2020 STAR Research Review

Student Achievement in Reading (STAR) is a reform initiative that focuses on improving the reading of intermediate level adult basic education students. STAR works with states, local programs and teachers to provide:
- training in evidence-based reading instruction.
- technical assistance in developing the systems and procedures needed to implement and sustain evidence-based reading instruction.

The STAR research review is conducted annually. Its purpose is to identify any developments in reading research that call for changes in project content. In addition, the results of the review are used to keep the STAR team up-to-date on any new research related to the training and technical assistance they are providing. The results of the review are presented in APA citation style.

Two sources were used to select the articles for the 2020 review of research:
1. The term "adult literacy" was used as a search term in the Academic Search Premier (EBSCO) database to locate articles published between March 2019 – March 2020.
2. Announcements of new research in literacy development and professional development were reviewed.

Articles from either source were excluded if they were:
- Essays, book reviews, or narratives describing personal experiences.
- Research conducted in languages other than English.
- Research with a primary focus other than reading.
- Studies not related to STAR's rationale and/or design.

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Advancing literacy with large print (2019). Waterville, ME: Thorndike Press. Retrieved March 28, 2020 from https://tomorrow.org/publications/advancing-literacy-with-large-print-2019.html

Nearly 1700 students in grades 3-12, along with their teachers and librarians, participated in this study comparing large print books to the same books in standard print. About half of the students reported that they liked reading more when reading the books with large print, and about 75% of the teachers reported that they thought that the large print versions of the books were more beneficial for students with difficulties in comprehension.

Bhattacharya, A. (2020). Syllabic versus morphemic analyses: Teaching multisyllabic word reading to older struggling readers. *Journal of Adolescent & Adult Literacy*, 63, 491-497.

Word reading instruction focusing on syllable and morphemes are described in this article and the research supporting each approach is reviewed. The author argues that both instructional approaches can have value in helping struggling readers to accurately and automatically identify complex words.

Chapman, E. & McHardy, J. (2019). Adult literacy teachers' perspectives on reading difficulties and the origins of these perspectives. *Adult Literacy Education*, 1, 6-18. Retrieved March 20, 2020 from https://www.proliteracy.org/Portals/0/pdf/Research/ALE%20Journal/ALE_ResearchJournal-v001_01-2019-06_McHardyChapman.pdf?ver=2019-03-27-140056-217

Adult literacy instructors from Australia and New Zealand were interviewed to better understand (a) their views on why adults can become less-skilled in reading, and (b) where those views come from. In terms of (a), participants identified unmet needs (e.g., reading disabilities) and lack of opportunity (e.g., limited exposure, inappropriate instructional environments). With regard to (b), instructors' discussed their own experiences as readers, their teaching experience, and their knowledge of reading theory and research.

Frijters, J.C., Brown, E., & Greenberg, D. (2019). Gender differences in the reading motivation of adults with low literacy skills. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* (pp. 63-87). Wiley.

On both reading and motivation measures, K-12 research has found that female learners tend to perform better than male learners. In this chapter, the authors review research that suggests that the gender gaps found in children are also present within a population of adults with low literacy skills. See also:

https://pdfs.semanticscholar.org/2c7f/c951f9c4c03fdf428944125e8eee81923fb1.pdf?_ga=2.70867792.1953617308.1584815066-1750717135.1584815066

Gray, S.H. (2019). Linking root words and derived forms for struggling readers: A pilot study. *Adult Literacy Education, 1,* 19-36. Retrieved March 20, 2020 from

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https://www.proliteracy.org/Portals/0/pdf/Research/ALE%20Journal/ALE_ResearchJournal -v001_01-2019-19_Gray.pdf?ver=2019-03-27-140055-890

Looking further into an instructional approach described in the 2018 research review (Gray, Ehri, & Locke, 2018), 16 adult learners reading, on average, at the 6th grade level, completed 4 weekly 2-hour sessions with one of two instructional treatments: root word instruction or syllable instruction. Students receiving the root word instruction outperformed the syllable instruction group on measures involving the taught words, although both groups made large gains. On the Woodcock-Johnson III Tests of Achievement (WJ-III), gains on the Word Attack subtest were similar for both groups. Overall, pre-/post differences were not found on the WJ-III Vocabulary and Passage Comprehension tests, although some individuals in each group were found to make gains.

