

2019 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.

Two sources were used to select the articles for the 2019 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 2018 – March 2019.
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.

Desjardins, R. (2018, December 6). *Revisiting the determinants of literacy proficiency.*

Paper presented at the 3rd PIAAC Research-to-Practice Conference, Arlington, VA.
Retrieved March 21, 2019, from

<https://static1.squarespace.com/static/51bb74b8e4b0139570ddf020/t/5c1928fec8366551dc39797/1545152766907/Final+1-page+summaries.pdf>

This study looked at which factors predict proficiency in literacy at both an individual and at a national level. The factors looked at included: gender, age, immigrant status, parents’ education, earnings, education, occupation, and literacy practices at work. The countries included were: Belgium, Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Netherlands, Norway, Poland, Sweden, UK, and USA. For individuals across all the countries, education was the most important predictor, followed by immigration status, parents’ education and type of occupation. Within countries, however, the importance of factors differed. For example, in countries like Sweden and Norway with many recent immigrants, immigration status was more important than in other countries. In the US and UK, parents’ education was more important, a connection that has increased over time in the US. The author concludes: “as educational systems are expanding access; they are having difficulties redressing inequalities emanating from the home background”.

Fisher, D., & Frey, N. (2018). Reading and writing on screen and paper. *Journal of Adolescent & Adult Literacy*, 62, 349-351.

This article reviews some of the research findings on the effects of medium (digital vs. print) on comprehension and learning. The majority of the studies reviewed involved students in middle school and beyond. The highlighted findings were:

- If scrolling is not required, medium does not affect comprehension. But when texts are longer (>500 words), comprehension is better with print. This has been found to be the case with both narrative and informational texts.
- Medium does not seem to affect comprehension performance at a general level. However, when comprehension requires dealing with more detailed and nuanced information, print is better.
- Reading online has been shown to lead to overconfidence in predictions of performance compared to reading on paper.
- Digital notetaking tends to contain a more verbatim representation of a lecture, while paper notetaking is characterized by a more conceptual representation.
- Notetaking medium does not seem to matter much for factual information. On conceptual items, paper is better.
- Prompting digital notetakers to stop transcribing does not improve their notes. Or their test performance.
- Studying handwritten notes before a test helps performance. Studying digital notes, along with not studying notes (regardless of medium) results in poor test performance.

Kuhn, M.R., & Schwanenflugel, P.J. (2018). Prosody, pacing, and situational fluency (or why fluency matters for older readers. *Journal of Adolescent & Adult Literacy*, 62, 363-368.

In this commentary the authors argue that too often we think of fluency too narrowly, with negative consequences for students. They define fluency as:

“Fluency combines accuracy, automaticity, and oral reading prosody, which taken together, facilitate the reader’s construction of meaning. It is demonstrated during oral reading through ease of word recognition, appropriate pacing, phrasing, and intonation. It is a factor in both oral and silent reading that can limit or support comprehension” (pg. 364).

In addition, the authors conclude:

- Improvements in oral reading fluency lead to improvements when reading silently.
- Fluency is affected by what one is reading. Narrative texts tend to be read with more fluency than informational texts.
- To improve fluency, students need to read texts across a broad range of subjects.
- The best way to improve fluency is to provide students with extensive opportunities to practice.

The authors conclude their commentary by recommending 4 strategies that they see as connected to their definition of fluency:

- Listen-read-discuss, where the critical terms and ideas in a text are pre-taught, students read independently, followed by a discussion of what was read
- Text sets, where students read a series of texts of increasing difficulty on the same topic
- Scaffolded silent reading, where students select texts from various genres and teachers explain, model, help students to apply, and monitor reading for meaning
- Partner reading, where students take turns reading aloud and following along as their partner reads

Of interest to STAR trainers and teachers:

- Of these 4 strategies, scaffolded silent reading and partner reading have been shown to improve fluency.
- A third strategy – use of text sets – was described as a possible way to increase reading volume and background knowledge in the 2018 STAR Research Review (see Lupot et al., 2018).

Lane, J., & Murray, T.S. (2018). *Literacy lost: Canada's basic skills shortfall*. Retrieved March 4, 2018 from <https://cwf.ca/research/publications/report-literacy-lost-canadas-basic-skills-shortfall/> Calgary, Alberta: Canada West Foundation.

Linking performances of Canadians on international literacy assessments with key economic indicators suggests that increasing the literacy skills of the lower scoring individuals will have more impact than improving the scores of the higher achievers.

