

IMPROVING ADULT LITERACY INSTRUCTION

Developing
READING and
WRITING

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES



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Improving Adult Literacy Instruction

Developing Reading and Writing



More than an estimated 90 million adults in the United States lack the literacy skills needed for fully productive and secure lives. The effects of this shortfall are many: Adults with low literacy have lower rates of participation in the labor force and lower earnings when they do have jobs, for example. They are less able to understand and use health information. And they are less likely to read to their children, which may slow their children's own literacy development.

At the request of the U.S. Department of Education, the National Research Council convened a committee of experts from many disciplines to synthesize research on literacy and learning in order to improve literacy instruction for adults in the United States. The committee's report, *Improving Adult Literacy Instruction: Options for Practice and Research*, recommends a program of research and innovation to better understand adult literacy learners, improve instruction, and create the supports adults need for learning and achievement.

This booklet, which is based on the report, presents an overview of what is known about how literacy develops, the component skills of reading and writing, and the practices that are effective for developing them. It also describes principles of reading and writing instruction that can guide those who design and administer programs or courses to improve adult literacy skills. Although this is not intended as a "how to" manual for instructors, teachers may also find the information in this booklet helpful as they consider how to plan instruction.

The principles described here apply to all adult literacy learners, including those learning English as a second language and those with learning disabilities. This booklet also includes specific principles to guide instruction for those groups of learners.

The principles and practices offered here reflect the best available research on effective approaches to literacy instruction, and they should be applied now in developing instruction for adults. However, it is important to know that these principles and practices are derived mainly from research with younger students—from kindergarten through high school (K-12)—because little research has been conducted on effective literacy instruction specifically for adults. The principles and practices also reflect the growing literature on adolescent learners, as well as general research on how people learn.

The approaches presented here will need to be modified to account for adults' unique needs and learning goals. Precisely what needs to be taught and how it is taught will vary, depending on the individual's existing literacy skills, learning goals, age, motivation, and cultural and linguistic background.

As Improving Adult Literacy Instruction: Options for Practice and Research explains in detail, far more research is needed to determine how best to adapt the guiding principles and practices to meet the needs of adult learners. That needed research is described briefly in this booklet's conclusion. The people who develop, administer, and fund adult literacy instruction and those who prepare instructors will have important roles to play in these studies as they work to help all adults meet modern literacy demands.

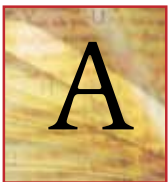
Who Are Adult Literacy Learners?

The diverse groups of people who need stronger literacy skills in the United States include:

- recent immigrants who have little education in their native languages;
- middle-aged and older U.S.-born high school graduates who can no longer keep up with the reading, writing, and technology demands of their jobs;
- adolescents and adults who dropped out of school;
- adults who had disabilities that were not fully accommodated in school;
- highly educated immigrants who are literate in their native language but need to learn to read and write in English; and
- underprepared students in colleges.

These groups receive literacy instruction in many settings, including schools, community organizations, community colleges, prisons, and workplaces.

How Literacy Develops



conceptual model to describe how literacy develops is shown in Figure 1. It shows several key factors that affect learners' literacy development—the learning context, texts and tools, literacy activities, and the learner—and it also shows the aspects of each of these factors that are possible to influence through instruction. The following brief section discusses several of these factors, along with research-based guidance on how to influence them to support learning.