Graesser, A.C., Greenberg, D., Olney, A., & Lovett, M.W. (2019). Educational technologies that support reading comprehension for adults who have low literacy skills. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* (pp. 471-493). Wiley.

Technologies that target comprehension strategies for adults with low literacy skills are described in this chapter. The authors argue for the importance of grounding the technologies in science and practice by aligning: (a) multilevel theoretical frameworks of comprehension, (b) interventions to improve comprehension, (c) reading curriculum standards, (d) assessments of comprehension, and (e) text characteristics. See

https://cpb-us-w2.wpmucdn.com/blogs.memphis.edu/dist/d/2954/files/2019/10/csal-chapter-perin-2019.pdf

Ositelu, M.O. (2019). *Equipping individuals for life beyond bars: The promise of higher education & job training in closing the gap in skills for incarcerated adults.* Retrieved March 15, 2020 from https://www.newamerica.org/education-policy/reports/equipping-individuals-life-beyond-bars/ Washington, DC: New America.

U.S. PIACC data from 2012/2014 were analyzed to determine (a) the range of literacy and numeracy skills of incarcerated adults; (b) the gap between incarcerated adults and the general public in those skills; (c) the effects of prison educational programs on those skills; and (d) availability, participation, and interest in those programs, along with barriers and challenges to participation. Key findings were:
- On average, incarcerated adults tend to be significantly less proficient in literacy and numeracy skills than the general public.
- Incarcerated adults who complete a postsecondary degree or certificate are statistically significantly more likely to score higher in both literacy and numeracy than those who do not.
- On average, incarcerated adults who participate in job training are statistically significantly more likely to score higher in both literacy and numeracy than those who do not.
- All incarcerated adults show interest in, participate and complete educational programs, regardless of sentencing time.

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Ouellette-Schramm, J. (2019). Academic literacy as developmental pedagogy: The learning and growth of adult English language learners. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 451-470). Wiley.**

In this chapter the author argues for the value and importance of applying the constructive-developmental theory (CDT) of adult psychological development to academic literacy learning among adult and community college English language learners to support both academic literacy learning and developmental growth toward more complex developmental perspectives. See also [https://www.researchgate.net/publication/335192530_ecll-2017-presentation-ouellette-schramm?channel=doi&linkId=5d55ae13299bf151bad6e212&showFulltext=true#fullTextFile Content](https://www.researchgate.net/publication/335192530_ecll-2017-presentation-ouellette-schramm?channel=doi&linkId=5d55ae13299bf151bad6e212&showFulltext=true#fullTextFile)

Patterson, M.B. (2019) Adults with low skills and learning disabilities. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 337-360). Wiley.**

Characteristics, background, and experience of adult learners with low skills and self-reported learning disabilities (LD) are described in this chapter. As summarized by the author, "adults with LD tend to be younger, to leave high school early more frequently, to have lower rates of employment and higher rates outside the workforce and NEET(Not in Education, Employment, or Training), to be on permanent disability, and to have low income at higher rates than adults without LD" (pg. 354). For the most part, the contrasts between adults with and without LD remain significant even when taking age into account.

Perin, D. (2019) (Ed.) *The Wiley Handbook of Adult Literacy.* **Wiley.**

This handbook presents a wide-ranging global look at research on adults' reading, writing, spelling, motivation, readiness to learn, numeracy and health. Included are chapters focusing not only on adults enrolled in adult literacy programs, but also postsecondary students with low literacy skills, some of whom have reading disabilities. Summaries of the chapters most relevant to STAR are included in this review.

Reder, S. (2019) Developmental trajectories of adult education students: Implications for policy, research, and practice. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 429-450). Wiley.**

The trajectories of the literacy skills and earnings of those who participated in adult basic skills programs were compared with those of carefully matched nonparticipants. Basic skills programs were found to have a significant positive impact on long-term literacy development and earnings. However, these effects required, on average, 100 or more hours of attendance and took several years following program participation to fully mature. See also https://lincs.ed.gov/professional-development/resource-collections/profile-780 and https://lincs.ed.gov/professional-development/resource-collections/profile-991

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Sabatini, J., O'Reilly, T., Dreier, K., & Wang, Z. (2019). Cognitive processing challenges associated with low literacy adults. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 15-39). Wiley.**

This chapter focuses on research looking at: (a) the characteristics of adult learners with low literacy skills, (b) reading development in children and adolescents; (c) reading difficulties faced by adult learners, and (d) and the cognitive constructs that pertain to literacy performance across chronological age.

