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# PROVIDING INFORMATION ABOUT SKILLS UNDERLYING ADULT LITERACY

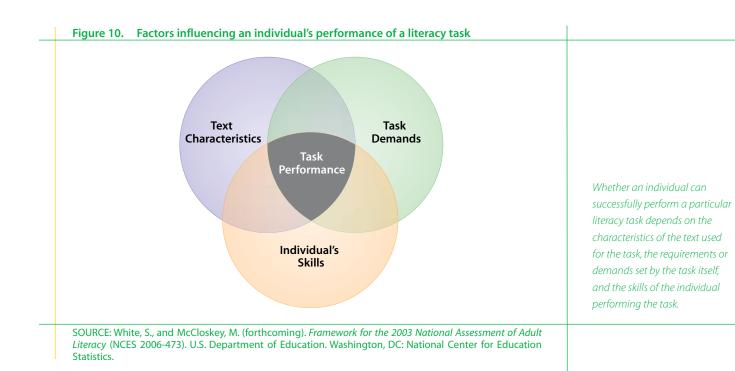
The 2003 National Assessment of Adult Literacy (NAAL) provides information about skills that are needed to successfully perform literacy tasks as well as skill deficits that impede task performance. Skills required for successful task performance range from basic, word-level skills (such as recognizing words) to higher level skills (such as drawing appropriate inferences from continuous text). Although different literacy tasks vary in the specific skills that they require, successful performance of virtually all literacy tasks requires at least some fundamental skills, such as the ability to read and understand common words.

# A variety of skills are needed to perform everyday literacy tasks

Using printed and other written materials in everyday life requires multiple skills. The specific skills needed (as well as the necessary degree of skill proficiency) vary depending on the materials used and the task at hand. For example, computation skills are required only for quantitative tasks—such as determining how much paint to buy for a 20- by 30-foot room. While basic reading skills are needed for all literacy tasks, a higher level of these skills may be needed when the task requires understanding words that are less common and more difficult. Similarly, text search skills are used for finding a doctor's name and room number in a building directory as well as for locating a particular piece of information in a complex table, but the latter task requires a higher level of these skills.

The *difficulty* of a particular task is determined by the specific actions required (also called the task demands) and the characteristics of the written materials used for the task. Some types of task demands are generally less challenging than others. For example, reading words is generally less challenging than making inferences based on the text that one has read. Of course, some words are easier to read than others, and some inferences are easier to make than others. The level of skill needed to meet a task demand depends both on the nature of the demand itself (e.g., locating specific words) and on related text characteristics (e.g., alphabetical vs. random order of a word list to be searched). In order to successfully perform a task, an individual must be able to apply each required skill at the required level. Here is where each individual's unique skill development comes into play. For example, a task might involve locating several prices in a dense text and then comparing them. An individual with strong computation skills but weak text search skills might find it easier to compare the prices than to locate them. To accomplish the task, however, the individual would need to have adequate skills for meeting *all* the task demands. Underlying this analysis is the hypothesis that an individual's performance of a particular literacy task is jointly influenced by three key factors: the text characteristics, the task demands, and the individual's skills (figure 10).



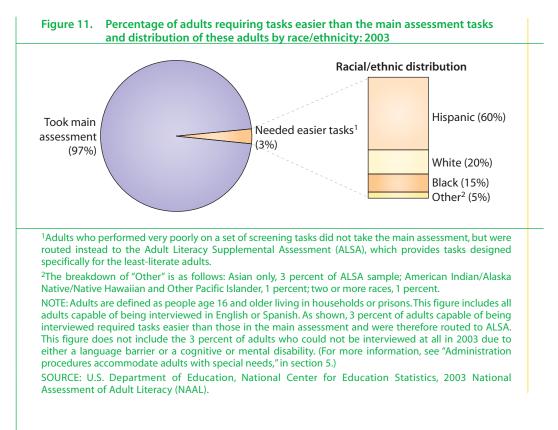


NAAL includes new data on basic skills and the least-literate adults

The 1992 National Adult Literacy Survey (NALS) was not able to provide much information about America's least-literate adults, because these adults had trouble performing even the easiest assessment tasks. Thus, the 1992 NALS provided some indication of what these adults could *not* do, but almost no information about what they *could* do. To address this problem, the 2003 NAAL includes a new alternative assessment (discussed below) that features easier tasks and texts and is administered only to adults whose skills are not adequate for meaningful participation in the "main NAAL" (i.e., the main part of the assessment). The 2003 NAAL also includes a new component (discussed later in this section) that uses oral reading tasks to measure the basic reading skills of *all* adults. Data provided by this component will help clarify the role that basic skills play in literacy task performance.

