The Findings—Part 2

We performed latent class analysis of the test data to explore whether proficiencies in vocabulary (PPVT-Y), word recognition (TOWRE A), pseudo-word reading (TOWRE-B), Spelling, and short-term memory (WAIS digit span) could be used to describe patterns of reading strengths and needs among adult literacy students. That analysis yielded five patterns or classes of adult readers whose characteristics are summarized in the table below.

Class	% of Total Sample (n=1034)	% Native English Speakers	% Non-Native English Speakers	IALS Prose Literacy Levels %		
				Level 1	Level 2	Level 3+
1	48 (n=493)	86	14	5 (n=24)	49 (n=242)	46 (n=227)
2	17 (n=175)	72	28	26 (n=45)	61(n=107)	13 (n=23)
3	15 (n=154)	5	95	32 (n=50)	62 (n=95)	6 (n=9)
4	12 (n=123)	<1	99	68 (n=83)	29 (n=36)	3 (4)
5	9 (n=89)	31	69	83 (n=74)	16 (n=14)	1(n=1)

• Class 1, making up 48% of the sample, had the highest range of IALS skills, with 46% in Level 3 or above, 49% in Level 2, and only 5% in Level 1. Native speakers of English predominated, making up 86% of the class. This group was also the youngest overall.

• Class 2 had weaker IALS skills with only 13% scoring at IALS Level 3 or above, 61% in Level 2, and 26% in Level 1. The non-native English speakers in the group had good English skills and were predominantly enrolled in ABE or ASE rather than in ESOL classes. The native English speakers in Class 2 had weak print skills and some signs of reading disability.

• Class 3 is comprised of 95% non-native speakers of English, of whom 75% are enrolled in ESOL classes. Their raw decoding ability (of pseudo-words) is nearly equal to that of participants in Class 1, but their vocabulary is much weaker. Sixty-two percent are in IALS Level 2, and 32% are Level 1.

• Class 4 are 99% non-native speakers of English, of whom 92% were enrolled in ESOL classes. Primarily because of their weak English vocabulary, 68% of Class 4 are in IALS Level 1 and only 29% are in Level 2.

• Class 5 is made up of 69% non-native and 31% native speakers of English. Among the latter group, many show signs of reading disability and report severe reading difficulties in childhood. Eighty-three percent of the people in Class 5 are in IALS Level 1 and only 16%% are in Level 2.

Implications

Patterns of strengths and needs in reading vary quite a bit among adult readers. Quick, easy-to-administer and easy-to-score tests of key reading skills, such as those used in this study, can give a useful picture of learners' strengths and needs. Assessing learners in these component skills is the necessary first step in planning efficient, focused instruction.

For adults in IALS Levels 1 and 2, governments should consider assessing not just IALS reading comprehension, but the key teachable components of comprehension—word recognition and vocabulary—that ultimately drive comprehension ability.

NCSALL

The Relationship of the Component Skills of Reading to Performance on the International Adult Literacy Survey (IALS)*

John Strucker | Kentaro Yamamoto | Irwin Kirsch

Key Finding

It is possible to identify how proficient adults need to be in word recognition and vocabulary to achieve Level 3 performance on the International Adult Literacy Survey (IALS)*—the level associated with greatly enhanced life opportunities in many domains.

Related Recommendation

Learners whose vocabulary and word recognition are nearing those of people in Level 3 and above might be candidates for intensive, tightly focused, direct instruction in the vocabulary encountered in written language and in rapid, accurate word recognition.

Key Finding

The IALS is an un-timed literacy assessment containing real-world items embedded in a functional context. This has led some to argue that IALS performance is primarily a function of adults' life experiences and their familiarity with the socio-cultural content of the items. In sharp contrast, this research suggests that well-known basic reading skills like word recognition and vocabulary play critical roles in real-life literacy performances, much as they do in more traditional academic, school-based literacy assessments. The good news about these basic skills is that, unlike life experience and cultural context, word recognition and vocabulary are readily teachable by ABE practitioners.

T his Research Brief highlights key findings from a study that is a subset of a larger study being conducted jointly by NCSALL's John Strucker and Kentaro Yamamoto and Irwin Kirsch of the Educational Testing Service (ETS). This study builds on the proposition that a reader's comprehension performance is largely determined by his or her abilities in two areas—print components and meaning components—and that learners' skills, and therefore instructional needs, vary depending upon their relative strengths and weaknesses in these component areas. Print components include decoding accuracy and fluency; meaning components include oral vocabulary skills.

