The Average American Reader Needs You to Write (Even More) Clearly

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Your work is important!
And difficult
The Average American Needs Us to Do More

We are probably not meeting the needs of the public because we are not fully aware of their struggles.
The Skills of U.S. Adults: Survey says....
The PIAAC – An International Assessment of Adults

The Program for the International Assessment of Adult Competencies (PIAAC) is an international large-scale survey with

- A **direct assessment** of Literacy, Numeracy, and Digital Problem Solving
- A **background questionnaire** on education, work experience and training, skill-use at work and at home, demographics, income, health, and civic participation
How the PIAAC Defines These Skills

The PIAAC literacy, numeracy, and digital problem solving in terms of “real-world” uses and the ability to engage in society, rather than for more academic uses.

**Literacy Definition:**
“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”
(OECD, 2012b)
The Skill Scales: Literacy and Numeracy

- Literacy and Numeracy had 5-point scales

For Literacy and Numeracy, Level 3 should be sufficient for full participation in modern economies.

We might consider these adults “at risk.”

These adults may be “struggling.”

PIAAC 5-Point Literacy Scale

Below Level 1 (0-175)

- Locate single piece of information in familiar texts.

Level 1 (176-225)

- Read relatively short digital, print or mixed texts to locate single text.

Level 2 (226-275)

- Make matches between text and information that may require low level paraphrasing and drawing low-level inferences.

Level 3 (276-325)

- Identify, interpret, or evaluate one or more pieces of information and often require varying levels of inference.

Level 4 (326-375)

- Perform multiple-step operations to integrate, interpret, or synthesize information from complex texts, and may require complex inferences.

Level 5 (376-500)

- Integrate information across multiple, dense texts; construct syntheses, ideas or points of view; or evaluate evidence based arguments.
The Skill Scales: Digital Problem Solving

• Digital Problem Solving had a 3-point scale
• This domain was new and not all nations used it
• Not all adults could complete this domain

Level 0: One-step or simple problem (“Click on Help tab”)
Level 1: Sorting emails into existing folders
Level 2: Using website to return item
Level 3: Navigating multiple pages to find a form, etc.

This should be sufficient for employment/participation.
Disclaimer

Data here were compiled strictly for the purposes of this presentation and reflect the data collected in the first two rounds of U.S. data collection (in 2012 and 2014)

Refer to the NCES website for official documents, data files, and tables: https://nces.ed.gov/surveys/piaac/
Example Items
Welcome to our Preschool! We are looking forward to a great year of fun, learning and getting to know each other. Please take a moment to review our preschool rules.

- Please have your child here by 9:00 am.
- Bring a small blanket or pillow and/or a small soft toy for naptime.
- Dress your child comfortably and bring a change of clothing.
- Please bring your child fully dressed, no pajamas.
- Please sign in with your full signature. This is a licensing regulation. Thank you.
- Breakfast will be served until 7:30 am.
- If you have any questions, please talk to your classroom teacher or to Ms. Marlene or Ms. Tree.

Question: What is the latest time that children should arrive at preschool?
Welcome to our Preschool! We are looking forward to a great year of fun, learning and getting to know each other. Please take a moment to review our preschool rules.

- Please have your child here by 9:00 am.
- Bring a small blanket or pillow and/or a small soft toy for naptime.
- Dress your child comfortably and bring a change of clothing.
- Please bring your child fully dressed, no pajamas.
- Please sign in with your full signature. This is a licensing regulation. Thank you.
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- If you have any questions, please talk to your classroom teacher or to Ms. Marlene or Ms. Tree.
The U.S. Was “Average” But Had a Higher Portion at the Lower Levels

Percentage of adults age 16 to 65 at each level of proficiency on the PIAAC literacy scale: 2012/2014

- Below Level 1: 272
- Level 1: 273
- Level 2: 4
- Level 3: 13
- Level 4/5: 33
- United States

- Below Level 1: 3
- Level 1: 12
- Level 2: 34
- Level 3: 39
- Level 4/5: 12
- PIAAC international average

The following graph shows the number of births in the United States from 1957 to 2007. The data are presented every 10 years.

**Question:**
During which period(s) was there a decline in the number of births? Click all that apply.
- 1957 – 1967
- 1967 – 1977
- 1977 – 1987
- 1987 – 1997
- 1997 – 2007

**Percent of US Adults Who May Struggle with This Question:** 14
The following graph shows the number of births in the United States from 1957 to 2007. The data are presented every 10 years.