# The least-literate adults take an alternative assessment

The least-literate adults' literacy skill levels and associated task performance are of particular interest to policymakers and literacy practitioners. The Adult Literacy Supplemental Assessment (ALSA) addresses the need for information about these adults, who would be able to perform few, if any, of the main NAAL assessment tasks. During the 2003 NAAL data collection, each participant first answered a background questionnaire and then was given a set of seven easy core screening tasks. Very low performance on the core screening tasks identified adults for whom the main NAAL would be too difficult and therefore would not provide a meaningful measure of performance. The screening process was designed to be conservative in routing adults to ALSA, so that all adults who were capable of meaningfully participating in the main NAAL would have an opportunity to do so. The adults who took ALSA (instead of the main NAAL) represented about 3 percent of all U.S. adults who were capable of being interviewed in English or Spanish (figure 11). The majority (60 percent) of ALSA participants were Hispanic.



Unlike the main NAAL, ALSA has oral (rather than written) instructions, and the instructions can be given in Spanish instead of English. In addition, ALSA participants give oral answers, which can be in either Spanish or English.

ALSA offers an easier set of tasks designed specifically for adults who have very limited English literacy skills. ALSA participants are never asked to read more than a sentence or two of connected text in order to find an answer. For many tasks, they do not have to read connected text at all, but only have to identify an English word or a letter. About 70 percent of ALSA tasks measure adults' ability to apply basic skills (such as reading common words) to familiar, everyday materials (such as food packages). About 30 percent of ALSA tasks measure the ability to perform tasks that, although quite simple, do require use of some higher level literacy skills (such as searching for or making inferences about information).

The written materials used for ALSA are also easier than those used for the main NAAL. Unlike the ALSA instructions, however, the materials themselves are always in English. In order to gauge participants' familiarity with specific materials, the instructions for each ALSA task are preceded by the question, "Have you ever seen this before?" The materials are intended to be highly familiar (representing items used frequently by U.S. adults in their daily lives), tangible (including food packages, drug labels, etc.), and highly contextualized (having logos, pictures, etc.). However, ALSA participants cannot successfully perform the tasks simply by looking at the nonlinguistic context (e.g., the pictures on a food package). Although the nature of the materials facilitates the use of compensatory strategies, ALSA participants also need to read at least parts of the words (figure 12).

Types of materials <sup>1</sup>	Examples of questions	
Labels/simple signs Beverage bottle Cake mix box Aspirin bottle Flyers/pamphlets/bills Magazine ad insert Sale flyer Water bill More complex documents Bus schedule U.S. atlas	<ul><li>What letter is this?</li><li>Please read this [number] for me.</li><li>Please point to the word "water."</li><li>What does the label say people should do if they take too much of this?</li><li>What kind of information does this section provide?</li></ul>	ALSA materials and question are generally much easier the those of the main NAAL. Resu will describe basic reading sk of the least-literate adults wh text is familiar, tangible, and contextualized.

# An oral reading component measures basic reading skills of all adults

After completing either the main NAAL or ALSA, all participants are asked to complete the Fluency Addition to NAAL (FAN), which requires them to read aloud in English. The purpose of the oral reading tasks is to measure adults' basic (i.e., word-level) reading skills—including fluency. The new FAN data on basic skills will help improve understanding of skill differences between adults who are able to perform relatively challenging literacy tasks and adults (including those routed to ALSA) who are not able to perform such tasks.

