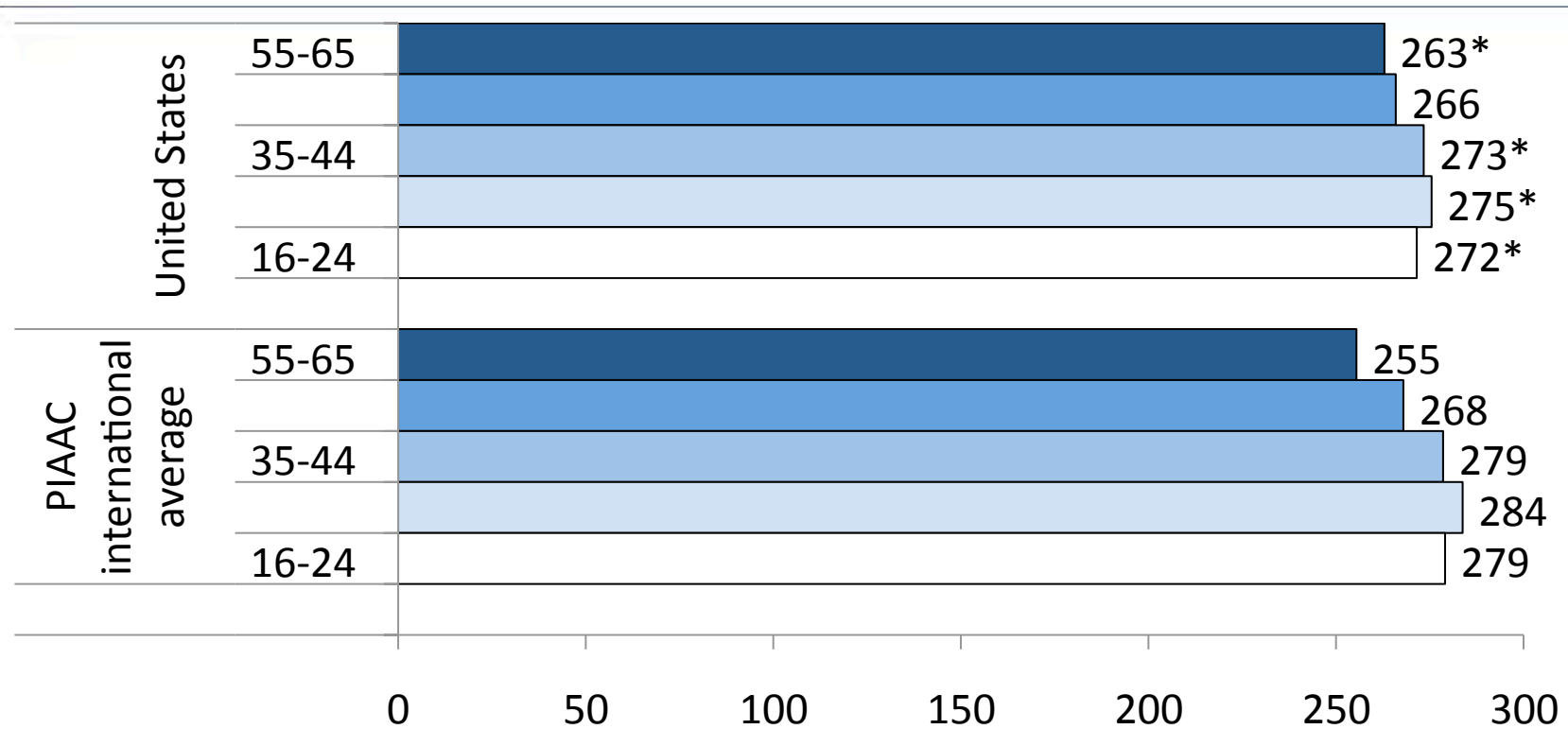
Italy, Spain



# A greater percentage of Whites than Blacks or Hispanics performed at the highest proficiency levels (4/5) in both literacy and numeracy

