

Employers: Advancing literacy is key to advancing your workforce

Executive Summary

Today's job market is changing rapidly, and the ways in which workers adapted their skills in the past are unlikely to be as effective now due to the quickly evolving nature of work and the increased productivity, technology, and flexibility required in most jobs. According to National Skills Coalition, 54% of in-demand jobs in Ohio require skills training beyond high school, but not a four-year degree.¹ Even with access to training, adults may struggle due to less than proficient literacy and numeracy skills, also known as foundational basic skills. Government, industries, and higher education are planning how to prepare workers for the future, and foundational basic skills must be included in the conversation.

From 2012-2017, U.S. adults ages 16 to 74 participated in The Program for the International Assessment of Adult Competencies (PIAAC), a cyclical, large-scale international study. According to the results, the current state of the workforce in the U.S. indicates²:

- 54% of American adults are not at a proficient level of literacy
- 64% are not at a proficient level of numeracy
- 24% are operating at the lowest level of digital skills
- Cuyahoga County is consistent with the national average

The assessment revealed that low literacy permeates a wide range of proxies and demographics throughout the U.S.

- 75% of adults at the lowest level of literacy have earned at least a high school diploma
- 62% of adults at the lowest level of literacy are employed
- 27% of employed adults at the lowest level of literacy are in skilled occupations, 30% are in semi-skilled white-collar occupations, and 20% are in semi-skilled blue-collar occupations³

Therefore, it may be difficult to determine who, in fact, could benefit from literacy and numeracy skill improvement. Even though workers at lower literacy and numeracy levels are able to perform their current tasks, they may find difficulty advancing in their careers when more complex responsibilities and skill building are required.

How do we prepare workers for the current and future global economy? Since many workers in Cuyahoga County could benefit from foundational basic skill improvement, **integrating literacy and**

¹ National Skills Coalition. *The Ohio Skills Mismatch*. 2018. Accessed May, 2021. <https://www.nationalskillscoalition.org/skills-mismatch/ohio-skills-mismatch>

² U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. *Highlights of the 2017 U.S. PIAAC Results Web Report*. 2017. Accessed May 2021. https://nces.ed.gov/surveys/piaac/current_results.asp.

³ U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), U.S. PIAAC 2017, U.S. PIAAC 2012/2014

numeracy education into job training is an effective method to guarantee all workers have solid foundational skills.

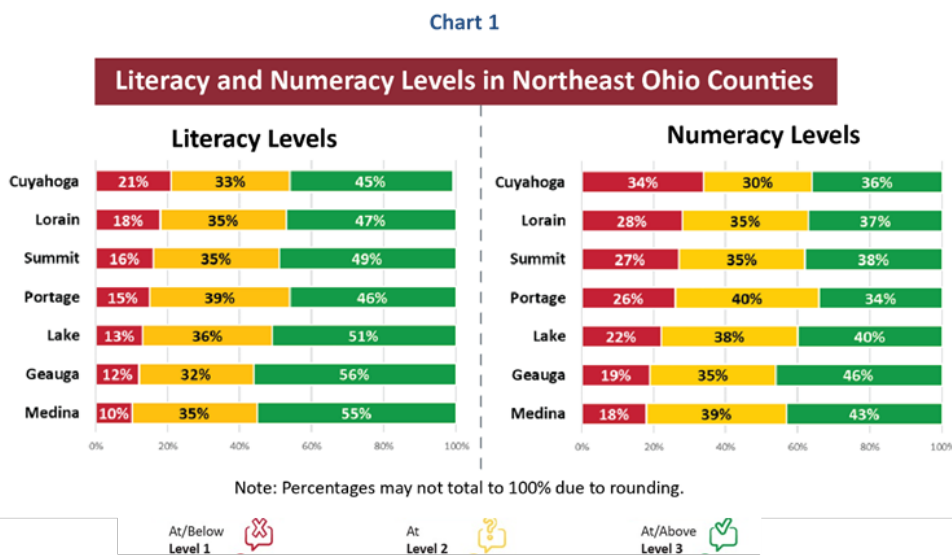
- [Contextualized curriculum](#) weaves literacy and numeracy instruction into job training and is set within the framework of specific sectors, such as manufacturing, IT, and healthcare, so that workers gain practical job skills while at the same time advance their foundational basic skills.
- When integrating literacy and numeracy lessons into job training, workers obtain higher skills, advance in their careers, and earn higher wages.
- For employers providing workplace training or involved in sector partnerships, this means a more skilled, retainable, and productive workforce – which could result in higher profit margins.

