The Role of PIAAC in Adult Education in the United States

Deborah Kennedy, National Coalition for Literacy

The release in late 2024 of results from the first round of data collection in Cycle 2 of the Programme for the International Assessment of Adult Competencies (PIAAC) (National Center for Education Statistics [NCES], n.d.-a) offers an opportunity to consider the impact of the Cycle 1 assessments. This article outlines PIAAC's approach to understanding adult foundational literacy, numeracy, and problem-solving skills. It then explores ways in which this approach intersects with, and potentially affects, instructional practice and national-level policy.

The PIAAC Approach

The conceptual framework underlying the PIAAC Survey of Adult Skills draws on two interrelated lenses: competency-based education and human capital theory. Each of these became influential in adult education in the latter part of the 20th century and continues to inform instructional practice and policymaking today.

Competences and Competency-Based Education

Competency-based education (CBE; also called competency-based learning [CBL]) focuses on the knowledge, skills, and abilities that adults need to be able to apply in order to carry out the tasks of everyday living. In CBE-oriented programs, curriculum, instruction, and assessment are based on stated performance objectives. The CBE focus on learner understanding and performance outcomes is pivotal in some approaches to training that have become influential over the past 30 years. Examples include *Understanding by Design* (Wiggins & McTighe, 2005) and *Dialogue Education* (Vella et al., 1998), both of which center on learners' purposes for learning and stress learner engagement

in understanding how they will achieve their desired learning outcomes.

In adult education, CBE performance objectives are identified primarily with workforce skills and workforce preparation. For example, in the context of adult ESOL, Parrish (2019) observes that

> CBE, in its early days in the field of adult ESL, emphasized several areas of knowledge needed for adults to function in society… Outcomes…were identified in terms of performance objectives (learners will be able to…), which became the basis for curricula. Most often these outcomes were related to basic "life skills" competencies ….With a move toward curricula based on college and career readiness standards, CBE today is most common in career-focused programs. (p. 35-36)

Some adult CBE does still seek to cast a wider net, however. For example, the Transitions Integration Framework (ABE Teaching & Learning Advancement System, 2023) uses "students will be able to" statements to define each of the six transitions skills (effective communication, learning strategies, critical thinking, self-management, developing a future pathway, and navigating systems) that it presents as "the hard-to-define, yet make-or-break, skills needed to succeed in the workplace, college, and community" (n.p.).

Human Capital and Human Capital Theory

Human capital is a term that emerged in the context of economics as a way of characterizing an individual's attributes, including education, skills, experience, and personal qualities, in terms of economic value—that is, how the skills contribute to the individual's productivity within the labor force (Goldin, 2016; Organization for Economic Co-operation and Development [OECD], 1998). It uses an investment-and-return model to connect initial education

and training with later productivity. This theory has become a foundational principle underlying government and business perceptions of the purpose of education and training (Deming, 2022; Ross-Gordon et al., 2017).

Competences and Human Capital in the PIAAC Framework

PIAAC Cycle 1 measured adults' levels of proficiency in three areas: literacy, numeracy, and problem solving in technology-rich environments (PS-TRE). Each is characterized as a key information-processing competency that is essential to adults' purpose-driven ways of approaching tasks and functions (NCES, n.d.-b).

- Literacy is understanding, evaluating, using and engaging with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential.

- Numeracy is the 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.

- PS-TRE is using digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks. However, in PIAAC Cycle 2, PS-TRE is being replaced with Adaptive Problem Solving. For more information, see Questions 15 and 16 at https://nces.ed.gov/surveys/piaac/faq.asp

The focus in each definition is on skills in use. PIAAC's assessment of the application of knowledge and know-how in literacy, numeracy, and PS-TRE is then characterized as a proxy measure of human capital (OECD, 1998 as cited in OECD, 2019, p. 104).