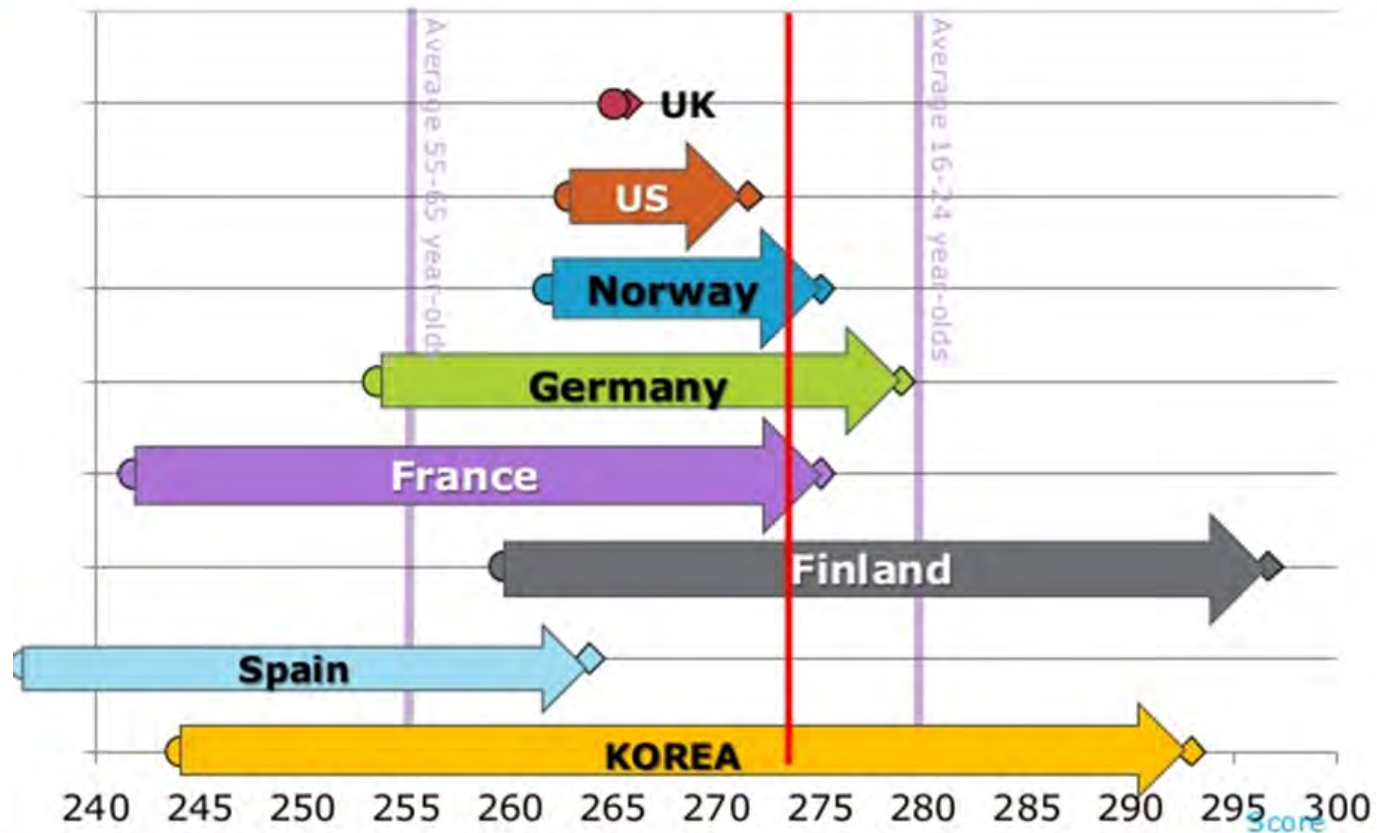


# Only oldest U.S. adults outperformed the international average in literacy

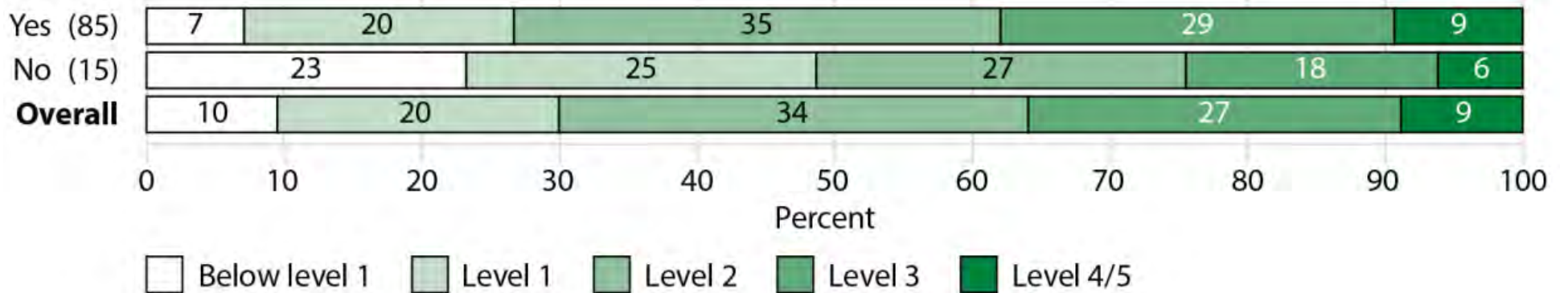
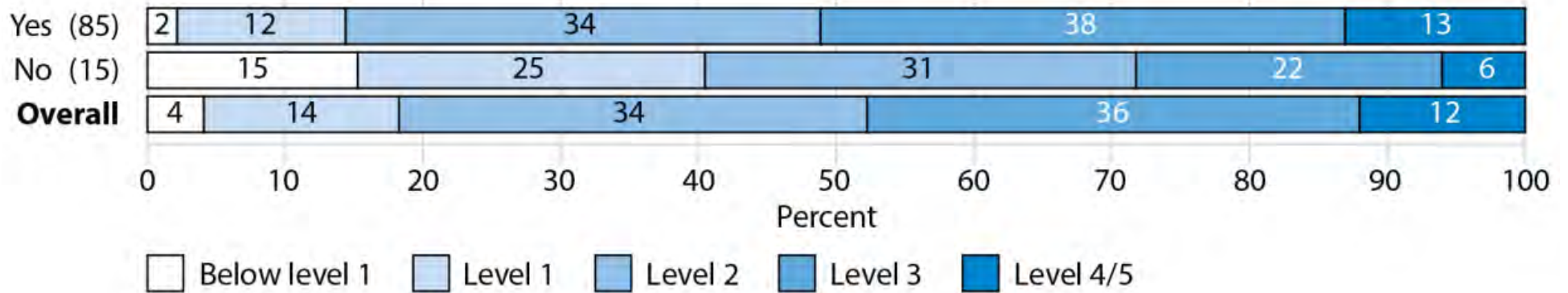