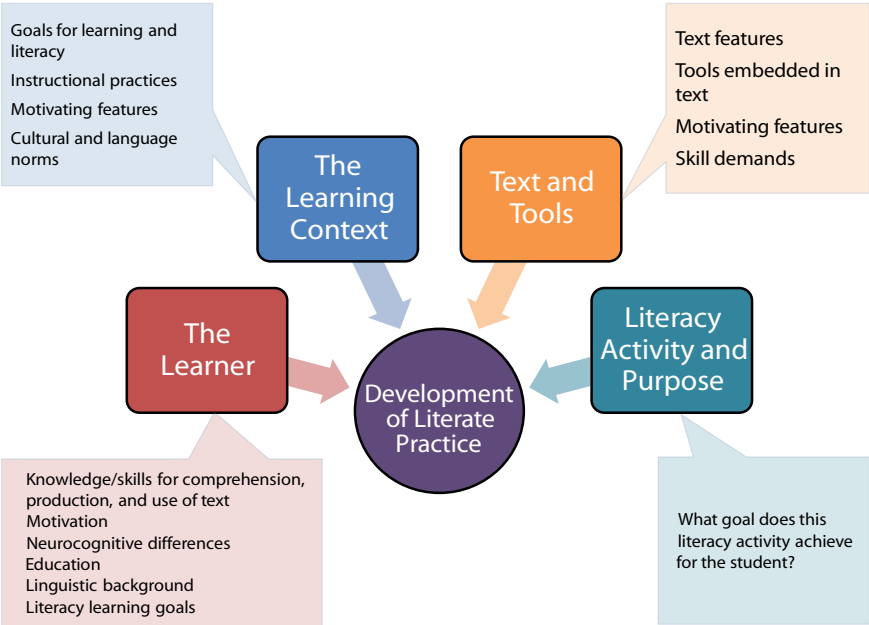


FIGURE 1: Model of the development of literate practice

Literacy texts. Developing readers need to confront texts that are challenging, meaningful, and engaging. Texts should allow learners to practice component literacy skills (described below) and support them as they stretch beyond existing skills. Instructors should carefully select texts with the appropriate level of difficulty: texts that both draw on knowledge students have already mastered and also present challenges. Instructors also should provide prompts and other forms of support to learners as they work their way through challenging texts.

Effective instruction uses a variety of texts because when learners acquire knowledge and skills across multiple contexts, they are better able to retain what they learn and transfer it to new tasks and situations. Unfortunately, there are few reading materials that are designed to foster the component skills of developing readers while offering interesting and useful content to adolescents and adults. A priority for research is to develop and evaluate materials and texts that can support this key element of effective instruction.

Literacy tools. Being literate demands proficiency with current tools and practices that require reading and writing—including digital and online media used to communicate with others and to gather, evaluate, and synthesize information. It is important, therefore, to offer reading and writing instruction that incorporates the use of both print and digital methods of communication. This type of instruction prepares learners to accomplish important reading and writing tasks that are indispensable in today's world.

Literacy activities and purposes. Novice learners require thousands of hours of practice to develop expertise in complex domains such as reading and writing. Even those who are not novices require substantial practice using reading and writing skills for particular purposes. To motivate learners to persist for the long time it takes to develop expertise, it is important for instructors to understand the component literacy skills that learners need to meet today's social, educational, workplace, and personal demands, and plan instruction with activities that develop those skills.

This type of instruction, which helps learners develop component skills as they perform practical literacy tasks, also increases the likelihood that literacy skills will be used outside the classroom. Research on learning has shown that the likelihood of transferring a newly learned skill to a new task depends on the similarity between the new task and the tasks used for learning. Therefore, literacy instruction is most likely to lead to durable, transferable learning if it incorporates real-world activities, tasks, and tools.

In addition, activities that integrate reading and writing instruction contribute to the development of both skills. Reading and writing require some of the same knowledge

and cognitive and linguistic processes—such as knowledge of vocabulary, spelling patterns, text structures, and syntax—and so learning and insights in one area can lead to learning and insights in the other. In fact, research has shown that reading improves with frequent writing.

Characteristics of the learner. Adult literacy learners vary in many ways—in their literacy development needs and goals, education levels, economic status, culture, linguistic background, and social, psychological, and neurobiological characteristics. To be effective instruction should be adapted for different groups of learners.

The varying ages of adult learners also has implications for instruction. Although most adults who receive literacy instruction are in their 20s and 30s, along with an increasing number of youth who have dropped out of high school, a significant portion of learners—18 percent—are over 40. That percentage can be expected to increase during economic downturns and shifts that require adults to further develop their skills to meet the literacy demands of available jobs. Understanding this older group of learners is important because adults as young as mid-30s may experience some age-related changes in brain processing. Though most of the processes involved in reading and writing appear to be largely unchanged in later adulthood, older adults do experience declines in areas affected by visual perception and speed of processing—changes that might need consideration when planning instruction and practice.

Other age-related shifts may occur as well. Although word recognition appears to be fundamentally unchanged throughout the adult lifespan, with age, readers tend to rely more on recognizing a whole word as a unit instead of decoding it using phonics skills. This characteristic is important because a facility with phonics is essential for reading new words. Yet in both spoken and written communication, aging learners may increasingly rely on the context to recognize individual words. Memory declines can contribute to difficulties in connecting different parts of context needed for comprehension. Older adults might find it necessary to use such strategies as making notes and rereading parts of texts, for example. On the positive side, however, the knowledge that adults accumulate over their lifetimes can aid comprehension.