Like ALSA, FAN focuses on basic reading skills and has oral instructions that can be given in either English or Spanish. Unlike ALSA, however, FAN does *not* provide a context that permits the use of compensatory strategies to partially offset skill deficits. Participants are asked to simply read aloud from lists and passages that do not include any nonlinguistic clues (such as pictures). FAN materials include the following:

- Pseudoword lists, consisting of possible but nonoccurring English forms (e.g., "wike"), provide a measure of adults' ability to "decode" (or identify the sounds of) words with which they are not familiar.
- Word lists, consisting of English words arranged in increasing order of difficulty, provide a measure of adults' ability to recognize familiar words (often referred to as "sight words") as well as to decode unfamiliar words.
- *Text passages*, consisting of 150–200 words each, provide a measure of adults' ability to read words in connected texts.

The FAN tasks are timed. Timing participants' performance gives an indication of their ability to apply basic reading skills automatically—without pausing to give conscious thought to the reading process. Initial FAN analyses will yield the following information:

- total number of words read (correctly or incorrectly);
- words read correctly as a percentage of total words read; and
- words read correctly per minute.

In preparation for scoring the FAN tasks, extensive work was done to ensure that correctness would be measured reliably and that speakers of nonstandard varieties of English would not be unfairly penalized. In a nutshell, scoring rules consider nonstandard pronunciations acceptable as long as they are consistent with the participant's general speaking pattern.

### NAAL helps clarify the role of skills in the performance of literacy tasks

Analyses of new types of data provided by the 2003 NAAL will shed light on the role that basic reading skills play in the literacy performance of adults. For example, FAN scores of ALSA participants and of main NAAL participants at various performance levels can be compared. Such comparisons will provide information about how reading speed and accuracy relate to success in performing literacy tasks. For instance, adults who cannot read most of the words in a text are not able to directly access the words' meanings. Therefore, these adults would be expected to perform poorly on literacy tasks, although the data may show that they have some success with tasks and materials with which they are very familiar. Adults who read slowly and with effort would be expected, for the most part, to have lower literacy scores than adults who read fluently. However, some adults who read fluently may struggle with certain tasks due to deficiencies in other literacy skills (e.g., weak computation or inferential skills). NAAL data are useful for exploring the critical question of how literacy skills and deficits relate to adults' literacy performance.

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# EXAMINING LITERACY IN DIFFERENT SEGMENTS OF THE ADULT POPULATION

The 2003 National Assessment of Adult Literacy (NAAL) provides background information that is relevant to adult literacy performance and useful to various NAAL stakeholders. The information comes from an oral background questionnaire, administered using a computer-assisted personal interview (CAPI) system. To identify relevant and useful questions about adults' background characteristics, questionnaire designers referred to research, feedback from NAAL stakeholders, and information about recent U.S. demographic and social trends. The background questionnaire developed for the 2003 NAAL includes questions from 1992 as well as new questions. The new questions provide additional background information, while the questions common to both years allow comparisons of literacy performance across time for groups of adults who share various characteristics (e.g., comparisons of the 1992 and 2003 performance of adults who are female or Black).

When examining adult literacy performance by background characteristics, it is important to bear in mind that cause-and-effect relationships cannot be inferred from the data. Adult literacy performance may be affected by a complex mixture of circumstances beyond the scope of the NAAL analyses.

# Many factors are related to adult literacy

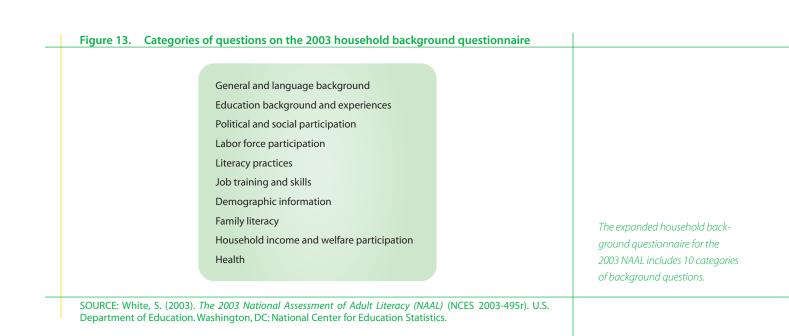
Factors related to adult literacy include demographic characteristics such as age, race/ethnicity, and language background. Social and economic factors such as income and education level are also associated with literacy. Assessment results are often reported by basic demographic, social, and economic categories of this sort. In addition to such basic categories, NAAL also provides more detailed background information. In both 1992 and 2003, for example, adults with a native language other than English were asked what their native language was, how old they were when they learned English, and what language(s) they were able to speak and read at the time of the assessment.