\* $p < .05$ . U.S. average score is significantly different from PIAAC international average.

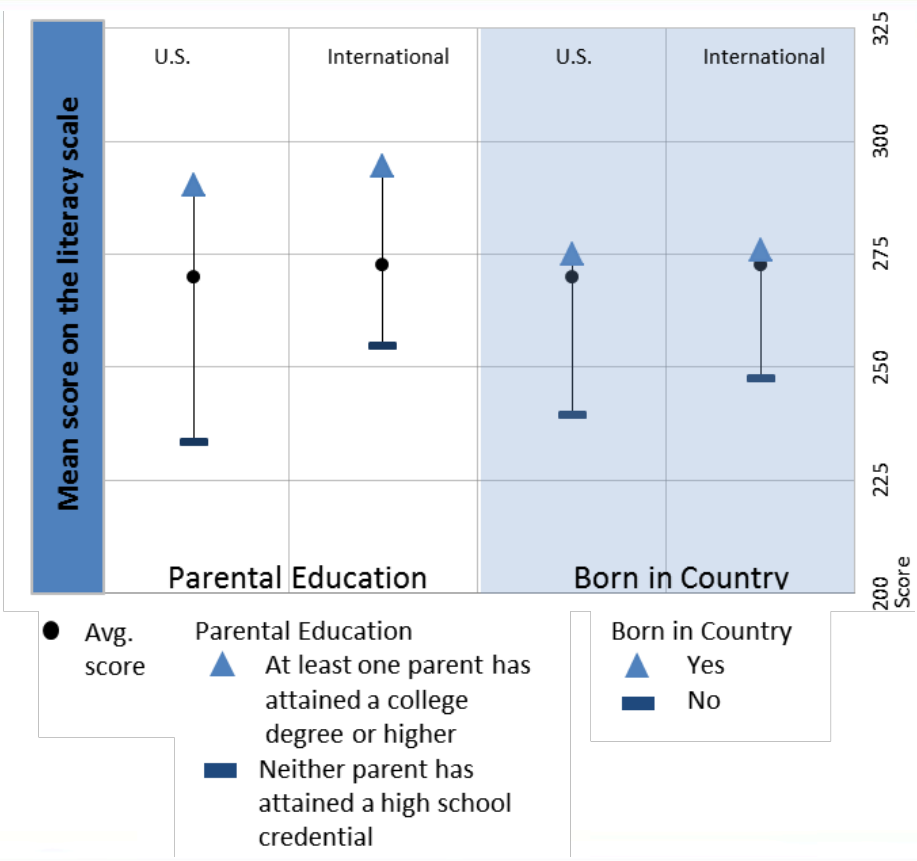
# Literacy skills in younger and older generations