**Question:** During which period(s) was there a decline in the number of births? Click all that apply.
- 1957 – 1967
- 1967 – 1977
- 1977 – 1987
- 1987 – 1997
- 1997 – 2007

**Percent of US Adults Who May Struggle with This Question:**

62%
The U.S. Again Had a Higher Portion at the Lower Levels

Percentage of adults age 16 to 65 at each level of proficiency on the PIAAC numeracy scale: 2012/2014
Problem to Solve:
You ordered a desk lamp from KE-Lamps.com.

The desk lamp arrived, but it was not the color you ordered.

Using the company’s website, arrange to exchange the lamp you received for the one you ordered.

Once you have finished, click Next to go on.

Percent of US Adults Who May Struggle with This Question:
**Problem to Solve:**
You ordered a desk lamp from KE-Lamps.com.

The desk lamp arrived, but it was not the color you ordered.

Using the company’s website, arrange to exchange the lamp you received for the one you ordered.

Once you have finished, click Next to go on.

**Percent of US Adults Who May Struggle with This Question:** 62%
More U.S. Adults Scored at the Lowest Levels

Figure 2-C. Percentage of adults age 16 to 65 at each level of proficiency on the PIAAC problem solving in technology-rich environments scale: 2012 and 2014

United States

- Below level 1
- Level 1
- Level 2
- Level 3

PIAAC international average

- Below level 1
- Level 1
- Level 2
- Level 3

In fact...

**Figure 1-C.** Average scores on the PIAAC problem solving in technology-rich environments scale for adults age 16 to 65, by participating country and region: 2012 and 2014. 

The chart shows the scale scores for various countries and regions, with Japan leading at 294, followed by Ireland at 274. The United States is denoted by a different color, indicating its score is significantly lower than the U.S. average score.
Breaking Down the Results by Demographics: A Deeper Drive into Literacy Results
Does Age Matter?

Percent of US Adults At or Below Level 2 by Age

- 55+: 23%
- 45-54: 22%
- 35-44: 19%
- 25-34: 17%
- 16-24: 19%

No. Low skills are fairly evenly distributed.

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)
Are they perhaps mostly non-native speakers?

No. We cannot assume it is just a language issue.

Standard errors not shown. Numbers subject to rounding. Data compiled from https://nces.ed.gov/surveys/international/ide/
Are they unemployed?

No. Most (62%) are employed.

Percent of US Adults At or Below Level 2 by Employment Status

- Employed: 62%
- Unemployed: 8%
- Out of Labor Force: 30%

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)
**Does Education Matter?**

<table>
<thead>
<tr>
<th></th>
<th>At or Below Level 2</th>
<th>Level 3</th>
<th>Level 4/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; High School</td>
<td>83</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>High School/GED</td>
<td>62</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Some College (e.g., certificate)</td>
<td>58</td>
<td>35</td>
<td>7</td>
</tr>
<tr>
<td>Associate’s Degree</td>
<td>39</td>
<td>48</td>
<td>13</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>25</td>
<td>48</td>
<td>26</td>
</tr>
<tr>
<td>&gt; BA/BS</td>
<td>19</td>
<td>47</td>
<td>34</td>
</tr>
</tbody>
</table>

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)

Yes and no. Even those with college educations can have low literacy.
Does Gender Predict?

No. Women and men perform similarly.

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)
Does Race/Ethnicity Predict?

Percent of US Adults by Skill Level and Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Level 2 or Below</th>
<th>Level 3</th>
<th>Level 4/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>52</td>
<td>35</td>
<td>13</td>
</tr>
<tr>
<td>Black</td>
<td>75</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>76</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>White</td>
<td>42</td>
<td>41</td>
<td>17</td>
</tr>
<tr>
<td>Other race</td>
<td>59</td>
<td>29</td>
<td>11</td>
</tr>
</tbody>
</table>

Yes. Some race/ethnicities are more likely to have lower rates of literacy.

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)
Does Region Predict?

Yes. The south has a higher rate of low literacy.