PIAAC's Intersection with Instruction in Adult Education

PIAAC assessment items ask assessment takers to apply their literacy, numeracy, and problem-solving skills to complete tasks that adults could encounter in their daily lives. This focus on the identification and assessment of skills in use aligns PIAAC with current approaches to the design and provision of literacy, numeracy, and English language instruction for adults, particularly task-based learning and project-based learning, both of which center

on their relevance to learners and the incorporation of literacy and numeracy skills as means to completing tasks or projects rather than as ends in themselves.

Recognizing this alignment, soon after PIAAC Cycle 1 was completed, the NCES commissioned three papers designed to demonstrate how adult educators could use aspects of the PIAAC frameworks in their programs (Curry 2017, 2019; Trawick 2017, 2019; Vanek, 2017). Each outlines the relevant PIAAC skill area framework and provides examples of ways an instructor could use it to structure curriculum and instruction. The authors make clear that such application of the frameworks involves the incorporation of critical thinking and problem-solving skills to tasks whose complexity increases gradually over time.

Curry, Trawick, and Vanek all recognize the relationship between adult education in the United States and the PIAAC frameworks. As Curry (2017) describes it,

> These skills and competencies align with the... *College and Career-Readiness Standards for Adult Education* (CCRS) [that] have been adopted in an effort to prepare adult learners in the U. S. for the skill demands of the 21st century. ... In 2014, Congress passed the Workforce Innovation and Opportunity Act (WIOA) as the primary legislation directing adult education activity nationally. Together, WIOA and the CCRS provide guidance for the adult basic education field to ensure adult learners develop skills to help them succeed in college and careers. *The PIAAC framework provides a set of useful tools that practitioners can use to move the WIOA and CCRS agenda forward.* (p. 2, emphasis added)

However, despite the clarity of this statement, these commissioned papers and the PIAAC frameworks that they reference are rarely, if ever, cited as guides for program design, curriculum development, or approaches to instruction. None of the other commissioned papers available on the PIAAC Gateway (https://www.piaacgateway.com/researchpapers/) address this potential role of the PIAAC frameworks. In addition, with the exception of a 2017 PIAAC Literacy Circle that used Trawick 2017 as a basis for reflection and discussion (https://community.lincs.ed.gov/group/126/discussion), references to PIAAC on the Education Department's Literacy Information and Communication System (LINCS) resource site lead to research studies on PIAAC findings rather than articles on applications of the PIAAC frameworks in instruction. Even the massive pandemic-induced shift to online and hybrid models of learning, with its resultant need for instructors to guide themselves and

their learners in developing digital skills, has not generated references to the PIAAC PS-TRE framework in the many resource tools that have been developed through the Ed-Tech Center @ World Education (https://edtech.worlded.org/) and other providers.

The underlying cause of this disconnect is that the PIAAC frameworks and outcomes are not connected in any structural way with the National Reporting System (NRS), the federal adult education accountability mechanism. Where PIAAC provides a snapshot of adult skills across an entire country at one point in time, the NRS looks at change over time for participants in federally funded adult education, with specific reference to measurable skill gains (MSGs). PIAAC looks at what people *can do*; MSGs look at what they *have done*. In this sense, although the PIAAC frameworks reflect the emphasis on skills in use (competences) that are aligned with both the CCRS and WIOA goals, and although "the data from the [PIAAC] Background Questionnaire informed the new WIOA at the policy level" (Curry 2017, p. 4), the potential usefulness of PIAAC for practical adult education has been sidelined.

PIAAC's Intersection with Federal Adult Education Policy

PIAAC is more directly associated with policy than it is with curriculum and instruction. Kirsch et al. (2017) connect policy and PIAAC in their description of the development of large-scale assessments over time. They explicitly link it with human capital.