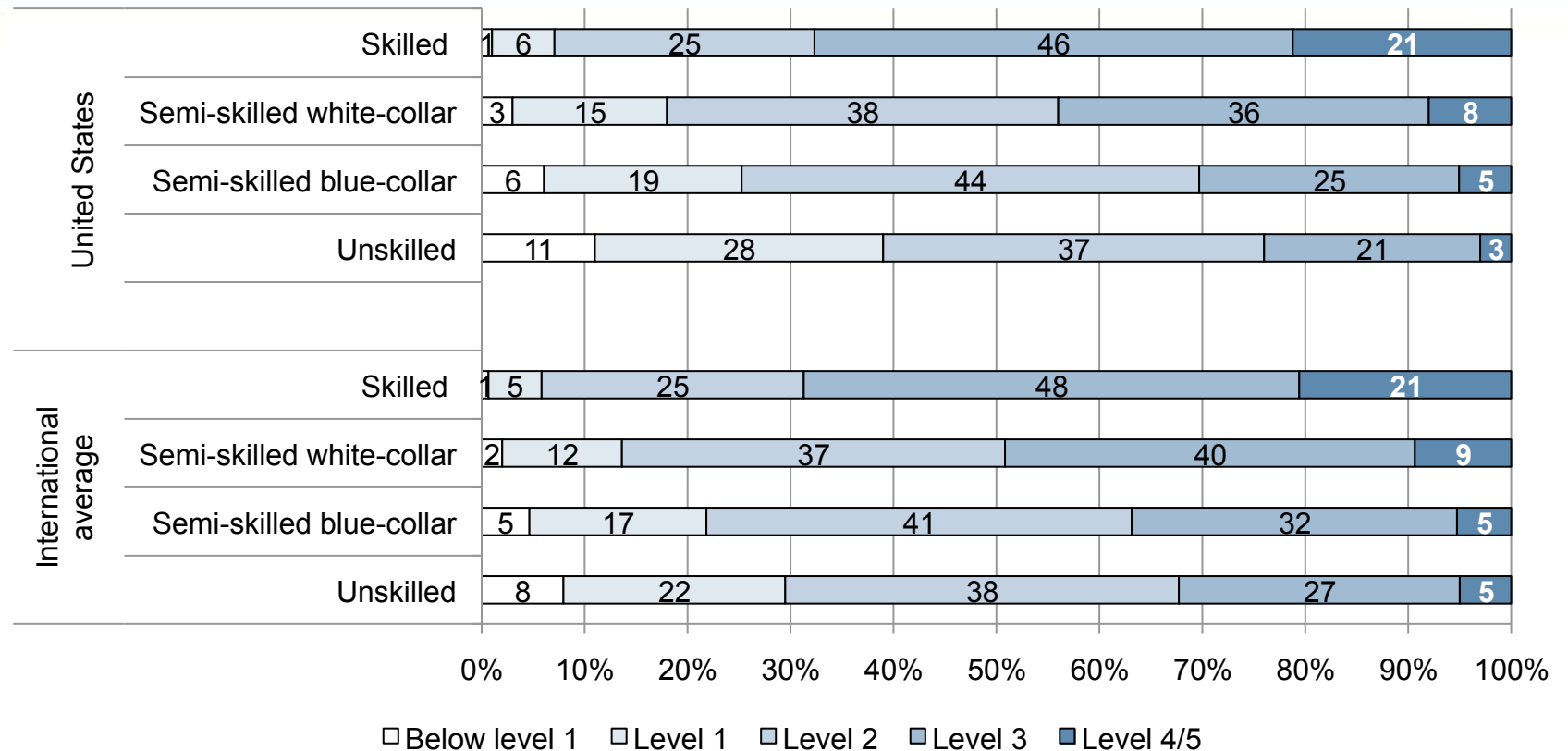
**In the U.S., a greater percentage of those who were born outside of the country perform at the lowest proficiency level in literacy and numeracy (below level 1) than those born in the country**