Literacy in a Digital Age

In today's world, expectations for literacy include the use of digital and online media to communicate and to produce, find, and evaluate information to meet educational and work demands. Strong reading and writing skills underpin valued aspects of digital literacy in many key areas of work and daily life, such as:

- presenting ideas, including organizing a compelling argument, using multiple media, and integrating media with text;
- using online resources to search for information, evaluate the quality of that information, and organize information from several sources; and
- using basic office software to generate texts and multimedia documents, including writing documents, taking notes, and preparing displays to support oral presentations.



Researchers are only beginning to identify the literacy skills related to technology use and to study the kinds of instruction that can develop them for learners of all ages. Until more is known about those skills, however, using technologies for literacy study can offer practical benefits to learners who will need to use digital tools in education settings and for their jobs.

Effective Reading Instruction



astery of reading requires developing its highly interrelated major component skills: decoding, vocabulary, fluency, and comprehension. These components are discussed separately below, but they work together in the process of reading. Effective reading instruction explicitly and systematically targets each component skill that needs to be developed and supports the integration of all of them. Although skill needs to be attained in all components, the amount of emphasis given to each during instruction will vary depending on each learner's needs.

Decoding. Explicit and systematic phonics instruction to teach correspondences between letters and phonemes (sounds)—known as decoding—facilitates reading development for children of different ages, abilities, and socioeconomic circumstances. Although little is known about how best to provide decoding instruction to adolescents and adults who struggle with reading so that they make substantial progress, the dependence of literacy on decoding skill is clear. Even highly skilled adult readers must rely on alphabetic knowledge and decoding skills to read unfamiliar words.

Instructors need to be prepared to explicitly and systematically teach all aspects of the English word-reading system: letter-sound patterns, high-frequency spelling patterns (oat, at, end, ar), consonant blends (st, bl, cr), vowel combinations (ai, oa, ea), prefixes and suffixes (pre-, sub-, -ing), and irregular high-frequency words (sight words that do not follow regular spelling patterns).

The degree to which instruction needs to focus on decoding and which particular aspects of decoding to emphasize depends on how developed the various decoding skills are for each learner. Adults who are literate in a first language and who are learning English as a second language, for example, may need less instruction and practice in decoding to learn letter-sound mappings than those who have not yet mastered decoding in a first language.

Vocabulary. Vocabulary knowledge—specifically, the depth, breadth, and flexibility of a person’s knowledge about words—is a primary predictor of reading success. Vocabulary development can be aided if instructors select words and teach their meanings before asking learners to read text containing these words.

Effective instruction focuses on teaching the multiple meanings of words and varied word forms; it also provides ample opportunities to encounter and use words in varied contexts. Vocabulary knowledge is not a simple dichotomy of knowing or not knowing a word’s meaning. Rather, learners’ knowledge develops on a continuum that ranges from not



knowing a word at all, to recognizing it, to knowing its uses in different contexts—a pattern of gradual growth that is seldom reflected in vocabulary tests. Because vocabulary tends to grow with reading experience, adults need practice reading a wide range of content, including texts related to their education, work, or other specific learning goals.

Learners often need to concentrate on developing vocabulary for succeeding in academic subjects or understanding other specialized material. Because this specialized vocabulary is not part of everyday spoken language, it is important to integrate the explicit teaching of words and phrases with opportunities to use new words in classroom discussion or writing assignments to improve both vocabulary and reading comprehension. Drawing on learners’ existing knowledge can help; teachers of adoles-

cents have used language and concepts drawn from students’ lives as a bridge to support deeper understanding of academic language.

Fluency. Reading fluency is the ability to read with speed and accuracy. Developing fluency is important because the human mind is limited in its capacity to carry out many cognitive processes at once. When word and sentence reading are automatic and fluent, readers can concentrate more fully on understanding and connecting sentences and paragraphs, which enables them to create meaning from the text. For all readers, even proficient ones, fluency is affected by the complexity of the text and the reader’s familiarity with its structure. Experiments with young children show that fluency instruction can lead to significant gains in both fluency and comprehension. However, the relationship between fluency and comprehension is more complex than previously



understood, with each skill appearing to affect the other.

Another valuable tool is guided repeated reading, in which the learner receives feedback and is supported in identifying and correcting mistakes. For both good and poor readers, guided repeated reading has generally led to moderate increases in fluency and accuracy and sometimes also to increases in comprehension. The next generation of studies needs to look at the question of whether certain types of text are more effective than others for this type of intervention.