> Educational Testing Service's (ETS's) ... work has been designed to meet policy needs, both in the United States and internationally, based on the growing awareness of literacy as human capital. ... The human capital perspective led policy makers in the United States and internationally to recognize the need for large-scale assessments of adult foundational skills, to enable governments to identify the relationships between adult skills and economic advancement. (p. 285 and 287)

In the United States, the human capital perspective is codified in WIOA, where adult education (Title II, the Adult Education and Family Literacy Act [AEFLA]) is set in the larger context of federal labor law (Title I, Workforce Development Activities, and Title III, the Wagner-Peyser Act) and outcomes are quantified in terms of employment rates, median earnings, credential attainment, achievement of trade-related benchmarks, and completion of on-the-job

training or an apprenticeship program (https://www.dol.gov/agencies/eta/performance/performance-indicators). PIAAC's influence is recognized primarily in relation to these types of outcomes by ETS researchers:

> The impact of [PIAAC and its predecessor] assessments has grown as policy makers and other stakeholders have increasingly come to understand the critical role that foundational skills play in allowing individuals to maintain and enhance their ability to meet changing work conditions and societal demands. For example, findings from these surveys have provided a wealth of information about how the distribution of skills is related to social and economic outcomes. (Kirsch et al., 2017, p. 285)

More recently, Murray and Binkley (2022) have used data from PIAAC and other large-scale assessments to "describe some of the policy options that are available to policy makers and what impact each might have on economic performance at the individual, firm and macro-levels" (p. 8). They maintain that "analyses of these datasets ... confirm that the demand for key cognitive skills is increasing, including literacy, that literacy skill supply shortages and misfit are impairing economic performance and amplifying wage inequality" (Murray & Binkley, 2022, p. 22).

Numerous researchers and practitioners in the field of adult education have critiqued federal policy's adoption of the human capital perspective, observing that it prioritizes the economic outcomes of adult education to the detriment of other essential learner benefits. As Stephen Reder (2020) explains,

> The ... focus of publicly funded programs in the United States is on employment, high school equivalency, and postsecondary training and education. Although these outcomes address the goals of many adults, many adults with basic skills needs have other goals that cannot readily be served within this framework. To begin with, millions of adults are not in the workforce due to age, disabilities, poor health, family care responsibilities, etc. Other adults wish to improve their basic skills for other reasons entirely, such as assisting their children with schoolwork, understanding and addressing their own health issues or those of family members, or participating in civic affairs such as voting or understanding political issues. (p. 51)

Similarly, Ross-Gordon et al. (2017) contrast policy based on the human capital perspective with policy based on the idea of education as a human right:

> There has always been a tension between a workforce or job skill development approach for adult literacy learning and the idea that all individuals, no matter their age, have a right to a basic or fundamental education... For the moment, the debate about whether adult education is a right or an aspect of job training has been answered. (p. 271)

However, although PIAAC-related materials produced by OECD, NCES, and ETS all cite the importance of measuring and increasing adults' competences because the workplace requires progressively higher skill levels, PIAAC itself allows for a much wider and deeper interpretation of potential policy directions by providing assessment data on adults' competences in the full range of life contexts.

> Through the work of expert panels convened to establish the framework for assessments, the conceptualization of literacy was expanded to reflect the diversity of tasks that adults encounter at work, home, and school and in their communities. … Items have been based on everyday materials taken from various adult situations and contexts including the workplace, community, and home. … In sum, by using real-life materials and open-ended simulation tasks, ETS's large-scale literacy assessments have sought to reflect and measure the range of literacy demands faced by adults in order to provide the most useful information to policy makers, researchers, and the public. (Kirsch et al., 2017, p. 287, 302, 303)

The PIAAC frameworks and data thus present opportunities for policymakers to expand the federal investment in adult education to a broader vision of adult competences in overall individual and community quality of life, defined in part by economic self-sufficiency but also by health, ability to use social resources, participation in community relationships, and opportunities to experience and enjoy culture in all its forms. Using PIAAC in this way could promote federal policy that considers the skills that support health, safety, financial security beyond work (for example, ability to detect and avoid scams), and environmental awareness, as well as economic self-sufficiency, in the establishment of strong communities and a secure nation.