Introduction

In Cuyahoga County, workers and employers will benefit when literacy and numeracy instruction is integrated into workplace training, sector partnership training, and adult education programs. Studies show contextualized learning, lessons that integrate literacy and numeracy, is an effective method to advance workers along their career pathway.⁴ The following sections take a deeper dive into the PIAAC data and examine the current state of the workforce and how to prepare workers for the current and future global economy.

Current State of the Workforce

[Compared to surrounding counties \(Chart 1\)](#), Cuyahoga has the largest percentage of adults at literacy Level 2 and below (Level 3 being proficient) and the second largest percentage of adults at numeracy



Level 2 and below.⁵ With 54% of Cuyahoga residents at or below Level 2 in literacy and 64% at or below Level 2 in numeracy, many workforce-age adults would benefit from improving their foundational basic skills.

⁴ProLiteracy. "Contextualizing Adult Education: Learning from Six Decades of Experience and Research." 2020. https://www.proliteracy.org/Portals/0/pdf/Research/Briefs/ProLiteracy-Research-Brief-04_Contextualizing-2020-09.pdf

⁵The Literacy Cooperative. "2020 PIAAC Assessment of Adult Literacy and Numeracy." 2020. Accessed May 2021. <https://www.literacycooperative.org/literacy-facts/literacy-statistics/>

PIAAC SKILL LEVEL DEFINITIONS

At/Below Level 1: Individuals at these levels are considered low literate, and some are functionally illiterate or innumerate. At the upper end of this range, adults can read and understand short texts well enough to complete simple tasks such as filling out forms, and performing basic, one-step mathematical calculations. At the lower end of the range, adults possess some reading, writing, and calculation skills, but not enough to advance their literacy or numeracy on their own.

At Level 2: Adults at this level can read texts, compare, and contrast passages, draw simple inferences, and relate multiple pieces of information within or across a few documents. They can perform calculations with decimals, fractions, and percentages, and interpret simple data in texts, tables, and graphs. However, they may still struggle to perform tasks with text-based information or more complicated mathematical problem solving.

At/Above Level 3: Adults at this level are proficient in literacy and numeracy and can understand, interpret, and synthesize information across multiple complex texts and can assess the reliability of information and the meaning of complex ideas. They can recognize mathematical relationships, apply proportions, understand abstract representations of mathematical concepts, and can engage in complex reasoning about data.

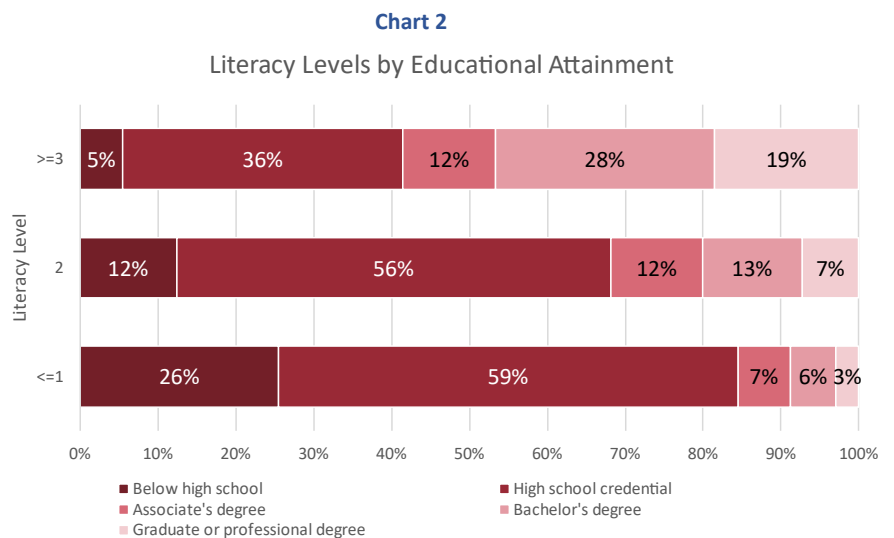
Source: U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), U.S. PIAAC 2017, U.S. PIAAC 2012/2014

Determining Literacy Levels

Unfortunately, many individuals have “hidden” their low literacy and numeracy due to stigma or embarrassment, which makes it difficult to identify who in the workforce is most in need. The PIAAC compared proficiency levels to indicators which may often be used as proxies for qualifications, such as education level, employment, and occupation.