Comprehension. An approach known as comprehension strategy instruction is one of the most effective ways to develop reading comprehension, according to the National Reading Panel and other researchers. This intervention teaches learners a range of strategies, such as mentally summarizing the main ideas of a text after reading it and rereading specific parts of a text that were difficult for the reader.

Because different genres of text and different challenges to comprehension require the use of different strategies, instructors should help learners understand when and why to select particular ones, how to monitor their success, and how to adjust them as needed to achieve a reading goal. Strategy instruction seems to be most effective if it includes training in these metacognitive processes—awareness of one’s own learning—to identify difficulties in comprehension, why they may occur, and ways to resolve them. Ample opportunity to practice the strategies and apply new metacognitive skills also aids in comprehension.

Explicit training, modeling, and guided practice in the use of strategies are important for all learners, but especially for those who have serious limitations in metacognition and difficulties in managing their own use of strategies. As with the development of other literacy skills, learners are best able to develop these strategies within the context of specific content areas and as part of developing real-world literacy skills.

Instruction in comprehension strategies is the intervention with the largest base of research support, but other interventions also show promise for improving comprehension. Those interventions include elaborated discussion of text, in which learners answer open-ended questions about what they have read; critical analyses of text, in

which readers consider the author's purposes in writing the text, as well as its social and historical context; and critical thinking, reasoning, and argumentation about the text.

Because comprehension depends heavily on opportunities to draw from existing knowledge, instruction should also support the development of background, topic, and world knowledge. This knowledge is relevant to advancing both spoken and written language, which need to be developed together. Learners also need knowledge of the structure of the English language and of different modes and types of discourse, as reflected in the principles of reading instruction that follow.

Development of all of these component skills involves both explicit teaching and implicit learning, which often happens during informal learning, and requires extensive practice using new skills. As noted earlier, for reading skills to be learned and become transferable, learners need extended experience reading for varied purposes.



Principles of Effective Reading Instruction

The following principles have been shown to be effective for developing readers.

Use explicit and systematic reading instruction to develop the major components of reading—decoding, fluency, vocabulary, comprehension—according to the assessed needs of individual learners. Although each dimension is necessary for proficient reading, adolescents and adults vary in the reading instruction they need. For example, some learners will require comprehensive instruction in decoding, while others may need less or none. Instruction that helps learners develop component skills in the context of performing practical literacy tasks also increases the likelihood that literacy skills will be used outside the classroom.

Combine explicit and systematic instruction with extended reading practice to help learners acquire and transfer component reading skills. Learning to read involves both explicit teaching and implicit learning. It is vitally important that learners have extensive practice using their new skills, including both formal practice (structured assignments to develop decoding or comprehension) and informal practice (engaging with reading materials outside the classroom that are personally interesting).

Motivate learning through learners' engagement with the literacy tasks used for instruction and extensive reading practice. Learners are more engaged when literacy instruction and practice opportunities are embedded in meaningful learning activities that are useful to and valued by the learner.

Develop reading fluency to facilitate efficient reading of words and longer text. Some methods of fluency improvement—for example, guided repeated reading—have been effective with children and are likely to be effective with adolescents and adults.

Explicitly teach the structure of written language to facilitate decoding and comprehension. Develop learners' awareness of the features of written language at multiple levels (word, sentence, passage). Teach regularity and irregularity of spelling-to-sound mappings, the patterns of English morphology (the units of meaning in the English language, which can be words or parts of words, such as prefixes and suffixes), the rules of grammar and syntax, and the structures of various text genres.

To develop vocabulary, use a mixture of instructional approaches combined with extensive reading of texts to create an enriched verbal environment. Learners develop nuanced understanding of words by encountering them multiple times in a variety of texts and discussions. Promising approaches for adolescents and adults are instruction that integrates the teaching of vocabulary with instruction in reading comprehension, the development of topic and background knowledge, and learning of disciplinary or other valued content.

Strategies to develop comprehension include teaching varied goals and purposes for reading; encouraging learners to state their own reading goals, predictions, questions, and reactions to material; encouraging extensive reading practice with varied forms of text; teaching and modeling the use of multiple comprehension strategies; and teaching self-regulation in the monitoring of strategy use. Developing readers often need help to develop the metacognitive components of reading comprehension, such as learning how to identify reading goals; select, implement, and coordinate multiple strategies; monitor and evaluate success of the strategies, and adjust them to achieve reading goals. Developing readers also need extensive practice with various texts to develop knowledge of words, text structures, and written syntax that are not identical to spoken language.

