

Observations about Providing Effective Instruction to Adults with Low Literacy

by Daryl F. Mellard

For the past three decades, my colleagues and I have investigated a range of issues related to adults with low literacy skills. The journey has been alternately challenging, frustrating, and exhilarating, and sometimes, all three at once.

The Challenges: The barriers to literacy, both internal (e.g., learning disability (LD), disposition, motivation) and external (e.g., inconsistency in instructional experiences), faced early in life by adults with low literacy may still need to be resolved during their adult education experiences. The same instructional methods used with many of these learners when they were children may be insufficient to overcome such barriers. Yet, for many, they are offered instruction founded on child-based reading theories that have been repackaged for adults.

The Frustrations: Because adult participation in literacy programs is by choice and at their convenience, responsibilities such as work and family often interfere with attendance. As a result, adults may not engage frequently and consistently enough with instructors and curriculum to feel rewarded for their efforts. Some learners may participate a few hours a week and make slower progress than hoped; others may be in and out of learning programs and have to retrace ground they covered months or years before; and others may become frustrated with their own lack of progress and simply quit.

The Exhilaration: These adults have enormous untapped potential. If they became proficient readers, they could experience a much stronger sense of personal accomplishment and participate more fully and productively in family, economic, and civic domains of life. My research and contact with individuals enrolled in adult basic and secondary education programs, career and technical education programs, and community colleges affirms the creativity, resourcefulness, innovation, intelligence, vision, insight, and many other strengths that this population has to contribute to our culture, economy, and social institutions.

The Pervasiveness of Low Literacy and Learning Disabilities among Adults

A national survey found that 43% of U.S. adults (an estimated 56 million people) do not possess the necessary literacy skills to fully participate in contemporary society (Kutner et al., 2007; Organisation for Economic Co-operation and Development, 2005). The implications of low literacy are that many individuals are limited in education, health, parenting, social interaction, personal growth, and civic participation (National Research Council, 2011).

Among these many adults with low literacy are individuals with diagnosed or undiagnosed learning disabilities (LDs). Current estimates of specific LD prevalence in the K–12 school population is 4.9% (U.S. Department of Education, 2012). However, among adults participating in adult basic and sec-

ondary education, 29% self-reported having a learning disability (Patterson, 2008). This disproportionate representation of LD indicates that, for the U.S. to fully address the problem of low literacy among adults, educational researchers and practitioners need to come to a better understanding of the learning processes for these adults and how to intervene for better learning outcomes.

In one of our studies, we identified several differences in reading practices between adult literacy learners with and without LD (Mellard, Patterson, & Prewett, 2007). Reading practices refers to the types of materials (e.g., books, newspapers, magazines, correspondence, work manuals, and instructions) and frequency of reading. Adult literacy learners that self-reported LD read less frequently but showed more variability in the materials they read than those not reporting LD. Specifically, they were likely to read more formal materials found in books and in work directions or instructions. Perhaps adult learners with LD endeavor to engage in higher functional tasks related to employment, civic, and recreational reading. At the same time, frustration in struggling to read may limit their overall time spent reading. In this way, we speculate, their behavior is not too different from children who struggle with reading.

A Model of Adult Literacy: Missing and Weak Paths

Underlying earlier research and practice in adult literacy instruction was the assumption that models representing the trajectory of reading skill acquisition among children (e.g., the simple view of reading) could be applied to struggling adult learners (Kruidenier, MacArthur, & Wrigley, 2010). Implicit in this assumption were the ideas that these adults simply had not had the opportunity or motivation to make progress along the typical trajectory, or perhaps they had a LD that hindered or slowed their progress. Therefore, my colleagues and I developed a hypothetical model of relationships or “paths” between reading comprehension and reading-related subskills cited in the well-established body of child-based reading research. Path analysis is a form of multiple regression focusing on causal linkages among a set of variables. With this method we tested how well data, the test scores on reading skills and abilities, from a sample of adult literacy learners with a broad range of skill levels fit this hypothesized model of dependent relationships supporting reading comprehension (Mellard, Fall, & Woods, 2010).

What we discovered through our path analysis changed our perspectives on how to approach instruction among struggling adult readers (Mellard et al., 2010). Like younger children, these adults depended on decoding of non-words to read whole words, and they depended on reading whole words to

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read with fluency and develop vocabulary to achieve an average fifth-grade reading comprehension level. However, unlike maturing child readers, the adults in this new model lacked strong causal paths to reading comprehension from fluent reading, vocabulary, and language comprehension. More than that, the analysis demonstrated *no significant paths* or dependence between a) auditory working memory and word reading, b) word reading and language comprehension, and c) vocabulary and reading fluency—relationships that child-based reading research maintains are important to reading fluency and comprehension.