Percent of US Adults by Skill Level and Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Level 2 or Below</th>
<th>Level 3</th>
<th>Level 4/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>49</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>Northeast</td>
<td>49</td>
<td>37</td>
<td>14</td>
</tr>
<tr>
<td>South</td>
<td>58</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>West</td>
<td>48</td>
<td>38</td>
<td>14</td>
</tr>
</tbody>
</table>

Standard errors not shown. Numbers subject to rounding. Data compiled from [https://nces.ed.gov/surveys/international/ide/](https://nces.ed.gov/surveys/international/ide/)
But Wait…There’s More
Do Skills Predict Information-Seeking Behavior?

Yes.

Those who have lower skills or are older or have less education are less likely to find or benefit from online information.
What Else Does Having Low Skills Correlate With?

- Poorer self-reported health
- Less likely to volunteer
- Less likely to believe their participation matters (politically)
- Less likely to trust others
So How Many Americans Are We Talking About?

Approximately 112.6 million adults are at or below Level 2 in literacy.

Of these, 40.2 million at or below Level 1.¹

https://nces.ed.gov/surveys/piaac/2017/awc/table1_1.asp
Summary Thus Far

The majority of US adults may struggle with
• Reading and comprehending written instructions
• Using numeric information, graphs, or charts to answer questions
• Performing task with digital tools, such as websites, software applications, etc.
Your Audience: Assume at Least Half Need Help

- Adults with Low Skills
- Adults with Proficient Skills
Can Research Point Towards Better Practices?
What Adults with Low Literacy May Experience

More likely to rely on world knowledge relative to children learning to read

May struggle with new words (e.g., sounding out), though non-native speakers appear better at this

Are not “fluent” readers

Don’t take pauses in the same places as skilled readers

Punctuation may not help
What Adults with Low Literacy May Experience (2)

Will notice oddities and inconsistencies in a text but…

Won’t know what’s wrong
Won’t use repair strategies

Struggle with pronominal reference
If you use different noun phrases
If pronouns are ambiguous
What Adults with Low Literacy May Experience (3)

May experience cognitive overload
Sheer amount of text may be overwhelming
Having to navigate around a document may be overwhelming

Likely to lack metacomprehension or accurate estimate of ability
Likely to be overconfident
(Actually true for all readers)
What Does Reading Look Like?

Eye-tracking research helps us understand how people process texts and layouts.

Here’s an example of how a proficient reader may use a web page.

The reader appears to be skimming and covering the full content of the page.

What Does Reading Look Like? (2)

Here we see a struggling reader, who appears to be reading, re-reading, skipping around a lot, and otherwise struggling with the text.

What Does Reading Look Like? (3)

There is, however, a danger with making things look easy.

Adults with low literacy may be attracted to the “easy looking” text and end up missing the most important elements if they are not prominent.

What Does Reading Look Like? (4)

Consider the difficulty readers may experience with the multicolumn design (left) VS a simplified layout (right).
So What Can You Try?
Try This, Not That

Keep it simple and convenient.
- Short, common sentence structures
- Common words and rhetorical markers
- In-text supports (e.g., hyperlinked definitions)
- Provide sound files (mind your prosody)
Try This, Not That (2)

**Layout matters.**

- Inverted pyramid – most important things first
- Bullets may help but periods and commas may not
- Avoid multiple pages and redirects
- Be deliberate in the ordering and presentation of text
Try This, Not That (3)

Activate background knowledge but clearly identify conflicts between common assumptions and new information.

– Titles and headers
– Pictures
– Rhetorical markers
Consider Getting Reader Feedback

- Survey general population, not others in your organization
- Use open-ended questions
- Focus on knowledge checking *

* Health literacy research suggests that practitioners are more likely to use close-ended questions with adults with low health literacy and rarely use knowledge-checking questions.
Where Can You Find Example Texts?

Researchers at Georgia State University are revising materials for adults with low literacy and non-native English speakers. You can explore their repository here:

- [https://education.gsu.edu/research-outreach/alrc/adult-literacy-coronavirus-resource-links/](https://education.gsu.edu/research-outreach/alrc/adult-literacy-coronavirus-resource-links/)
Curious to Know About Your Target Area?

IES has an interactive state/county-level estimator. You can see what the estimated literacy or numeracy level is for different areas in the U.S. 
https://nces.ed.gov/surveys/piaac/skillssmap/
Questions?
Further Information

Contact: Meredith.Larson@ed.gov or on LinkedIn


Sample of Sources:


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