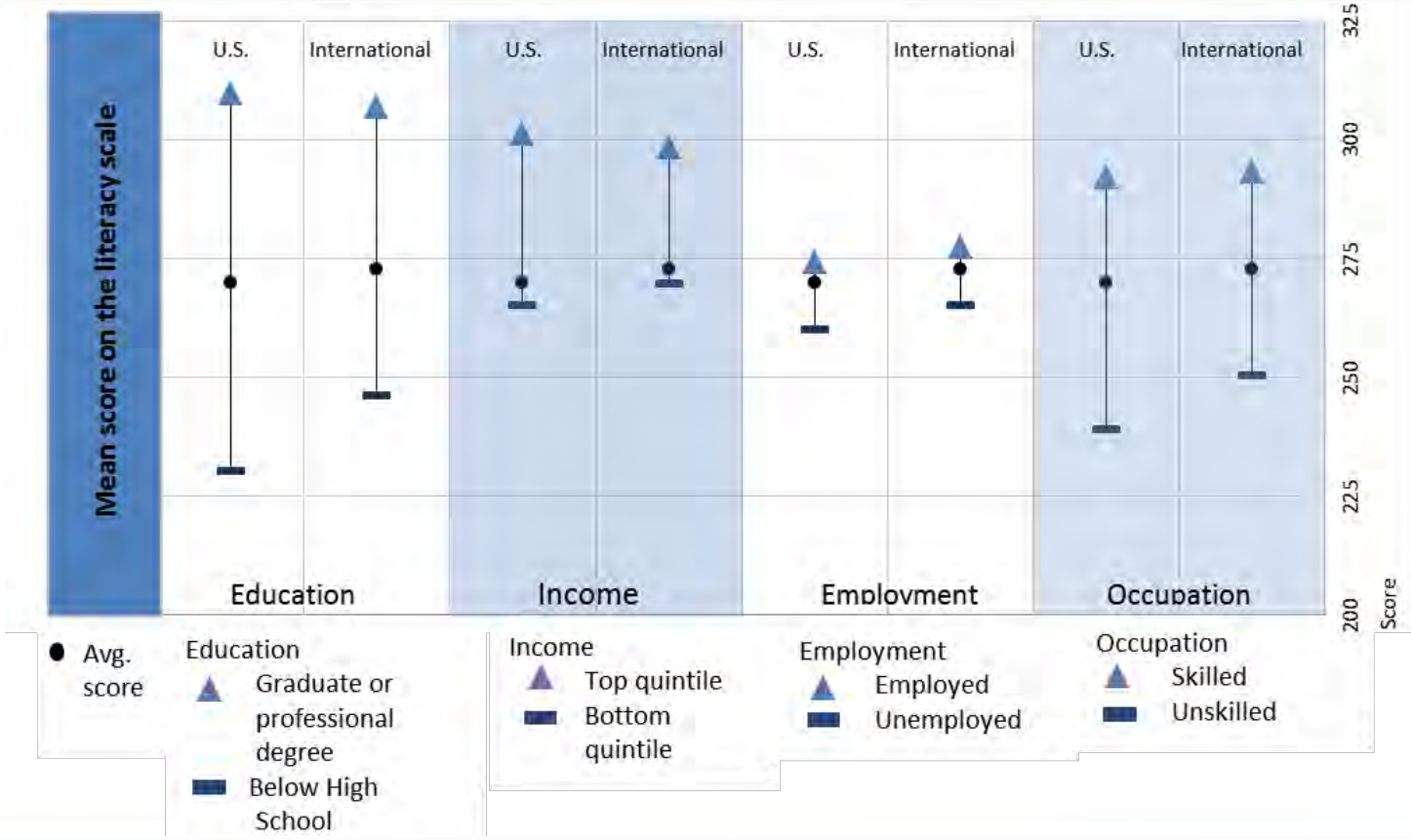
# U.S. gaps in literacy scores larger than international average by parental education and nativity status



**US skilled workers had the same percentage of top performers in literacy as the international average. Unskilled workers had a greater percentage of low performers than internationally.**