* The International Adult Literacy Survey (IALS) (Tuijnman, A., 2000) has been administered in over 22 countries and in more than 15 languages. It is a test of real-world literacy skills, based closely on the U.S. National Adult Literacy Survey (NALS) (Kirsch, I. et al. 1993). Like the NALS, the IALS has five levels: Roughly speaking, Level 1 ranges from people with very limited literacy up to those with approximately early middle school skills; Level 2 includes those with middle school to early high school skills, and Level 3 begins with those who have literacy skills comparable to solid high school graduates. Across all of the participating countries, IALS Level 3 attainment was associated with dramatic increases in civic participation, economic success, access to lifelong learning opportunities, and reading for pleasure. In addition, people in Level 3 and above also enjoy better overall health and even live longer.

Key Finding

Adult literacy students can be grouped into five distinct classes of readers:

Class 1: Proficient ABE, ASE, and Household Sample readers with very strong decoding and vocabulary skills

Class 2: ABE and ASE students with weaker decoding skills that tend to undermine their vocabulary skills

Class 3: Advanced ESOL students with strong decoding but noticeably weaker English vocabulary skills

Class 4: Intermediate ESOL students with moderate weaknesses in decoding and vocabulary skills in English

Class 5: Low intermediate ESOL students and reading disabled ABE native speakers with marked needs in decoding and vocabulary

Related Recommendation

The adult education system can begin to use these adult reader profiles to identify related instructional profiles as a step towards more focused and differentiated reading instruction for adult learners.

Short, easy-to-administer tests that give information about the learner's component reading skills will help identify the reader's profile and enable teachers to choose appropriate instructional approaches.

Key Finding

Simply knowing a reader's score on a reading comprehension test usually does not give teachers enough information to plan efficient instruction that is focused on the root causes of comprehension difficulties.

The study also continues work done by Strucker and NCSALL's Rosalind Davidson to develop reading profiles of IALS Levels 1 and 2 adults that will be informative for teachers, administrators, and policymakers in the field of adult literacy.

Goals

The study's first goal was to see if specific levels of proficiency—tipping points—in the aforementioned reading components might prefigure higher levels of reading comprehension. To explore this question, the researchers compared the reading component skills of students at Levels 1 and 2 of the International Adult Literacy Survey (IALS) with those of Level 3 students. Level 3 is the IALS level associated with increased civic participation, increased economic success and independence, and enhanced opportunities for lifelong learning and personal literacy.

The second goal was to determine whether levels of proficiency in the key components of reading could be used to describe the strengths and needs in reading of Level 1 and Level 2 adults, and therefore be useful to teachers, administrators, and policymakers to guide assessment design and instructional decisions.

The Sample

The study sample was a convenience sample rather than a representative sample. It included 950 adult learners from five states who were enrolled in adult basic education (ABE), adult secondary education (ASE), and English for Speakers of Other Languages (ESOL) classes. Eighty-four adults who had completed high school or above were added as a household sample for comparison purposes, for a total of 1,034 participants. Beginning ESOL learners were not included in the study because we did not have the capability to interview them in their native languages. Otherwise, the sample was generally comparable to the nationally enrolled adult literacy population with respect to gender, age, and representation of major U.S. ethnic groups.

	U.S. DOE OVAE* Data	Level 1 Sample n = 1,034
Male/Female	46.8% / 53.2%	41% / 59%
Age Distribution		
16-24	40%	36.4%
25-44	44.5%	48.1%
45-59	11%	10.1%
60 and older	3.5%	5.3%
Ethnicity		
American Indian or Alaska Native	1.4%	5.4%
Asian	7%	3.9%
Black or African American	20%	29.5%
White	30%	51.8%
Hispanic	40%	38.3%**

* U.S. Department of Education, Office of Vocational and Adult Education.
** Following U.S. Census Bureau procedures, Black, White, and Hispanic categories were not mutually exclusive for the Level 1 Sample, so the total exceeds 100%.

All participants were assessed in: 1) receptive (oral) vocabulary, 2) real-word reading for accuracy and speed, 3) pseudo-word reading for accuracy and speed, 4) spelling, 5) rapid naming of letters, and 6) short-term working memory. They also completed prose and document literacy tasks from the IALS and a modified version of the IALS background questionnaire covering educational history, employment, reading habits, etc.