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### NAAL expands knowledge of factors related to adult literacy

The questions on the enhanced 2003 background questionnaire can be grouped into 10 categories (figure 13). Questions included for the first time in 2003 cover a range of topics, including volunteer activities; job-related training; family literacy practices, such as reading to one's children; welfare participation; and technology use at home and on the job.



In response to the increasing age of the adult population in the United States, several new questions about health-related conditions and activities were added to the background questionnaire. Increasing diversity among U.S. adults prompted a number of new questions targeting adults who are not native English speakers. These questions cover topics such as assimilation into U.S. society, difficulty with reading and with using various documents, and participation in English as a Second Language (ESL) classes in the United States.

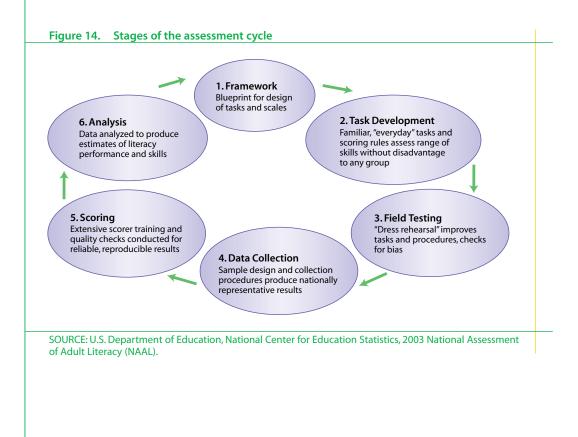
### Expanded knowledge can help guide tailoring of information and services

The ultimate purpose of collecting background information is to provide useful data to help inform a variety of decisions related to adult literacy. For example, examining health-related background information from the questionnaire in relation to performance data from the assessment can assist developers of health-related information in identifying target audiences for specific types of information and in developing materials geared to these audiences' literacy strengths and weaknesses. Similarly, background information about adults with a low level of literacy can assist in the development of literacy programs that better address their needs. 5

# DESIGNING, IMPLEMENTING, AND SCORING THE ASSESSMENT

# Research-based principles guide the assessment through several stages

The assessment cycle begins with consideration of what the assessment will measure and why. This type of information is generally documented in a publication called the "framework" for the assessment. Guided by the goals and principles documented in a framework, major National Center for Education Statistics (NCES) assessments such as the 2003 National Assessment of Adult Literacy (NAAL) typically proceed through a number of stages. The stages of the NAAL assessment cycle, shown in figure 14, flow logically from conception (the framework) through task development, field testing, data collection, scoring, and analysis. The cycles of related assessments are linked, with analysis of data from a particular assessment providing new information that has an impact on the framework and overall development of subsequent assessments. For example, results from the 2003 NAAL—along with data from follow-up studies and information about changing literacy requirements and demographics—will help to shape future administrations of NAAL.



As researchers began to develop the 2003 NAAL, they referred to a framework (Campbell, Kirsch, and Kolstad 1992) that briefly outlines some of the principles underlying NAAL's predecessor, the 1992 National Adult Literacy Survey (NALS). The 1992 NALS framework was supplemented by detailed examination of the 1992 assessment tasks and results. This examination yielded additional information that helped guide development of the 2003 NAAL and was incorporated into a framework for the new assessment. Based on empirical and theoretical research, the framework for the 2003 NAAL (White and McCloskey forthcoming) elaborates and expands on information contained in the 1992 framework.