Effective Writing Instruction



People write for a variety of purposes—including recording, persuading, learning, communicating, entertaining, self-expression, and reflection—and proficiency in writing for one purpose does not necessarily generalize to writing for other purposes. In today’s world, proficiency requires developing skills in both traditional forms of writing and newer electronic and digital modes.

In the last three decades, much more has become known about the components and processes of writing and effective writing instruction. As with reading, most of this research comes from K-12 settings. Figure 2 shows the component skills and processes of writing. As depicted in the figure, a writer manages and orchestrates the application of



FIGURE 2: Component skills and processes of writing

a variety of basic writing skills, specialized writing knowledge, writing strategies, and motivational processes to create a text. How the writer applies and combines these skills and processes will vary depending on the writer's task and goal.

Principles of Effective Writing Instruction

A number of principles for effective writing instruction are supported by research, although the body of research is smaller than for reading.

Explicitly and systematically teach the strategies, skills, and knowledge needed to be a proficient writer. Almost all of the effective writing practices that have been identified to date involve explicit instruction. These practices proved effective with a range of writers, from beginners to college students, as well as with those who had experienced difficulty in learning to write. What should be taught, however, depends on the writer's developmental level, the skills he or she needs to develop for particular purposes, and the writing task. Instructors should model writing strategies and teach learners how to regulate their use of them—for example, how to monitor, evaluate, and adjust strategies as needed for particular tasks and goals.

Skilled writing requires planning and revising. Whereas children and adolescents spend very little time planning and revising, more accomplished writers such as college students spend about 50 percent of their writing time planning and revising text.

Combine explicit and systematic writing instruction with extended experience writing for a purpose. Learners need to devote considerable time to practicing writing for different purposes, such as recording (an event or idea), communicating, persuading, self-expression, and reflection, among others.

Explicitly teach foundational writing skills to the point that they become automatic. For skilled writers, spelling, handwriting, and keyboarding are mostly automatic. Individual differences in the attention given to handwriting and spelling predict writing achievement, even for college students. Thus, it is important that writers learn to execute these skills fluently and automatically, with little or no thought. When these skills are not automatic, as is the case for many developing and struggling writers, cognitive resources are not available for other important aspects of writing, such as planning, evaluating, and revising. Some aspects of writing, such as planning or sentence construction, require decisions and cannot become fully automatic, but they can be taught and practiced so they become fluent, flexible, and effectively used.



Structure the instructional environment and interactions to motivate writing practice and persistence in learning new forms of writing. A small number of experiments show practices that improve the quality of writing and that reasonably could affect motivation. These practices include setting clear goals for writing; encouraging students to help each other plan, draft, or revise; using self-assessment; and providing feedback on progress. Several studies with adolescent learners have demonstrated that praise, tangible rewards, or both can improve students' writing skills.

Develop an integrated system of skills by using approaches that capitalize on the relationships between reading and writing. Reading and writing depend on similar knowledge and cognitive processes, so insights in one area can lead to insights in the other. Making this relationship explicit will aid learners' skill development, contribute to their awareness about language, and enhance their retrieval of text forms and meanings. For example, spelling instruction deepens awareness of the correspondences between letters and speech sounds, enabling faster word reading.

Practices for Effective Writing Instruction

In addition to the principles of effective writing instruction, research has identified several key teaching practices to develop writing skills (listed roughly in order of effectiveness):

- Offer instruction in strategies for planning, revising, and editing compositions.
- Teach learners to summarize in writing the passages they have read.
- Enable the assistance of peers in planning, drafting, and revising compositions.
- Set clear goals for writing that are specific to the purpose and type of writing task.
- Have students regularly use computers (word processing) for writing instead of only pencil and paper.
- Offer instruction in combining short sentences into more complex ones. This practice usually includes exercises and application to real-world writing tasks.
- For intermediate writers, use process approaches to writing instruction that stress extended writing opportunities, writing for authentic audiences, personalized instruction, and cycles of writing. It is possible that process approaches could also be effective for beginning and weaker writers if augmented with explicit and systematic instruction to develop the essential writing knowledge, strategies, and skills these developing writers usually lack. As with other approaches, process approaches are more effective when instructors have been professionally trained in their use.
- Employ inquiry approaches to instruction that involve establishing clear goals, gathering and analyzing relevant information, using that information to structure and plan the writing task, and using writing strategies suited to the task.
- Teach prewriting activities, such as making lists or diagrams prior to writing, which help students generate relevant content and complete texts.
- Analyze models of good writing, such as discussing the features of good essays and learning to imitate those features.