Receptive vocabulary (PPVT-Y)	Shortened version of the Peabody Picture Vocabulary test created by K. Yamamoto[1]
Real-word reading for accuracy and speed	Test of Word Reading Efficiency (TOWRE-A)[2]
Pseudo-word reading for accuracy and speed	Test of Word Reading Efficiency (TOWRE-B)[2]
Spelling	Adaptation of diagnostic spelling assessment published by Louisa Moats[3]
Short-term working memory	Forward and backward Digit Span subtests from the Wechsler Adult Intelligence Scale IIIR[4]
Rapid naming of letters	Rapid Automatized Naming of Letters (RAN) and scrambled alphabet letters[5]

[1] Dunn, L. & Dunn, L. (1997). *Peabody picture vocabulary test III (PPVT-III).* Circle Pines, MN: American Guidance Service.
[2] Torgensen, J.K., Wagner, R.K., & Rashotte, C.A. (1999). *Test of word reading efficiency (TOWRE).* Austin, TX: PRO-ED, Inc.
[3] Moats, L.C. (1995). *Spelling development, disability, and instruction.* Timonium, MD: York Press.
[4] Wechsler, D. (1997). *Wechsler Adult Intelligence Scale III (WAIS-III) Digit Span.* San Antonio: TX: The Psychological Corporation.
[5] Wolf, M. (1991). Reading speed and naming: The contribution of the cognitive neurosciences. *Reading Research Quarterly, 24.*

The Findings—Part 1

Figure 1. Proportions Correct by IALS Prose Proficiency
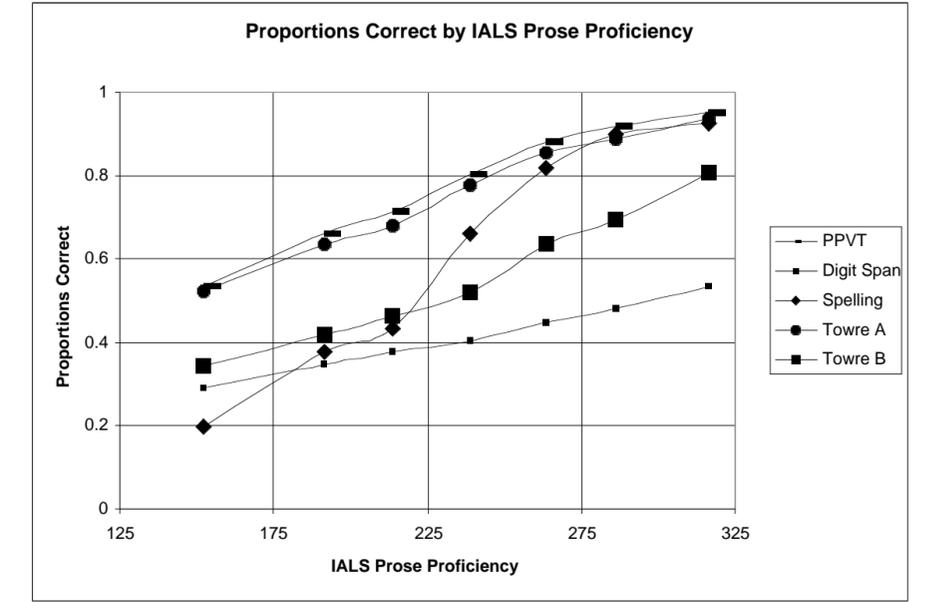
Plotting the relationship of scores in the five key components (y-axis) against proficiency on the IALS prose literacy assessment (x-axis) revealed an interesting pattern. At the transition point between IALS Level 2 and IALS Level 3 (just below 275), readers score .75 to .85 proportion correct on the components of vocabulary, real-word reading, and spelling. This suggests that .75 to .85 proportion proficiency in those components may be the minimum level of skills needed to attain higher levels of performance in real world comprehension. In short, this research begins to answer an important question: "How proficient do ABE/ASE/ESOL readers have to be at vocabulary and word recognition in order to read at high school levels and above?"

The data also showed that at up to IALS 275 (Level 3), the non-native speakers of English read English pseudo-words better than the ABE and ASE learners. Many reading researchers consider difficulty with reading pseudo-words to be an indication of the core phonological deficit that is at the root of most reading disabilities. Participants' responses on the background questionnaire confirmed this: ABE/ASE native English speakers reported a very high incidence of childhood reading difficulties, while non-native speakers of English reported a very low incidence of childhood reading problems.