The NAAL framework defines the prose, document, and quantitative literacy areas and explains the importance of assessing adults' ability to perform literacy tasks similar to those encountered in real life. Characteristics of the tasks and associated texts are specified, as is the need for a broad range of tasks (in order to adequately represent task types and topics) and a broad range of task difficulty (in order to adequately measure skill variations among adults—especially adults at the lower end of the literacy continuum). Moreover, the framework defines and discusses in detail the basic as well as higher level cognitive and linguistic processes underlying the NAAL tasks. The NAAL framework is intended not only to enhance understanding of the 2003 NAAL, but also to inform additional research into adult literacy, including a number of NAAL follow-up studies being conducted by NCES.

Some of the key points covered in the NAAL framework are outlined in abbreviated form in the previous sections of this publication, especially section 1. The remainder of the current section briefly outlines a few key features of the sample design, test booklet configuration, administration procedures, and scoring procedures used for NAAL. NCES is producing a technical report that provides detailed documentation of the methodology employed at each stage of the assessment cycle.

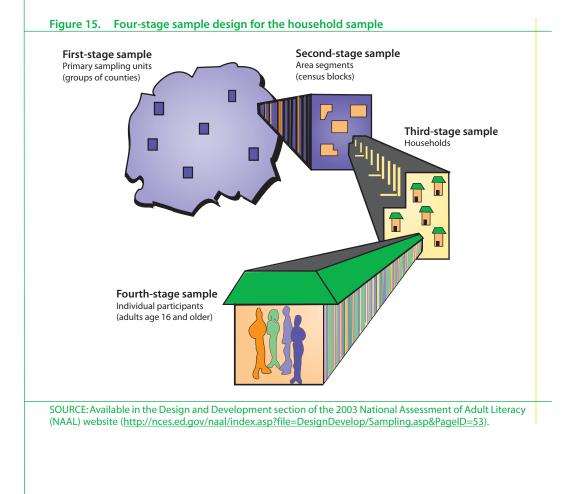
### The NAAL sample represents all adults in U.S. households and prisons

The NAAL sample represents all U.S. adults—i.e., individuals age 16 and older (including those still in high school or college)—who live in households or prisons. For the 2003 NAAL, a national sample of the adult household population was combined with samples for the six states that participated in the NAAL state-level assessment. Supplementing the combined national and state household sample was a sample that represented the 2003 prison population at the national level. Of the 19,714 adults who made up the 2003 NAAL sample, 18,541 were from the household sample and 1,173 were from the prison sample.

As illustrated in figure 15 and briefly described below, the household sample for the 2003 NAAL was selected using a four-stage stratified area design.

Stage 1—Selecting primary sampling units (PSUs). Based on data from the 2000 census, NAAL sampling experts divided the United States into nearly 1,900 PSUs. Each PSU consisted of either a county or a group of adjacent counties. (Formation of the PSUs was guided by a minimum population size and maximum geographic area, with one aim being to limit the distance that interviewers would have to travel within their assigned PSUs.) The PSUs were stratified based on (1) whether they were classified as metropolitan areas in the 2000 census, and (2) the demographic and socioeconomic characteristics of their population. Within each stratum, the larger the population of a PSU, the more likely the PSU was to be selected. Altogether, 160 PSUs were selected for NAAL.

- Stage 2—Selecting area segments. Within each selected PSU, area segments (census blocks or groups of blocks) were selected. In general, the greater the number of housing units contained in an area segment, the more likely it was to be selected. However, area segments that were classified as high minority (more than 25 percent Black or Hispanic) were oversampled at the national level. Oversampling of minorities was necessary to ensure that the minority samples would be large enough to conduct meaningful analyses.
- Stage 3—Selecting households. Field staff visited all selected area segments and prepared lists
  of all housing units located within the segments. Within each segment, households were
  selected with equal probability (except within high-minority segments, where minority
  households were sampled at a higher rate than nonminority households).
- Stage 4—Selecting individual participants. For each selected household, field staff constructed a list of eligible members (i.e., those age 16 and older). One person was selected at random from households with fewer than four eligible members, and two people were selected at random from households with four or more eligible members. If selected members were temporarily away from home (e.g., because of a short-term hospitalization or a brief stay in jail), every effort was made to interview them after they returned. Most college students staying in dormitories were interviewed at their family homes during spring or summer break. However, if students could not be reached at their family homes, they could be interviewed in their dormitories if feasible. Former household members no longer residing in the household—e.g., nursing home residents or armed forces personnel stationed elsewhere—were not included in the sample.

