

## Adult Reading Components Study (ARCS)

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### Key Preliminary Findings

- Many adult basic education students below the GED level have reading skills similar to those of children at risk for reading difficulty.
- ARCS researchers identified clusters of students with similar reading profiles.

*For native English Speakers' (ABE) clusters:*

- GED-level and low-level/beginning readers have different reading profiles from intermediate readers.
- Intermediate group students appear to have learned some word attack skills; they know basic phonics, but don't make strong use of those skills.

*For native Spanish Speakers' (ESOL) clusters:*

- More than 80% of the native Spanish speakers had adequate or better native language literacy skills.
- ESOL Spanish speakers' reading ability in Spanish was directly related to years of Spanish school completion: the more years completed, the stronger the skills.
- All native Spanish speakers in this study were weak on English consonant sounds.

**N**CSALL's *Adult Reading Components Study (ARCS)*, conducted by John Strucker and Rosalind Davidson at the Harvard Graduate School of Education, was designed to describe the various types or clusters of readers enrolled in U.S. adult basic education (ABE) programs, including both native speakers and those in English for speakers of other languages (ESOL) classes. The goal of the study was to help practitioners and policymakers understand who adult learners are as readers and how to gear instruction to their specific reading needs.

**Table 1:  
Percentage of  
ABE Students in  
the Ten Clusters  
in Three Common  
Groups of  
Reading Skill  
Levels**

<b>Groups and Clusters of Reading Skill Levels</b>	<b>Percentage of Students in ABE Sample</b>
<b>Group 1: GED / Pre-GED</b>	<b>34%</b>
Cluster 1: Strong GED	9%
Cluster 2: Pre-GED with Vocabulary/Background Information needs	11%
Cluster 3: Pre-GED with Vocabulary/Spelling/Rate (fluency) needs	14%
<b>Group 2: Intermediate Students</b>	<b>56%</b>
Cluster 4: High Intermediates with Difficulties in Print Skills/Rate	9%
Cluster 5: Intermediates with Stronger Print than Meaning Skills	17%
Cluster 6: Intermediates with Low Reading Rate	5%
Cluster 7: Low Intermediates	16%
Cluster 8: Low Intermediates/Should-be-in-ESOL	9%
<b>Group 3: Lower Level/Beginning Students</b>	<b>11%</b>
Cluster 9: Beginners	8%
Cluster 10: Reading/Rate Impaired	3%

Nine hundred and fifty-five randomly selected learners (676 ABE and 279 ESOL) were interviewed and assessed at learning centers in Connecticut, Massachusetts, New Hampshire, New York, Rhode Island, Tennessee, and Texas. They were given a battery of reading and language assessments to determine their instructional needs. Over half of this testing was done by local ABE and ESOL practitioners who were trained to administer the battery and conduct the interviews in a uniform manner. Each of the students in the study was tested in phonological awareness, rapid naming, word recognition, oral reading, spelling, vocabulary, and background knowledge. Researchers also interviewed students about their educational history and reading habits.

In this research brief, we present some preliminary findings from the ARCS. These findings and implications for practice related to the findings, are presented in two sections: 1. Native English Speakers' (ABE) Clusters, and 2. Native Spanish Speakers' (ESOL) Clusters. Then we refer readers to additional resources based on the ARCS.

### **Native English Speakers' (ABE) Clusters**

For the 676 students in ABE classes, 51 percent had repeated at least one grade, and 22 percent reported having trouble with reading in grades K–3. Of those who grew up in the U.S., 53 percent reported getting either Chapter 1 (reading support) and/or Special Education help in K–12.

The mean word recognition score for these students was a 6.62 grade equivalent (GE). Their mean oral reading mastery level was GE 7.9, and their mean receptive vocabulary score was equivalent to a GE 6.5. On a test of background knowledge, the mean for the group was below average range for the test, and the mean score on a word analysis test (Woodcock-Reading Mastery Word Attack) placed this group of students in the 26th percentile.

From the 676 adult basic education students assessed in this study, the researchers identified 10 “clusters” (students with similar reading profiles) in three groups. The table shown above details the three common groups and the clusters within each group for the 676 ABE students in this study.

In general, many adult basic education students below the GED level have reading skills similar to those of children at risk for reading difficulty. Phonemic awareness problems that existed in childhood persisted into adulthood. Their reading comprehension and reading rate (fluency) seem to have stalled at middle school levels. Perhaps this is because they got extra help with reading in the primary grades from Chapter 1 or special education teachers, but got no such help in middle or high school. Because their reading was stalled at middle school levels, their background knowledge and vocabulary also top off at that level.