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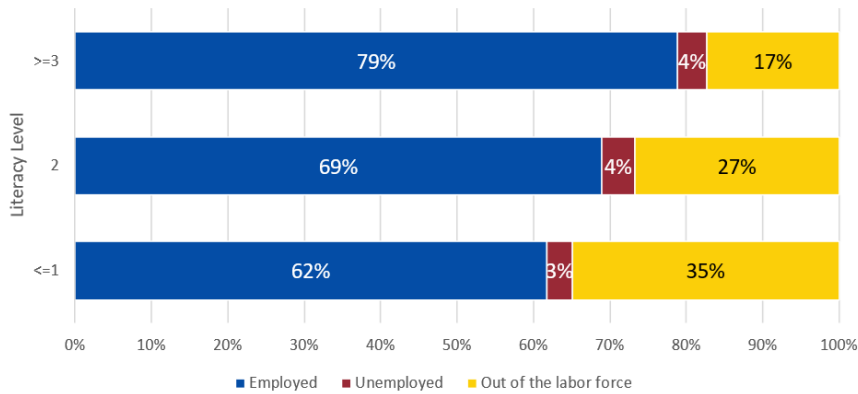
When comparing educational attainment to literacy and numeracy skills, (Chart 2) there are noticeable discrepancies. For example, one-third of adults at a Level 2 in literacy, i.e., not proficient, have completed education beyond high school. Additionally, when comparing numeracy, 47% of adults who have education beyond high school are at Level 2 or below.⁶



⁶ U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. *Highlights of the 2017 U.S. PIAAC Results Web Report*. 2017. Accessed May 2021. https://nces.ed.gov/surveys/piaac/current_results.asp.

Chart 3

Literacy Levels by Employment Status



At first glance, previous or current employment status does not necessarily correlate to the level of literacy and numeracy skills either. Chart 3 shows that adults at all levels of literacy and numeracy are employed. However, literacy, numeracy, and digital skill levels can be

correlated to retained employment. One of the most recent examples of workers' adaptability occurred during the COVID-19 pandemic. Cuyahoga County and Michigan's Wayne County have the lowest percentage of adults at or above a Level 3, compared to similar regional counties.⁷ These two counties experienced the highest increase in unemployment between December 2019 and December 2020 (see Chart 4). Although this correlation does not necessarily imply causation, it is reasonable to infer that literacy, numeracy, and digital skills can play a strong role in employment stability in a fast-changing environment.

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Chart 4



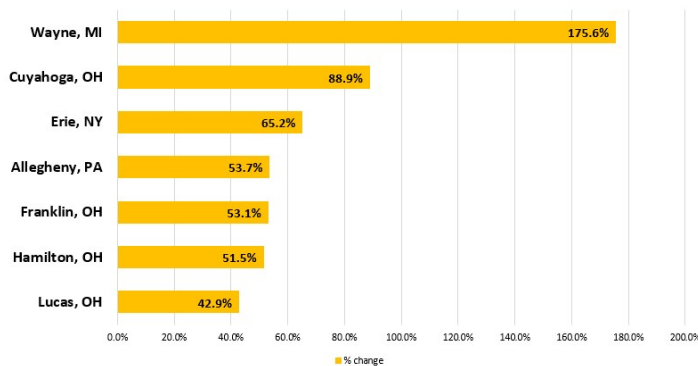
Job Access

The two counties with lowest literacy also saw the greatest increase in unemployment between 2019-2020.*

Literacy Ranking**



Percent Increase in Unemployment between December 2019 and December 2020



*Correlation does not mean there is a causal relationship

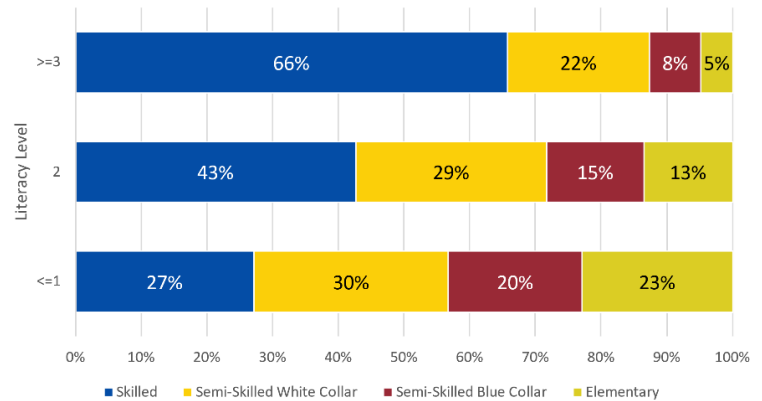
**Literacy ranking based on % at PIAAC Level 1