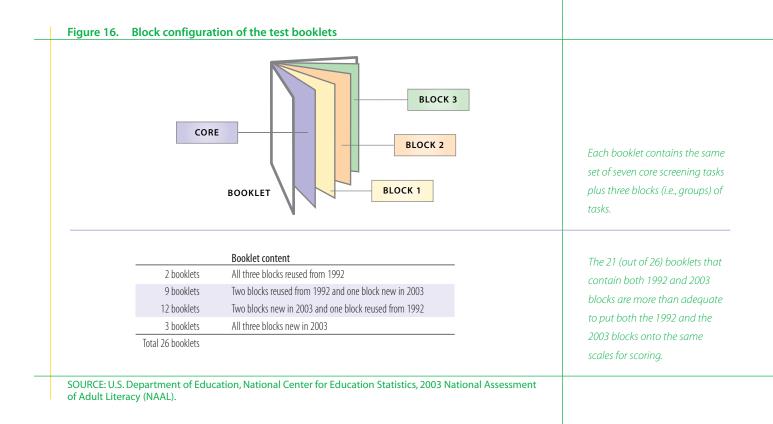


The NAAL prison sample was independently selected using a two-stage design. The first stage was to select more than a hundred prisons. (Note that the sample included only state and federal prisons, not local jails or other types of institutions.) The second stage was to select individual inmates of the prisons that had been selected. Large prisons were more likely than small prisons to be included in NAAL, but individual inmates were more likely to be selected from the small prisons that were included. As a result of this sampling method, 11 inmates were typically selected from each sampled prison, and (with few exceptions) each inmate in the prison population had an equal chance of being selected. The resulting sample was representative of the 2003 prison population at the national level, allowing separate literacy estimates for this population. As previously mentioned, this sample was also used to supplement the household sample. Because of the disproportionate percentages of male, minority, young, and poorly educated adults in the prison population, the prison sample increased representation of adults with these characteristics in the overall sample.

### Block design limits participant burden and allows cross-year comparisons

The main NAAL has a total of 152 assessment tasks, which are needed to cover the content and literacy skills identified as important for using printed and other written materials in everyday life. Because the whole set of tasks would take more than 3 hours to complete, NAAL administers only a portion of them to each participant. Block design refers to the way in which the tasks are organized into groups, or "blocks," and the way these blocks are distributed among the various booklets that are administered to participants.

All the booklets begin with seven easy core screening tasks (as explained below). The remaining tasks are grouped into 13 blocks—6 blocks repeated from the 1992 assessment and 7 blocks newly created for the 2003 assessment. Each block contains 10 to 15 tasks and includes some tasks from each of the three literacy scales (prose, document, and quantitative). The blocks are assembled into 26 unique assessment booklets, each of which contains a total of 3 blocks (figure 16). Each of the 26



Note: Checking 11 Do you, or your sp Single Married filing join Married filing sep and full name he Vourself. If you retur booklets is completed by a random sample of participants. Most of the booklets contain blocks from both 1992 and 2003, a design feature that is necessary to allow comparison of results across years. (For more information about cross-year comparisons, see section 2.) Each block appears in 6 of the 26 booklets; appears once in the same booklet with each of the other blocks; and appears twice in the first position, middle position, and last position in a booklet. These design features—collectively referred to as "spiraling"—help control for potential variation in the performance of tasks due to their positions in the booklets and relative to other tasks.

#### Assessment administration follows standardized procedures

NAAL is administered in person. Participants are assured of confidentiality and advised that responses and scores are reported collectively, not individually. The entire interview takes about 90 minutes for most participants and about 15 minutes less for the least-literate participants, who take the Adult Literacy Supplemental Assessment (ALSA) instead of the main NAAL. All participants begin the interview by responding to an oral background questionnaire, administered using a computer-assisted personal interview (CAPI) system. Participants are then given the seven easy core screening tasks to determine whether they should take the main NAAL or ALSA. Main NAAL participants read the assessment questions from printed booklets and write their answers using a pencil. ALSA participants give oral responses to oral questions, but refer to printed materials to find the answers. At the end of the interview, all participants take the Fluency Addition to NAAL (FAN), which requires them to read lists and passages aloud from printed booklets. Participants' responses to FAN are recorded using special CAPI software, which incorporates automatic speech recognition technology.