Smith, M.C., Smith, T.J., Rose, A.D., & Ross-Gordon, J.M. (2019). Readiness to learn among adults with low skills. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 171-191). Wiley.**

This chapter reports results for low-skilled, English-speaking adults in four countries. Across countries, readiness to learn was significantly positively related to adults' use of skills in everyday life and the workplace. Implications for adult education and workplace training are described. See also

> https://static1.squarespace.com/static/51bb74b8e4b0139570ddf020/t/54da7802e4b08c6b90107b4f/1423603714198/Smith_Rose_Ross-Gordon_Smith_PIAAC.pdf

Theriault, J.C., Matich, L.M., Lampi, J.P, & Armstrong, S.L. (2019). The continued need for strategy investigations: College readers use of PILLAR. *Journal of Adolescent & Adult Literacy, 62,* **541-549.**

In the PILLAR strategy, students are taught to use 6 steps: preview the text; identify any major topics or concepts in the text; list topics or concepts repeated throughout the text; look quickly online for basic information about those repeated topics or concepts; attempt to make sense of these topics or concepts; and then read the text. In this study, 10 students enrolled in developmental reading classes were asked to explain their thinking as they applied the PILLAR strategy on chapters from history and biology textbooks. The think aloud process revealed that, although students were aware of the gaps in their knowledge, they often did not know what to do when the gaps occurred. As one participant noted after looking up an unfamiliar term online, "this definition has words that I know I don't know what they mean" (pg. 545).

Tighe, E.L., & Fernandes, M.A. (2019). Unraveling the complexity of the relations of metalinguistic skills to word reading with struggling adult readers: Shared, independent, and interactive effects. *Applied Psycholinguistics, 40***, 765-793.**

Metalinguistic skills underlie the ability to understand and manipulate language. In reading, three metalinguistic skills are especially important: phonological awareness (facility with the sounds of language); orthographic knowledge (familiarity with spelling patterns and rules); and

morphological awareness (facility with the smallest units of meaning, such as prefixes). In this study, the metalinguistic skills of 220 native English speakers reading, on average, at the 7th grade level were assessed. Based on the relationships found among the various measures, the findings suggest that growth in alphabetics in struggling adult readers may be improved with greater attention to morphological awareness.

Tighe, E.L. Integrating component skills in a reading comprehension framework for struggling adult readers. In D. Perin (Ed.), *The Wiley Handbook of Adult Literacy* **(pp. 89-106). Wiley.**

This chapter focuses on identifying and evaluating important component skill predictors of reading comprehension, emphasizing the issues of measurement and statistical analyses that must be addressed before the reading of adult learners with low literacy skills can be better understood.

Trawick, A.R. (2019). The PIACC literacy framework and adult reading instruction. *Adult Literacy Education, 1,* **37-52. Retrieved March 20, 2020 from** https://www.proliteracy.org/Portals/0/pdf/Research/ALE%20Journal/ALE_ResearchJournal-v001_01-2019-37_Trawick.pdf?ver=2019-03-27-140055-950

Excerpted from an earlier report described in the 2017 research review, the author describes how the framework used to assess literacy by the Programme for the International Assessment of Adult Competencies (PIACC) can be used to guide instruction.

Wallace, S., Treiman, R., Kumawat, N., Arpin, K., Huang, J., Sawyer, B., & Bylinski, Z. (2019). *Toward readability individuation: The right changes to text format make large impacts on reading speed.* **Retrieved March 12, 2020 from** https:www.readabilitymatters.org**/Providence, RI: Brown University.**

Readability – an estimate of how easy texts are to read and understand – has traditionally been measured by factors such as sentence length, word syllable counts, and word familiarity. However, more recently, researchers have also begun to study the impact of font on reading ease. In this article, a team from Brown University, Adobe Inc., University of Central Florida, and Riverdale Country School describe their studies of the impact of font change on 386 skilled readers, ages 18-71. Readers were evaluated with subsets of sixteen fonts. Participants read 32% faster (313 WPM) in their fastest font compared to their slowest font (238 WPM). And, while 77% of participants believed that they would read fastest in their preferred font, only 20% did. High variability in reading speed was found for every font, suggesting no font is best for everyone.