OH: % Increase: 34.1%

⁷ The Literacy Cooperative. 2020 PIAAC Assessment of Adult Literacy and Numeracy. 2020. Accessed May 2021. <https://www.literacycooperative.org/literacy-facts/literacy-statistics/>

Chart 5

Literacy Level by Occupational Skill Classification



Lastly, Chart 5 indicates that **adults at each level of literacy are represented in each category of occupations, no matter what skill level the job requires.** Although higher proficiency levels occurred with more skilled occupation levels, 27% of employed adults at or below Level 1 are working in skilled occupations. Interestingly, survey results further showed that most workers are able to adapt to their jobs over time regardless of their literacy and numeracy skills⁸. However, the ability to quickly learn the new skills or to adapt to the new requirements in advanced positions creates challenges that can be connected to low literacy and/or numeracy.

PIAAC used the International Standard Classification of Occupations established by the International Labour Organization:

- **Skilled Occupations:** managers, professionals, technicians. Skills level required can be compared to PIAAC literacy and numeracy Level 3.
- **Semi-Skilled White Collar:** clerical support workers, sales workers. Skills level required be compared to PIAAC literacy and numeracy Level 2.
- **Semi-Skilled Blue Collar:** skilled agricultural or trade workers, plant, or machinery operators. Skills level required can be compared to PIAAC literacy and numeracy Level 2.
- **Elementary Occupations:** cleaners, laborers. Skills level required can be compared to PIAAC literacy and numeracy Level 1 and below.

Source: U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), U.S. PIAAC 2017, U.S. PIAAC 2012/2014

Preparing workers for the current and future global economy

As employers know, there has been an overall shift in the U.S. away from routine and manual tasks and towards more analytic and interpersonal tasks that require specialized skills.⁹ The Federal Reserve Banks of Cleveland and Philadelphia recently introduced the [Occupational Mobility Explorer](#).¹⁰ This helpful tool lists the necessary skills for different occupations. Through this tool, researchers identified the top 25 skills most requested by employers in all levels of occupations. Nine out of the top ten skills - such as communication skills, customer service, organizational skills, teamwork, scheduling - are all related to literacy and numeracy.¹¹ If workers need more advanced training to keep up with the changing economy, they must have a solid foundation in literacy and numeracy. Research shows that **even small**

⁸ U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), U.S. PIAAC. 2017, U.S. PIAAC 2012/2014

⁹ Kirsch, Irwin, Anita M. Sands, Steven B. Robbins, Madeline J. Goodman, and Richard J. Tannenbaum, *Buttressing the Middle: A Case for Reskilling and Upskilling America's Middle-Skill Workers in the 21st Century*. (p. 14) Princeton, NJ: Educational Testing Service, 2021.

¹⁰ Federal Reserve Bank of Philadelphia. "Occupational Mobility Explorer." 2021. Accessed May 2021.

<https://www.philadelphiafed.org/surveys-and-data/community-development-data/occupational-mobility-explorer>

¹¹ Demaria, Kyle, Kyle Fee and Wardip Keith. "Exploring a Skills-Based Approach to Occupational Mobility." (p. 9) Federal Reserve Bank of Philadelphia, Federal Reserve Bank of Cleveland. 2020.

advances in foundational basic skills can be a great advantage for workers transitioning into more skill demanding opportunities.¹²

As reported in The Literacy Cooperative's [Economic Case for Literacy](#), the success of any business depends upon the skills of its employees.¹³ Low literacy can affect safety, productivity, customer service, and even employee morale and engagement. Employers investing in advancing the skills of their employees can reduce loss and increase profit. According to Gallup, when compared to disengaged employees, highly engaged employees contribute 21% more productivity, 22% more profitability, 25% less turnover, 48% fewer safety incidents, 41% less quality defects, and 37% lower absenteeism.¹⁴ Furthermore, PIAAC found that proficiency in literacy and numeracy is positively related to several aspects of well-being, not just in terms of increased economic stability, but in being able to participate fully in social aspects of life as well.¹⁵ With less stress off the job, employees may be more productive on the job. The integration of literacy and numeracy instruction into all aspects of training could maximize return on investment.