Some of the specific findings about this group, and the implications for practice related to each finding, are listed below:

- *GED-level and low-level/beginning readers have different reading profiles from intermediate readers.*

**Implication:** The GED group needs help in passing the test and building skills (in preparation for postsecondary education). Low level/beginning students, because their phonemic awareness and word recognition skills are poor, need direct, systematic, sequential instruction in these skills.

- *In the intermediate group, which comprises the largest percentage of adult students, students appear to have learned some word attack skills; they know basic phonics, but don't make strong use of those skills.*

**Implication:** The primary needs for intermediates are increasing fluency and developing a more literate (above grade equivalent 4–5) vocabulary and background knowledge. Without middle school background knowledge in history, geography, science, and math, these students have an inadequate preparation for the GED or for postsecondary education. For the intermediate group of adult students, practitioners should focus on

increasing students' reading fluency (using oral reading) and on acquiring background knowledge and vocabulary.

The researchers also advocate for further research aimed at identifying strategies for teaching vocabulary so that students can achieve accelerated growth in reading.

### **Native Spanish Speakers' (ESOL) Clusters (analyzing Spanish speakers' English reading skills)**

Of the 279 ESOL students tested in the ARCS, 218 (78%) were native speakers of Spanish. They were interviewed in Spanish and given both English and Spanish reading components tests. The interview included questions on the learner's childhood educational history; Spanish reading problems, if any; parents' levels of education/years living in the U.S.; time spent studying English; home and work literacy practices and spoken language use in Spanish and English; educational goals; and health.

The researchers used the data from four English tests and five Spanish tests to create clusters of similar learners. While the size of the sample used in this analysis means that these findings shouldn't be generalized across all Spanish speakers, they can be suggestive. Key findings from this analysis and related implications include:

- *Contrary to what many ESOL teachers told the ARCS researchers to expect, more than 80% of the native Spanish speakers had adequate or better native language literacy skills.*

**Implication:** For many of these students who have adequate-to-strong native language literacy skills, an "English-as-a-Foreign-Language" (EFL) approach might produce faster growth than traditional survival/conversational ESL approaches. These students should be given the opportunity to apply their literacy and school-based skills to the task of learning English.

This might mean more formal EFL courses that teach grammar and vocabulary sequentially, using basic EFL texts as well as materials taken from a real-world context. For these already literate adults, reading and writing English may actually facilitate the acquisition of oral-aural skills in English.

- *ESOL Spanish speakers' reading ability in Spanish was directly related to years of Spanish school completion: the more years completed, the stronger the skills. It is also possible that the years of school completion in Spanish is related to the speed of English skills acquisition.*

**Implication:** Most of these students did not have reading disabilities as children. As discussed above, students with strong skills in Spanish might benefit from learning through a more formal EFL approach, as if they were normally developing high school students taking English as a foreign language.

- *All participants, regardless of level, were surprisingly weak on English consonant sounds.*

**Implication:** Literacy programs often quickly gloss over English phonemes (letter sounds) in beginning ESOL classes because the learners who are already literate in Spanish seem able to chunk English words correctly into syllables immediately. This is because they transfer this chunking skill from Spanish. But it is important for all ESOL students to practice producing and perceiving English consonant sounds. English has many medial and final consonant blends (-nt, -st,) that are difficult to perceive in the natural speech stream, but they are nevertheless

important because they often carry vital syntactic and semantic information. In addition, because English vowels can be pronounced several different ways, formal attention to basic English phonics patterns and rules is a valuable investment for learners' future pronunciation and spelling, even if they seem to know already how to decode English.

- *The two clusters of Spanish speakers who have low levels of education in Spanish also have severe decoding problems and show other signs of reading disabilities. Despite an average of almost ten years in the U.S. and almost three years of ESOL instruction, unlike students in the other clusters, their English skills remain at early beginning levels.*

**Implication:** Initial instruction in English for these students might emphasize oral-aural conversational skills at first, then introduce English reading and writing later using a direct, structured, and sequential approach such as Wilson, Orton-Gillingham, Lindamood, etc.

## Interactive Web Site

The National Institute for Literacy has supported the construction of an interactive Web site that builds upon the work of the ARCS. The site provides both a mini-course on reading and an opportunity to match your learners' profiles with that of learner profiles developed using ARCS data. Once you have matched your learners' profiles, you can use the information presented to make instructional choices. The web address is <http://www.nifl.gov/readingprofiles/>.

The National Center for the Study of Adult Learning and Literacy (NCSALL) is a partnership of the Harvard Graduate School of Education, World Education, Center for Literacy Studies at The University of Tennessee, Portland State University, and Rutgers University. NCSALL is funded by the Educational Research and Development Centers Program, Award Number R309B60002, as administered by the Office of Educational Research and Improvement, U.S. Department of Education.

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