As the results of the first round of data collection in PIAAC Cycle 2 are released in late 2024, we can hope that both policymakers and adult education practitioners will recognize their goal "to provide relevant information to the variety of stakeholders interested in the skills and knowledge adults have and the impact of those skills on both individuals and society in general" (Kirsch et al., 2017, p. 305) and take advantage of all that PIAAC has to offer.

References

ABE Teaching & Learning Advancement System (ATLAS). (2023). *Transitions Integration Framework*. Academic, Career, & Employability Skills. https://atlasabe.org/resource/transitions-integration-framework/

Curry, D. (2017). *Using the PIAAC numeracy framework to guide instruction: An introduction for adult educators*. https://www.piaacgateway.com/researchpapers#2015

Curry, D. (2019). The PIAAC numeracy framework: A guide to instruction. *Adult Literacy Education*, *1*(2), 33-51. https://doi.org/10.35847/DCurry.1.2.33

Deming, D. J. (2022). Four facts about human capital. *Journal of Economic Perspectives,* 36(3), 75-102. https://doi.org/10.1257/jep.36.3.75

Goldin, C. (2016). Human capital. In C. Diebolt & M. Haupert (Eds.), *Handbook of cliometrics* (pp. 56-86). Springer Verlag. https://scholar.harvard.edu/goldin/publications/human-capital

Kirsch, I., Lennon, M.L., Yamamoto, K., & von Davier, M. (2017). Large-scale assessments of adult literacy. In R. Bennett & M. von Davier (Eds.), *Advancing human assessment. Methodology of Educational Measurement and Assessment* (pp. 285–310). Springer, Cham. https://doi.org/10.1007/978-3-319-58689-2_9

Murray, T. S., & Binkley, M. (2022). *The importance of IALS, ALL and PIAAC results to U.S. policy*. https://www.piaacgateway.com/researchpapers#2015

National Center for Education Statistics. (n.d.-a). *Data collection schedule and plans*. https://nces.ed.gov/surveys/piaac/schedule.asp

National Center for Education Statistics. (n.d.-b). *What PIAAC measures*. https://nces.ed.gov/surveys/piaac/measure.asp

Organisation for Economic Cooperation and Development. (n.d.) *Productivity, human capital, and educational policies*. https://www.oecd.org/economy/human-capital/

Organisation for Economic Cooperation and Development. (2019). *The survey of adult skills: Reader's companion* (3rd ed.). OECD Skills Studies. https://doi.org/10.1787/f70238c7-en

Parrish, B. (2019). *Teaching adult English language learners*. Cambridge. www.cambridge.org/9781108702836

Pimentel, S. (2013). *College and career readiness standards for adult education*. U. S. Department of Education. https://lincs.ed.gov/professional-development/resource-collections/profile-521

Reder, S. (2020). A lifelong and life-wide framework for adult literacy education. *Adult Literacy Education*, *2*(1), 48-53. http://doi.org/10.35847/SReder.2.1.48

Ross-Gordon, J. M., Rose, A. D., & Kasworm, C. E. (2017). *Foundations of adult and continuing education*. Jossey-Bass.

Trawick, A. R. (2017). *Using the PIAAC literacy framework to guide instruction: An introduction for adult educators*. https://www.piaacgateway.com/researchpapers#2015

Trawick, A. R. (2019). The PIAAC literacy framework and adult reading instruction. *Adult Literacy Education, 1*(1), 37-52. http://doi.org/10.35847/ATrawick.1.1.37

Vanek, J. (2017). *Using the PIAAC framework for problem solving in technology-rich environments to guide instruction: An introduction for adult educators*. https://www.piaacgateway.com/researchpapers#2015

Vella, J., Berardinelli, P., & Burrow, J. (1998). *How do they know they know*. Jossey-Bass.

Wiggins, G., & McTighe, J. (2005). *Understanding by design* (2nd ed.). Pearson Education. https://www.ascd.org/books/understanding-by-design-expanded-2nd-edition?variant=103055