These weak and missing paths in our model of adult education participants suggested that this sample of adult struggling readers were not integrating their skills in the same way as developing child readers, nor were they using oral language comprehension acquired in adulthood to comprehend. These findings were generally supported in the independent research of others (Nanda, Greenberg, & Morris, 2010; Strucker, Yamamoto, & Kirsch, 2007).

We also investigated the question of how reading sub-skills related to integrated reading or lack of integrated reading (Mellard, Anthony, & Woods, 2012). Using an alternate analytic technique, *dominance analysis*, we were able to assess the importance of the reading sub-skills to oral reading fluency—a proxy for the integrated reading that seemed to be lacking among adult literacy learners. This analysis also identified word reading skill as the most important predictor of fluency, with vocabulary and auditory working memory operating as constraining or facilitating elements.

We concluded that based on our analyses adult literacy learners are a distinct population from children and adults with reading disabilities as they are described in research literature. Further, we posited that adult education programs needed unique ways of meeting their needs. We suspected that when adults attend a program sporadically or become frustrated and quit altogether, a contributing factor may be that the instruction was not meeting their specific needs. More targeted instruction could, perhaps, reduce their frustration levels and strengthen or create the missing paths they need for improved reading comprehension.

Adult Learner Reading Profiles

In order to explore the more specific instructional needs in this population we developed reader skill profiles following procedures similar to those used by Strucker, Davidson, Quann, and Waldron (2009). Using a multiple cluster analysis technique, we identified seven distinct adult reading ability groups based on measures of phonemic decoding, word recognition, fluency, and comprehension (Mellard, Fall, & Mark, 2009). Our intention was to build reader profiles using measures that captured individual differences in accuracy and rate of phonemic decoding and word recognition, along with instruments that measured fluency and comprehension outcomes. The accuracy instruments were power tests, that is, they were untimed and measured accuracy with items

that span a range of difficulty. The timed test items also span a range of difficulty but have the additional element of a time limit, which can indicate a level of automaticity or efficiency in reading. Fluency and comprehension outcome measures provided an indication of the degree to which readers were able to integrate their reading abilities and component skills.

The seven reading ability subtypes we identified, however, did not fully correspond with the U.S. Department of Education National Reporting System (NRS) levels, the classification scheme by which many adult education programs determine the type of instruction to provide learners (Mellard et al., 2009). Our groupings were similar to NRS educational functional reading levels at the high and low levels of the spectrum. However, the three reading profiles in the middle represented learners who were widely distributed among all NRS educational functional levels. This wide distribution indicated their common reading instruction needs were not represented in such assessments as Test of Adult Basic Education (TABE; CTB/McGraw-Hill, 2004) and Comprehensive Adult Student Assessment System (CASAS, 2001), which are commonly used for initial placement decisions and for assessing learners' progress in the instruction. CASAS is a standardized assessment of employability competencies (e.g., textual directions, referencing information from data tables, and completing forms) used in state adult education programs and some adult service agencies. The TABE is more like typical academic assessments of reading comprehension with mixed text types (e.g., narrative, expository, and persuasive).

Our more detailed analysis of the individual subskills of each group suggested that just three primary instructional needs were present among the seven ability groups (Mellard et al., 2009). First, basic decoding skills were the *primary* instructional need among learners in Groups 1, 2, 3, and 4. Next, word level reading and fluency instruction were the *primary* need among learners in Groups 5 and 6. Lastly, only Group 7 singularly needed comprehension instruction. These primary needs are not meant to be exclusive of instruction in the other components and subskills, but as major emphases for each learning group. To be clear, we believe that an integrated instructional approach on the reading components is appropriate. The emphasis in time and intensity of the instruction, though, should vary among the components.

We suggest that adult learners whose CASAS or TABE reading scores placed them in NRS levels that do not align with their skill profiles may not be receiving appropriate instructional emphasis on their deficit skills. For example, learners in NRS levels 3 and 4 with reading profiles that match Groups 1 through 4 were likely not receiving enough decoding instruction. NRS levels 3 and 4 learners represent the largest group of learners enrolled in adult basic and secondary education. Therefore, the mismatch between instructional placement and instructional need is an important issue for adult literacy programs to resolve.