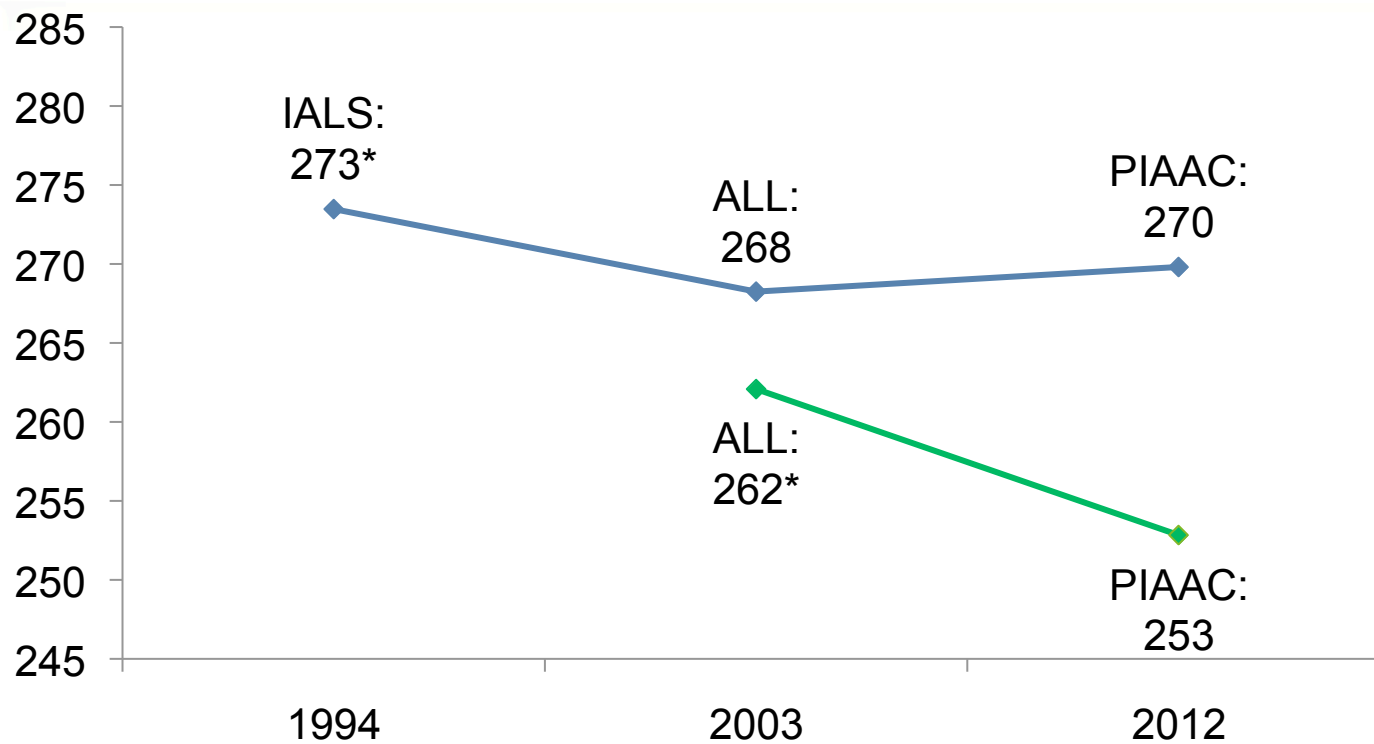


# In literacy, U.S. gaps larger by educational attainment and skill level of job, but similar to international average by income and employment status





**U.S. average literacy score in 2012 not significantly different from 2003, but lower than in 1994. U.S. average numeracy score in 2012 lower than in 2003.**



\* $p < .05$ . Average score is significantly different from PIAAC.

# U.S. PIAAC Findings Summary:

- Lower overall scores than international average in all subjects
- Higher percentages of low performers than internationally
- Larger gaps between less advantaged and more advantaged peers in literacy and numeracy, but not in problem solving in technology-rich environments
- Relatively lower performance of young adults and those with high school education or less
- Relatively higher performance of older adults in literacy and problem solving in technology-rich environments

# US Release Schedule

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## **Released in October 2013**

- OECD PIAAC International Report (October 8<sup>th</sup> 2013)
- NCES PIAAC National Report: “First Look” Report (October 18<sup>th</sup> 2013)

## **Will be Released between November 2013 to February 2014**

- OECD authored US country report (November 12, 2013)
- NCES PIAAC Web Portal
- Data Explorer (NCES)
- US National Technical Report (NCES)
- Public use data file (NCES)
- Restricted use data file (NCES)
- OECD Education and Skills Online (E & S Online)

## ***Time for the United States to Reskill? What the Survey of Adult Skills Says*** (An OECD authored report)

- Funded by the Office of Vocational and Adult Education, U.S. Department of Education
- Report will:
  - Interpret the U.S. main findings
  - Offer a detailed profile of low-skilled adults in the U.S.
  - Identify policy implications and offer broad policy recommendations for the U.S.
- Be released on November 12<sup>th</sup> in Washington, D.C.
- More detailed information regarding this event will be posted at [www.piaacgateway.com](http://www.piaacgateway.com)

# NCES PIAAC Web Portal Content

- Literacy, numeracy, and problem-solving in technology-rich environments proficiency levels by:
  - Country of birth
  - Informal training
  - Health status
- *Profile of the employed* by: age, gender, whether they are born in the United States, education, industry of employment, occupation, and earnings
- *Profile of the unemployed* by: age, gender, whether they are born in the United States, and education

# NCES PIAAC Data Explorer

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- Interactive online data tool that allows users to produce customized PIAAC reports
- Data displayed and exported in a variety of formats, including:
  - Tables
  - Charts
  - Maps

## Additional Data Collection: U.S. National Supplement

- Additional household sample (3,600) for the following groups:
  - unemployed adults (ages 16–65)
  - two groups of young adults (ages 16–24 and 25–34)
  - older adults (ages 66–74)
- Separate sample for 1,200 incarcerated adults (ages 16–74)
- Data collection: August 2013 and April 2014
- Analysis and reporting: late 2015 or early 2016



## For more information on PIAAC

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Visit AIR\_PIAAC Gateway at:

<http://piaacgateway.com/>

Contact: [piaac@air.org](mailto:piaac@air.org)

Visit PIAAC at NCES:

<http://nces.ed.gov/surveys/piaac/>



### Comparison of average literacy proficiency among young adults

Mean literacy proficiency scores of 16-24 year-olds

Significantly **above** the average  
 Not significantly different from the average  
 Significantly **below** the average