McKoon, G., & Ratcliff, R. (2018). Adults with poor reading skills, older adults, and college students: The meanings they understand during reading using a diffusion model analysis. *Journal of Memory & Language, 102, 115-129.*

Comprehension requires knowing which aspects of a word's meaning are relevant to understanding a text and which are not. For example, when reading a sentence like "*The painter searched many stores to find the color most suited to use in painting the ripe tomato*", recognizing that tomatoes are red is relevant, whereas knowing that tomatoes are round is not. Accuracy and speed in making decisions about contextually relevant meanings were assessed in 3 groups: college students, older adults (mean age = 71 years), and adult literacy learners (mean grade level on the Test of Adult Basic Education = 6.9). Accuracy was about the same among college students and older adults while the literacy learners were less accurate. College students were faster than the older adults, who were in turn faster than the

literacy learners. Despite these group differences, however, when accuracy and speed of responses to contextually relevant information were looked at together, results showed that adult literacy learners knew which aspects of meaning were relevant.

Of interest to STAR trainers and teachers:

A related set of studies reviewed in the 2018 STAR Research Review showed that, although adult literacy learners were slower and less accurate than college students in making predictive inferences, when speed/accuracy tradeoffs were taken into account, the groups performed similarly (see McKoon & Ratcliff, 2017).

Pergams, O.R., Jake-Matthews, C.E., & Mohanty, L.M. (2018). A combined read-aloud think-aloud strategy improves student learning experiences in college-level biology courses. *Journal of College Science Teaching*, 47, 10-15.

In three classes of community college biology courses ($n_s = 8, 12, \text{ and } 14$), students and their instructor took turns reading paragraphs aloud from their textbook. Following each paragraph, the class stopped to paraphrase, summarize, and analyze what was read. At the end of the semester, students took a survey asking them to rate their level of agreement with the following statements:

- (1) It made me read the text more than I would have otherwise.
- (2) It made me understand the text more than I would have otherwise.
- (3) The instructor elaborating on the text was useful to me.
- (4) In general, I learned how to read difficult texts with greater comprehension.
- (5) I prefer a class conducted this way over a class with lecture and PowerPoints.

Pooling across the 3 classes showed positive agreement by the students to all of the statements. The strongest approval was in response to #3 above; the lowest was to #5. The authors also note that attempts to implement the strategy in larger classes were not successful due to loss of student attention.

Powell, C.G., & Bodur, Y. (2019). Teachers' perceptions of an online professional development experience: Implications for a design and implementation framework. *Teaching and Teacher Education*, 77, 19-30.

Responses of 6 high school social science teachers to an online teacher professional development (OTPD) experience were analyzed. The OTPD consisted of 10 video-based modules focused on differentiated instruction, each approximately 25-30 minutes in duration, and requiring 3 open-ended reflections per module. Following completion of the online work, the teachers were interviewed individually and face-to-face. Six themes emerged from the comments made in the teachers' evaluation of the OTPD experience:

- Relevance: as characterized by whether it validated their current practice and addressed their professional needs, experience, and content knowledge
 - Authenticity: as characterized by whether it reflected their student demographics and classroom reality
 - Usefulness: as characterized by whether it provided instructional ideas and reminded or taught them about effective instructional practices
 - Interaction and collaboration: as characterized by whether it provided opportunities to process, discuss, and obtain feedback
 - Reflection: as characterized by whether it led to opportunities to consider and connect to their own practice
 - Context: as characterized by whether it was convenient, flexible, and connected to system expectations
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Robinson, S.A. (2018). A study designed to increase the literacy skills of incarcerated adults. *The Journal of Correctional Education*, 69, 60-72.

Results from a phonics curriculum (*Pure and Complete Phonics*) taught in 5 correctional facilities (3 male and 2 female) in a midwestern state were compared to results from the existing curricula. Students scoring at or below the 5th grade level on the Test of Adult Basic Education were invited to participate. The 41 volunteers were randomly assigned to either the treatment (i.e., phonics) or control (i.e., existing curriculum) group. The same teachers delivered both curricula for 15 weeks of instruction, 5 hours per week. The phonics curriculum was taught 1 hour a day, Monday-Friday. The content and delivery schedule for the existing curricula were not specified, beyond saying that they were “ill-defined and perhaps ineffective” (pg. 68). Subtests from the Woodcock-Johnson Tests of Achievement III were used for pre- and post-testing (Letter-Word Identification, Word Attack, Reading Fluency, Spelling, and Spelling of Sounds). Gains for the group receiving the phonics curriculum were significantly better than for the control on the Letter-Word Identification, Word Attack, and Reading Fluency subtests.

Sabatini, J., O'Reilly, T., & Wang, Z. (2018, July). *Comparing adult to adolescent performance on component assessment of reading*. Paper presented at the [Society for Scientific Studies of Reading 25th Annual Meeting in Brighton, UK](#).