Instruction for Struggling Readers and Writers



The principles of reading and writing instruction presented so far apply equally to typically developing learners and to struggling learners, such as those who have a learning disability or a disability specific to reading or writing. In other words, research does not suggest that the learner who struggles with reading and writing needs an entirely different type of instruction from learners whose skills develop typically. Rather, the instruction may need to be adapted in particular ways to help the learner overcome specific reading, writing, and learning difficulties. Literature on interventions for struggling K-12 learners points to additional principles of instruction that might also help adults overcome specific areas of difficulty.

Principles for effectively supporting struggling readers and writers include:

- directly targeting specific literacy difficulties while giving explicit instruction in reading and writing;
- providing more intense instruction, more explicit instruction, and even more opportunities to practice than for other learners;
- offering enhanced support to help learners generalize and transfer their new literacy skills;
- addressing struggling learners' attributions, beliefs, and motivational profiles—in other words, whether they explain their successes and failures to themselves in ways that foster motivation and continued engagement or decrease motivation and engagement; and
- providing instruction that is individualized, with materials that are at the right level of challenge and with appropriate feedback provided while learning.

Instruction for English Language Learners



English language learners are the largest subgroup of adults enrolled in adult education programs. Although often treated as a monolithic category, their instructional needs vary dramatically. Some are highly literate in a first language and hence may need little practice in recognizing or spelling words or even basic comprehension skills. Many have lived in the United States for a long time and speak English well but have low or intermediate reading and writing skills in English. Others are recent immigrants who lack basic literacy skills in any language. And still other learners, referred to as generation 1.5, were born in the United States or came to the country as young children but lack the English literacy skills required for work and higher education. Some English learners—for example, those living in neighborhoods with concentrations of non-English-speaking residents—may be challenged by the lack of opportunities to use and be exposed to English.

All the principles of effective literacy instruction discussed previously in this booklet apply to English language learners as well. However, instruction will need to target the particular skill development needs of each learner. For example, learners who can read fluently in their native language often can use some of their first-language literacy skills to facilitate learning English. For these learners, instruction will be most effective if tailored to the level of literacy they have developed in their native language. A particular challenge to address with English learners is developing both spoken language skills and literacy skills at the same time.

Learning a second language as an adult can be difficult, and it differs from language learning at younger ages in two important ways: It usually is learned through explicit instruction more than through implicit learning; and instruction is usually tied more closely to reading.



Experiences in second-language instruction with young language learners, high school students, and college students suggest several principles that may also be effective with adult language learners, though more study of them is needed:

- Differentiate instruction for adults who vary in English language and literacy skills, first language proficiency, educational background, and familiarity with U.S. culture.
- Integrate grammatical instruction with the use of language to communicate for specific purposes, with the amount of emphasis on each depending on the assessed needs of the learner.
- Develop vocabulary and content knowledge to foster reading comprehension and learning.
- Provide opportunities to practice understanding and using language in varied contexts, including outside the classroom.
- Provide materials and tasks that are relevant to learners' real-world activities.
- Provide frequent and explicit feedback.
- Match instruction to the learner's existing level of knowledge and skill.
- Leverage knowledge of the learner's first language to develop skill in English.
- Offer writing instruction in both traditional and digital media.
- Provide instruction in many modes, including speaking, reading, writing, and visual presentations.

Priorities for Research on English Language Learners

To improve instruction for the large and rapidly growing population of adolescents and adults who will learn English through adult literacy programs and classes in the United States, future research should:

- identify effective instructional practices for different groups of language learners to help teachers and tutors differentiate instructional approaches;
- examine the relationship between first language skills and the development of spoken and written English skills and identify skills and strategies that transfer between the two languages;
- find ways to provide effective language instruction directed toward multiple literacy modes (speaking, reading, writing, visual presentations) and also toward facility with communications technologies;
- identify ways to integrate classroom instruction with informal learning opportunities provided by day-to-day interactions and through the use of technology. Stronger links to informal learning would encourage the extended practice required to develop fluency in reading and writing; and
- develop and evaluate approaches to instruction that explicitly develop language and literacy skills in the context of academic and career education.