Mean	Comparison country	Countries whose mean score is NOT significantly different from the comparison country
299	Japan	Finland
297	Finland	Japan, Korea, Netherlands
295	Netherlands	Finland, Korea
293	Korea	Finland, Netherlands
287	Estonia	Australia, Flanders (Belgium)
285	Flanders (Belgium)	Australia, Czech Republic, Estonia, Poland, Sweden
284	Australia	Czech Republic, Estonia, Germany, Poland, Sweden, Flanders (Belgium)
283	Sweden	Australia, Czech Republic, Germany, Poland, Flanders (Belgium)
281	Poland	Australia, Czech Republic, Germany, Sweden, Flanders (Belgium)
281	Czech Republic	Australia, Austria, Canada, Denmark, Germany, Poland, Slovak Republic, Sweden, Flanders (Belgium)
<b>280</b>	<b>Average</b>	<b>Austria, Czech Republic, Germany, Poland, Sweden</b>
279	Germany	Australia, Austria, Canada, Czech Republic, Denmark, France, Norway, Poland, Slovak Republic, Sweden
278	Austria	Canada, Czech Republic, Denmark, France, Germany, Norway, Slovak Republic
276	Denmark	Austria, Canada, Czech Republic, France, Germany, Norway, Slovak Republic, United States
276	Slovak Republic	Austria, Canada, Czech Republic, Denmark, France, Germany, Norway, United States
276	Canada	Austria, Czech Republic, Denmark, France, Germany, Norway, Slovak Republic, United States
275	Norway	Austria, Canada, Denmark, France, Germany, Ireland, Slovak Republic, United States
275	France	Austria, Canada, Denmark, Germany, Norway, Slovak Republic, United States
272	United States	Canada, Denmark, France, Ireland, Norway, Slovak Republic, England/N. Ireland (UK), Cyprus <sup>1</sup>
271	Ireland	Norway, United States, England/N. Ireland (UK), Cyprus <sup>1</sup>
267	Cyprus <sup>1</sup>	Ireland, Spain, United States, England/N. Ireland (UK)
266	England/N. Ireland (UK)	Ireland, Italy, Spain, United States, Cyprus <sup>1</sup>
264	Spain	Italy, England/N. Ireland (UK), Cyprus <sup>1</sup>
261	Italy	Spain, England/N. Ireland (UK)



Source: Survey of Adult Skills (PIAAC) (2012), Table A3.2 (L).

### Comparison of average numeracy proficiency among young adults

Mean numeracy proficiency scores of 16-24 year-olds

- Significantly **above** the average
- Not significantly different from the average
- Significantly **below** the average