The reading skills of 309 adult literacy learners were assessed with Study Aid & Reading Assessment (SARA), a computer-administered battery with subtests measuring word recognition and decoding, vocabulary and morphology, fluency, and sentence and text processing. Compared to students in grades 5-8, the adults demonstrated the most difficulty on the word recognition and decoding tasks, followed by the fluency, then sentence processing, then vocabulary and morphology, and finally text comprehension. The authors

concluded that this group of adult literacy learners employed top-down processing strategies, perhaps to compensate for weaknesses in decoding.

Schwerdt, G., Wiederhold, S., & Murray, T.S. (2018, December 6). *Literacy and growth: Policy implications of new evidence from PIAAC*. Paper presented at the 3rd PIAAC Research-to-Practice Conference, Arlington, VA. Retrieved March 21, 2019 from <https://static1.squarespace.com/static/51bb74b8e4b0139570ddf020/t/5c1928fecfd8366551dc39797/1545152766907/Final+1-page+summaries.pdf>

Results from PIAAC (the Programme for the International Assessment of Adult Competencies) were used to gauge the impact that differences in literacy levels can have on a nation's economic activity. Countries with larger proportions of adults scoring at the lower proficiency levels on PIAAC seemed to experience less economic activity than those with smaller proportions. However, differences among countries in the proportion of adults at the higher literacy levels did not appear to have an impact on economies. The authors suggest that: "Countries that manage to raise their average literacy skill levels by improving the literacy levels of low skilled workers will realize even higher levels of downstream growth".

Vanek, J., Simpson, D., Johnston, J., & Petty, L.I. (2018). *IDEAL distance education and blended learning handbook*. Retrieved April 8, 2019, from <https://edtech.worlded.org/wp-content/uploads/2018/08/IDEAL-Handbook-6th-Edition-8-16-18.pdf>

Designed as a guide for Adult Basic Education programs developing and delivering distance education, this handbook's content and resources also have relevance for a flipped classroom approach to professional development to teachers and administrators. The chapters covering "Setting Up Learners for Success" and "Getting Started" outline a number of best practices.

Wang, Z., Sabatini, J., O'Reilly, T., & Weeks, J. (2019). *Decoding and reading comprehension: A test of the decoding threshold hypothesis. Journal of Educational Psychology, 111, 387-401.*

According to the "decoding threshold hypothesis", the relationship between decoding and reading comprehension is unpredictable if decoding falls below a certain level of proficiency. This article reports on 2 studies of 5th-10th graders that support the decoding threshold hypothesis. Students who scored below a certain level of achievement in decoding (e.g., the 38th percentile in Grade 5) did not make the same progress in reading comprehension over a 3-year period as their peers did. The authors suggest that, to be effective in improving comprehension, decoding instruction must push students above a certain level of proficiency.

Commentary:

Belzer, A., & Kim, J. (2018). We are what we do: Adult Basic Education should be about more than employability. *Journal of Adolescent & Adult Literacy*, 61, 603-608.

The authors of this commentary argue that (1) current federal policy has narrowed the emphasis in Adult Basic Education (ABE) to workforce development, and (2) this current emphasis has resulted in undercutting other important social outcomes that increased skills can bring. To support their first point, the authors contrast the definition of literacy presented in the National Literacy Act of 1991 (“an individual’s ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one’s goals, and develop one’s knowledge and potential”) with the requirement in the most recent statute funding Adult Basic Education – the Workforce Innovation and Opportunity Act – of outcome measures focusing on postsecondary education, training, employment, and earnings. To support their second point, the authors describe findings from the Programme for International Assessment of Adult Competencies that show that “gains in literacy skills, perhaps too small to make an observable difference in employment and earnings outcomes, can have meaningful individual and social benefits that promote health and more engaged citizenship” (pg. 606). The authors also suggest that narrowing the focus to employability in ABE may not yield the desired results because of barriers faced by learners in accruing the number of hours of instruction required to increase skills and the absence of a straightforward causal relation between improved skills and better earnings.

Kirkland, D.E. (2019). The truth behind the pipeline: Is the illiteracy-to-prison connection real? *Literacy Today*, 36, 10-11.

This commentary examines the connection between illiteracy and incarceration, arguing that, rather than one causing the other, both share a common root cause: the social, political and historical forces that shape and maintain them both. The author also suggests that research showing that literacy instruction is related to lower recidivism rates stems from work in the prison literacy movement “with vulnerable and targeted populations who experience high degrees of trauma and other social injuries that complicate teaching and learning” (pg. 11).