Motivation



literacy development is a complex skill that can require thousands of hours of practice to reach the levels needed for full opportunity in modern life, yet many adults do not persist long enough to achieve the literacy skills needed in today's world. The most significant challenge in designing literacy development opportunities for adults is motivating them to participate and persevere.

Because of competing demands in most adults' lives, convenient instructional times and places may be critical to supporting persistence. Increased access to child care and transportation and other social services, such as counseling, may help learners stay in programs and persist in practice. At the same time, because time for instruction competes with time available for work, financial support and incentives may be necessary even for highly motivated learners. Technologies can support classroom instruction and can allow instruction and practice to be free from a particular time or place, making it easier for adults to fit literacy study into their schedules.

There are known instructional approaches that enhance motivation. For example, although the goal of instruction is to stretch learners' skills in order to develop the specific literacy competencies they need—for education, work, community engagement, etc.—instruction that begins by connecting to the knowledge that students already have and value can be motivating and thus may support persistent reading and writing practice. Opportunities to collaborate during reading also can increase motivation to read, although more needs to be known about how to structure collaborations effectively.

Research shows that instruction that fosters motivation and engagement:

- develops self-efficacy and perceptions of competency;
- helps learners set appropriate and valuable learning goals;
- sets expectations about the amount of effort and practice required to develop literacy skills;

- helps learners develop feelings of control and autonomy;
- fosters interest and develops beliefs about the value of literacy tasks;
- helps learners monitor their progress and regulate their behavior toward attaining their goals;
- teaches students to attribute successes and failures to their own effort rather than unchangeable aptitudes;
- provides learners with opportunities for success while providing optimal challenges to develop proficiencies;
- fosters social relationships and interactions known to affect learning;
- uses classroom structures and selects texts that can counter any past negative experiences with schooling;
- removes barriers to participation and practice so that learners have the motivating experience of making progress; and
- gives learners access to knowledgeable and skilled teachers and appropriately designed materials.

Because the motivation to engage in extensive practice is so important for developing literacy, a separate companion booklet, *Improving Adult Literacy Instruction: Supporting Learning and Motivation*, explores this topic in greater depth.

Priorities for Research on Motivation and Persistence

Studies of motivation and persistence have not usually included adolescents and adults who need to develop their literacy. Research that involves those who design, teach, and participate in adult literacy instruction is needed in several areas to:

- identify instructional approaches that promote engagement and persistence with learning for low literacy adults;
- develop measures to assess learners' motivation, which will allow researchers to test hypotheses about how to motivate persistence;
- identify ways to support persistence depending on the factors affecting the learner's engagement, which may include issues related to work, family, health, age, and culture;
- examine how the various components of motivation relate to one another to affect persistence in the context of adult instruction;
- assess how the texts and tasks made available to adult literacy learners affect their motivation to persist;
- identify group differences and similarities in the factors that influence motivation to persist;
- identify technologies that motivate persistence and the best ways to introduce them and support their use;
- understand the conditions and incentives that motivate learners to enroll and persist in literacy courses; and
- develop and implement support systems for motivating persistence, and evaluate their effectiveness.

Research on Adult Literacy Instruction



Although the principles and practices described in this booklet can be used to improve literacy instruction, the shortage of research on effective approaches specifically for adults limits the nation's ability to substantially raise the overall literacy of the population.

Improving Adult Literacy Instruction, the report on which this booklet is based, recommends sustained and systematic research to identify promising instructional methods and to develop and test approaches that could be implemented on a wide scale. Studies are also needed to determine what practices work best with particular groups of learners—those learning English as a second language, for example, and those with learning disabilities. The results of such research can help inform federal, state, and local decisions about how best to support adult learners and improve the nation's literacy overall.

The principles described here should be further investigated with adult learners, and the curricula, instruction, and assessments developed from the principles should be evaluated for effectiveness with different groups of adult learners. The results of these evaluations, in turn, should be used to refine the instructional principles, interventions, and assessments. In this way, practice and research will build on and strengthen each other in a mutually reinforcing cycle that will increase adult literacy. It is also important to align standards for literacy instruction across the programs and systems that provide literacy instruction—including K-12, adult education programs, and post-secondary education.

Preparing Instructors

Implementing and studying effective literacy instruction requires strong professional development and training of those who teach adults. Currently, adult literacy instructors vary widely in their professional backgrounds and levels of knowledge and expertise. Unfortunately, however, there has been little research on the efficacy of teacher education and professional development and the degree to which it addresses the needs of adult literacy instructors. Literacy development, like the learning of any complex task, requires a range of explicit teaching and implicit learning guided by an expert.