Reading Fluency Assessment for Instructional Placement

Adult literacy programs use CASAS and TABE for determining NRS levels for instructional placement because they meet accepted standards for the U.S. Department of Education and are quickly and easily administered individually or in groups. We highly doubt the practical feasibility of multiple one-on-one subskill assessments, scoring, and weighting schemes in the context of adult literacy programs' instructional planning processes. However, an oral reading fluency rate can be "an elegant and reliable way to characterize expert reading" (Fuchs, Fuchs, Hosp, & Jenkins, 2001, p. 240) that reflects a reader's ability to quickly coordinate multiple reading skills. Thus, we speculated that a two-minute, two-dimensional oral reading fluency assessment could improve placement decisions without overburdening the instructional staff.

To explore our idea about a simple instructional placement assessment, we measured word errors in relation to reading speed with connected prose at a fixed level of difficulty, that is, word errors per minute (wepm) in relation to total words per minute (twpm) (Mellard, Woods, & Fall, 2011). We plotted each learner's scores on a graph and divided them into four groups based on the sample's median scores. We referred to these groups as Slower/Inaccurate readers, Faster/Inaccurate readers, Slower/Accurate readers, and Faster/Accurate readers. We statistically examined each group's relationship to outcomes from a standardized test battery of reading-related abilities and skills, such as phonemic awareness, word recognition, vocabulary, comprehension, and intellectual ability and performed multivariate statistical comparisons of the four groups, controlling for variables that contribute to the differences in twpm and wepm.

Our statistical analyses indicated that these groups were distinct from one another in underlying abilities that contribute to reading as well as in knowledge or performance directly related to reading, even after taking into account assessed differences in general intellectual ability. As in our previous cluster analysis, these groups did not parallel NRS educational functional levels. Similarly, the groups' relative strengths and weaknesses indicated possible explanations for differences among groups and suggested instructional priorities for each group.

We replicated this analysis with a group of economically and educationally disadvantaged young adults, ages 16 to 24 (Mellard, Woods, & Md Desa, 2012). This sample did not include NRS level 1 and 2 learners, and so produced a slightly higher median total words rate and lower median word errors rate. Still, these groups demonstrated significant differences on most reading subskills.

Motivation among Adult Literacy Learners

In the event that adult learners can be placed in instruction that is more aligned to their learning needs, they will still need to be sufficiently exposed to that instruction. Our data showed that learners who made learning gains had more exposure to the curriculum than non-gainers (56 hours per quarter versus 36 hours per quarter) (Mellard, Krieshok, Fall, & Woods, 2012). For this reason, we wanted to know whether person-oriented factors were associated with their motivations that contributed to their persistence in learning (Mellard et al., 2012). We found

that instruction needed to align with the learners' personal goals rather than the limited, structured goals tracked by adult education programs (e.g., gain or retain employment or earn a secondary credential). The only difference in affect between those who gained and those who did not was that those who gained were significantly more satisfied with life in general, even prior to achieving a learning gain. Understanding learners' motivation seems critical to informing curricular decisions and promoting learners' retention in the programs.

Implications for Adult Learners and Literacy Programs

As the National Research Council (NRC; 2011) reported, we have a very limited research base on adult literacy and particularly on a scientific basis for literacy instruction in reading and writing and numeracy. This limitation poses many challenges for offering interventions for adult learners and adult literacy providers. The evidence we have accumulated in recent studies suggests that adults with low literacy, as a whole, are not simply under-developed readers who would benefit from the same instruction and interventions that are effective for most children learning to read. Rather, these adults seem to not integrate the reading component skills they possess and need instruction that will develop cognitive processes especially for working memory and recognition.

Additionally, adults with low literacy are a complex population with varied skill and knowledge backgrounds, and a unitary approach to instruction is inappropriate. Yet the most often used assessment and progress measures are not well aligned or sensitive to the differences in underlying component skill and processing deficits that ought to drive instructional choices for these learners. We have proposed and tested a simple oral reading fluency assessment that may be feasible for adult education programs and result in better instructional alignment. Even so, with better alignment, the field lacks empirically tested interventions for helping adult literacy learners develop as mature readers. Similarly, this population's writing and mathematics skills and processes need to be better understood and more interventions developed.

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Daryl F. Mellard, Ph.D., Research Professor and Director of the Division of Adult Studies at KU-CRL, has researched adult learning disabilities, adult learning assessments, accommodations and interventions in adult basic and secondary education, career and technical education, and community college settings. Mellard served as a committee member for The National Academies of Sciences, Engineering, and Medicine, National Research Council, Committee on Learning Sciences, Foundations and Applications to Adolescent and Adult Literacy.

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