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Workplace Training

Adults are statistically more likely to increase their skills and advance in their careers **when job training includes literacy and numeracy skills in the context of, and incorporated within, job training for specific sectors.**¹⁶ This type of integration is called contextualized learning. Workers are able to build their foundational basic skills along with the more specialized skills needed for their careers. The curriculum focuses on the skills identified as necessary for the responsibilities of the jobs. This could be a curriculum that teaches carpenters how to make precise measurements, bank tellers the customer service skills they needed to explain new financial services to customers, or production workers how to interpret the statistics issued by computerized equipment. Using this method has been linked to clear, tangible, more immediate results in job performance and job prospects. Learners are more likely to see the relevance and thereby master those skills more quickly and retain and develop them more fully.¹⁷ The method also promotes inclusivity, because those struggling with literacy do not have to disclose this information, and all workers will have an equal opportunity for a solid foundation in literacy - a necessity for workers accessing more advanced training to keep up with the changing economy. Integrating foundational basic skills development through contextualized curriculum provides workers with access

¹² U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), U.S. PIAAC. 2017, U.S. PIAAC 2012/2014

¹³ The Literacy Cooperative. "The Economic Case for Literacy." 2020. <https://www.literacycooperative.org/the-economic-case-for-literacy/>

¹⁴ Sorenson, Susan. "How Employee Engagement Drives Growth." Gallup. 20 June 13. Accessed May 2021. <https://www.gallup.com/workplace/236927/employee-engagement-drives-growth.aspx>

¹⁵ OECD, *Skills Matter: Additional Results from the Survey of Adult Skills*. (p. 29) OECD Skills Studies. OECD Publishing, Paris. 2019. <https://doi.org/10.1787/1f029d8f-en>.

¹⁶ ProLiteracy. "Contextualizing Adult Education: Learning from Six Decades of Experience and Research." 2020. https://www.proliteracy.org/Portals/0/pdf/Research/Briefs/ProLiteracy-Research-Brief-04_Contextualizing-2020-09.pdf

¹⁷ Jurmo, Paul. "Workplace Literacy Education: Definitions, Purposes, Approaches." Focus on Basics 7.B. (p. 22-26) 2004. <http://www.ncsall.net/index.html?id=771&pid=629.html>

and inclusion to advancement opportunities and could be vital for them to progress along their career pathways.

Sector Partnerships

To assist in the hiring of talented candidates, many employers participate in sector partnerships. Within Cuyahoga County and Ohio, there are examples of successful sector partnerships in the fields of healthcare, IT, and manufacturing.¹⁸ Sector partnerships are collaborations in which businesses and industries work with adult education providers, workforce development, and other public and community organizations to create and provide job training that addresses industry labor market needs. A talent pipeline is created that results in gainful employment for the workers and skilled positions filled for the employers. Integrating foundational basic skills in sector partnership training strategies will address the needs of many adults simultaneously and result in a larger pool of skilled candidates for employers.

Contextualized Curriculum Access

[Adult educators](#) teaching foundational basic skills are great partners to develop contextualized lessons and work with skills trainers and employers to customize their instruction. In addition, The Literacy Cooperative has [published contextualized curriculum](#) for in-demand jobs in the fields of healthcare, manufacturing, construction, and IT. Trainers can use these curricula in workplace training to increase workers' skills.

Conclusion

The nature of work and the global economy are shifting in a way that requires workers to have higher and more specialized skills. **These skills require a solid foundation in literacy and numeracy.** The majority of adults in Cuyahoga could benefit from basic literacy and numeracy skill advancement. There is no singular indicator that can be linked to low literacy and numeracy skills and workers may not necessarily disclose or identify that they need help with advancing these skills. The fear of disclosure may make them hesitant to take on new responsibilities or pursue career advancement. Integrating basic literacy and numeracy skills into job training provides an inclusive and transforming opportunity for more adults to become part of the qualified pool of candidates. Providing opportunities to increase skill levels means workers could advance in their careers, and increase their economic stability and overall well-being. Employers benefit from employing higher skilled employees through increased productivity and a more adaptable and retainable workforce.

Providing opportunities to increase skill levels means workers could advance in their careers, increase their economic stability and overall well-being.

¹⁸ Workforce Connect. Accessed May 2021. <https://www.wf-connect.com/>

Contact [The Literacy Cooperative](#) to inquire about workplace programs that can assist employees advance their skills. The success of any business depends upon the skills of its employees. Low literacy can affect safety, productivity, customer service and even employee morale. Employers investing in advancing the skills of their employees can reduce loss and increase profit.

[Click here to learn more about The Literacy Cooperative's contextualized curriculum](#)

[Click here to learn more about sector partnerships in Cuyahoga County](#)

[Click here to learn more about what forward thinking employers can do](#)

For individuals looking to advance their literacy and numeracy skills, call 877-277-4732 to find adult education programs in your community or visit <https://www.ohiohighered.org/aspire/locations>.



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