To be effective, literacy teachers need to:

- have significant knowledge of the component skills of reading and writing, including spoken language, and how to teach these components;
- be capable of establishing nurturing relationships and developing a positive, dynamic, and emotionally supportive environment for learning;
- be able to plan activities using clear objectives with deep understanding of reading and writing processes;
- be able to reflect on their teaching and their students' learning and select from a repertoire of instructional strategies accordingly; and
- have a deep knowledge of the English language system.

It will be vital to learn, through systematic research, how best to prepare teachers to be effective instructors for adult literacy learners.

To implement the agenda for practice and research detailed in *Improving Adult Literacy Instruction*, substantial national leadership will be needed from the U.S. Departments of Education and Labor, as well as other agencies that sponsor relevant research. Success will depend on a strong partnership among the federal government, states, and the many settings where adults receive instruction. Sustained partnerships will also be needed among practitioners, curriculum developers, administrators, and researchers to systematically build the needed knowledge and tools and to identify and address barriers to implementation. Major employers, existing training and education organizations, faith-based groups, and other community groups will need to be enlisted to help in the effort.

ABOUT THIS BOOKLET

This booklet was prepared by the Division of Behavioral and Social Sciences and Education (DBASSE) based on the report *Improving Adult Literacy Instruction: Options for Practice and Research* (2012) which was authored by the Committee on Learning Sciences: Foundations of and Applications to Adolescent and Adult Literacy. The study was sponsored by the U.S. Department of Education. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the National Research Council and do not reflect those of the Department of Education.

A PDF of this booklet is available free to download at http://www.nap.edu/catalog.php?record_id=13242. Print copies are available from the National Academies Press at (800) 624-6242 or (202) 334-3313 (in the Washington, DC, metropolitan area) or via the NAP Website at www.nap.edu.

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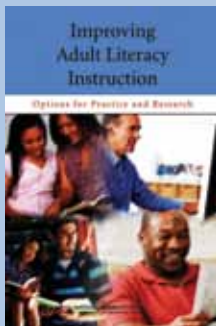
ABOUT THE NATIONAL RESEARCH COUNCIL AND DBASSE

The National Research Council is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are private, nonprofit institutions that provide science, technology, and health policy advice under a congressional charter. For more information, visit <http://national-academies.org>.

The Division of Behavioral and Social Sciences and Education (DBASSE)—one of five divisions within the National Research Council—works to advance the frontiers of the behavioral and social sciences and education research and their applications to public policy. DBASSE gathers experts from many disciplines who volunteer their services on study committees to provide independent, objective advice to federal agencies, Congress, foundations, and others through publicly issued reports. For more information on DBASSE's work, visit <http://sites.nationalacademies.org/DBASSE>.

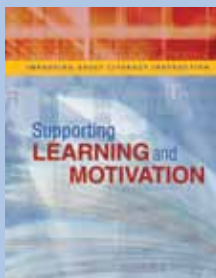
Drawing on the latest research evidence, this booklet, *Improving Adult Literacy Instruction: Developing Reading and Writing*, gives an overview of how literacy develops and explains instructional practices that can help adults learn to read and write. Intended to be a useful resource for those who design or administer adult literacy courses or programs, this booklet may also be of interest to teachers and tutors.

Also of Interest...



This booklet, *Developing Reading and Writing*, is drawn from the National Research Council's report *Improving Adult Literacy Instruction: Options for Practice and Research*. The report recommends a program of research and innovation to gain a better understanding of adult literacy learners, improve instruction, and create the supports adults need for learning and achievement. The report also identifies factors that affect literacy development in adolescence and adulthood and examines their implications for strengthening literacy instruction for this population. In addition, the report explores technologies that show promise for supporting adult literacy learners.

The report is a valuable resource for curriculum developers, federal agencies, literacy program administrators, educators, and funding agencies.



A companion to this booklet, *Improving Adult Literacy Instruction: Supporting Learning and Motivation*, explains principles that instructors can follow to support literacy learning and students' motivation to persist in their studies. The booklet also explores promising technologies for adult literacy instruction.

Copies of both booklets are available from the National Academies Press, 500 Fifth Street, N.W., Washington, DC 20001; (800) 624-6242; <http://www.nap.edu>.

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