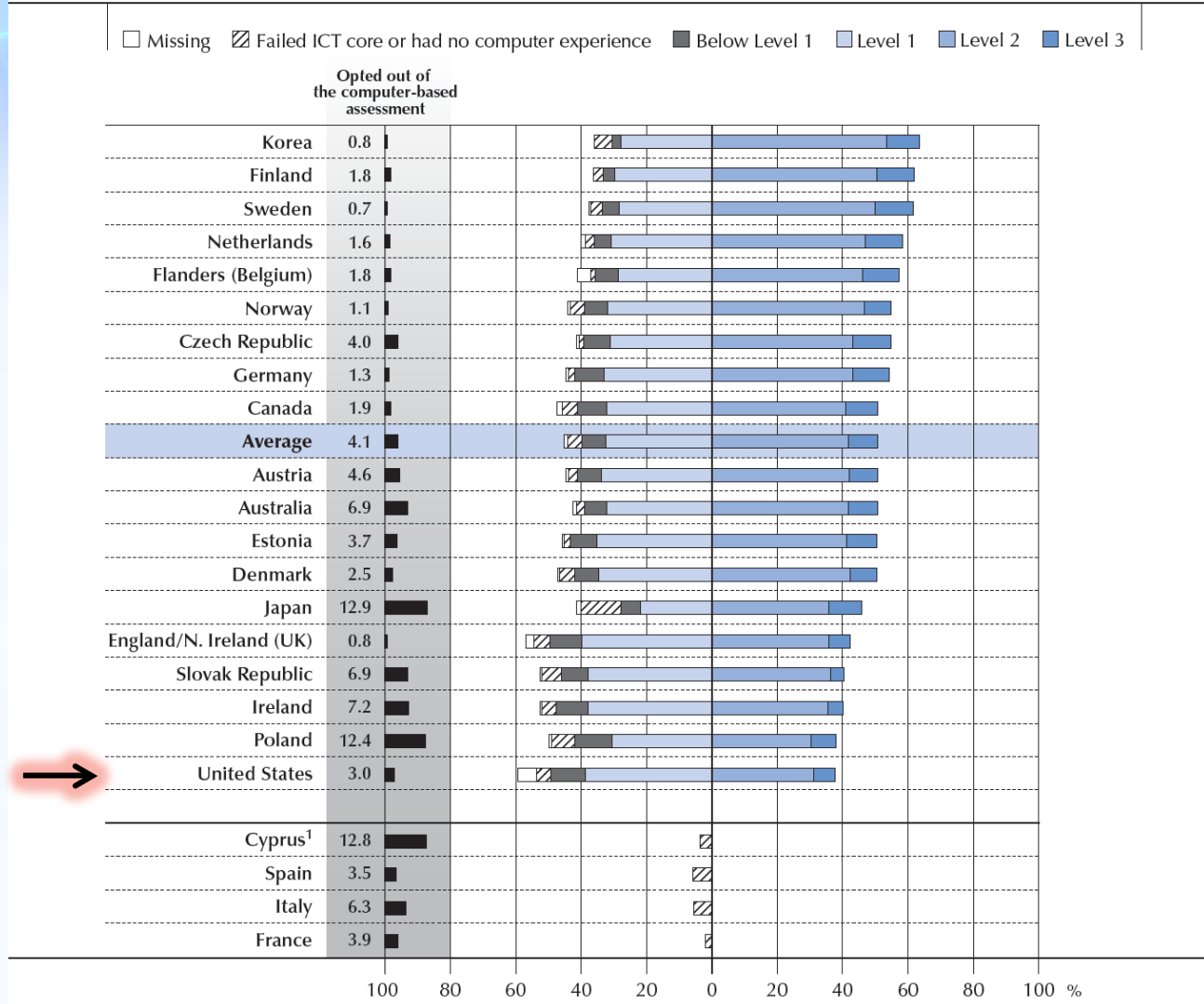
Mean	Comparison country	Countries whose mean score is NOT significantly different from the comparison country
285	Netherlands	Finland, Japan, Korea, Flanders (Belgium)
285	Finland	Japan, Korea, Netherlands, Flanders (Belgium)
283	Japan	Austria, Czech Republic, Estonia, Finland, Korea, Netherlands, Slovak Republic, Sweden, Flanders (Belgium)
283	Flanders (Belgium)	Austria, Finland, Japan, Korea, Netherlands, Slovak Republic, Sweden
281	Korea	Austria, Czech Republic, Estonia, Finland, Japan, Netherlands, Slovak Republic, Sweden, Flanders (Belgium)
279	Austria	Czech Republic, Estonia, Germany, Japan, Korea, Slovak Republic, Sweden, Flanders (Belgium)
279	Estonia	Austria, Czech Republic, Germany, Japan, Korea, Slovak Republic, Sweden
278	Sweden	Austria, Czech Republic, Estonia, Germany, Japan, Korea, Slovak Republic, Flanders (Belgium)
278	Czech Republic	Austria, Estonia, Germany, Japan, Korea, Slovak Republic, Sweden
278	Slovak Republic	Austria, Czech Republic, Estonia, Germany, Japan, Korea, Sweden, Flanders (Belgium)
275	Germany	Australia, Austria, Czech Republic, Denmark, Estonia, Norway, Slovak Republic, Sweden
273	Denmark	Australia, Germany, Norway
<b>271</b>	<b>Average</b>	<b>Australia, Canada, Denmark, Norway, Poland</b>
271	Norway	Australia, Canada, Denmark, Germany, Poland
270	Australia	Canada, Denmark, Germany, Norway, Poland, Cyprus <sup>1</sup>
269	Poland	Australia, Canada, Norway, Cyprus <sup>1</sup>
268	Canada	Australia, Norway, Poland, Cyprus <sup>1</sup>
264	Cyprus <sup>1</sup>	Australia, Canada, France, Poland
263	France	Cyprus <sup>1</sup>
258	Ireland	Italy, Spain, England/N. Ireland (UK)
257	England/N. Ireland (UK)	Ireland, Italy, Spain
255	Spain	Ireland, Italy, England/N. Ireland (UK)
251	Italy	Ireland, Spain, United States, England/N. Ireland (UK)
249	United States	Italy



Source: Survey of Adult Skills (PIAAC) (2012), Table A3.2 (N).

### Proficiency in problem solving in technology-rich environments among young adults

Percentage of 16-24 year-olds scoring at each proficiency level



Source: Survey of Adult Skills (PIAAC) (2012), Table A2.10b.



# The OECD Education and Skills Online

Irwin Kirsch  
Educational Testing Service  
November 2013



# What is E & S Online

*Listening. Learning. Leading.®*

- The OECD Education and Skills Online offers individuals, businesses, community based and government organizations a powerful new set of tools to assess their adult populations.
- It is specifically designed to provide individual level data that is linked to PIAAC and, therefore, shares the same validity evidence
- It measures both cognitive and non-cognitive skills
- It uses a state of the art internet delivered platform that is available 24 / 7 and includes technical support
- It is developed in 9 countries and 11 languages/versions



## Languages / Versions

English - US  
English - Canada  
English – UK  
English - Ireland  
Spanish - US  
Spanish - Spain  
French - Canada  
French - France  
Italian  
Czech  
Japanese



# USES and Benefits

*Listening. Learning. Leading.®*

- State of the art internet delivered tests suitable for adults.
- Individual scores in each measured domain provided automatically and in real time
- Incorporates IRT, multi-stage adaptive testing and automated scoring
- Available in multiple languages/versions
- Validity evidence is linked to PIAAC measures
- Tests cover a wide range of skills and domains
- Individuals and organizations have flexibility to determine which skills to assess