#### Administration procedures accommodate adults with special needs

The following accommodations for adults with disabilities and nonnative speakers of English are inherent in the design of NAAL:

- The assessment is conducted in the participant's home.
- The assessment is administered one on one.
- All participants receive additional time, within reason, to complete the main NAAL or ALSA if they need it.
- Participants are encouraged to use whatever aids they usually use to work with written materials (e.g., a magnifying glass).
- Participants who are physically unable to write (e.g., because of severe arthritis) may dictate their responses to the interviewer.
- The background questionnaire is administered orally in either English or Spanish, depending on the participant's choice.
- General instructions and specific questions for the core screening tasks can be given in either English or Spanish, and the general instructions are given orally.
- ALSA instructions and questions are given orally in either English or Spanish.
- Participants with a native language other than English or Spanish may attempt the core screening tasks—and take either ALSA or the main NAAL, if they are able—even if they cannot complete the background questionnaire.

Because NAAL is designed to assess literacy in English, all the written instructions and responses are in English. However, results for nonnative speakers of English will be reported separately and compared with results for native speakers in order to shed light on the unique needs of nonnative speakers. Information about disabilities is also included in the background questionnaire and is related to NAAL scores. In addition, reasons for noncompletion of tasks are recorded, because this type of information helps researchers understand relationships between literacy and disabilities as well as between literacy in English and nonnative speaking status.

NAAL does not exclude any adults with special needs from participating in the assessment. As part of the NAAL sample, these adults are encouraged to participate to the extent that they are able to do so. In 2003, approximately 3 percent of adults were unable to participate in the assessment at all (i.e., they could not even participate in ALSA). Of these adults, almost two-thirds could not be interviewed due to a language barrier (i.e., they knew neither English nor Spanish). Almost one-third had a cognitive or mental disability (e.g., Alzheimer's disease, mental retardation, or mental impairment caused by a stroke).

Adults with a language barrier were identified by trained interviewers, who attempted to interview these adults. To identify adults with a cognitive or mental disability, on the other hand, interviewers typically relied on the report of someone else in the household (i.e., they generally did not attempt an interview with these adults).

In both 2003 and 1992, about 1 percent of adults were unable to participate due to a cognitive or mental disability. However, the percentage of adults unable to participate due to a language barrier fell from 3 percent in 1992 to 2 percent in 2003. This decrease probably occurred because of new accommodations for Spanish-speaking adults (see the seventh and eighth bullets on the previous page).

### Scoring of tasks ensures reliability and reflects NAAL's emphasis on function

A scoring guide for each assessment task details the rules for scoring that task. The NAAL scoring rules seek evidence that adults can use printed materials to accomplish everyday literacy tasks. Thus, responses containing writing errors are still considered correct as long as the overall meaning is correct. Incomplete sentences, grammatical and spelling errors, or the use of synonyms to provide requested information do not affect the scoring of responses. Also, it does not matter if a response is circled (rather than written out) or if it is written somewhere other than on the line provided (unless the task is to fill in a form). Training materials for scorers include examples of responses that should be scored as correct even though they contain writing errors.

The scoring stage of the 2003 NAAL involved thorough training of scorers and multiple quality checks. To ensure reliability of scoring, supervisors spot-checked scores given to various tasks and provided feedback to scorers. In addition, a second scorer rescored 50 percent of all tasks to verify a high rate of interrater reliability (i.e., agreement between scorers on the scores assigned). If interrater reliability fell below 95 percent, supervisors identified reasons for scoring discrepancies and discussed these reasons in a meeting with scorers. The final interrater reliability rates were above 95 percent for all but five tasks and at least 94.5 percent for all but two tasks.

Although no literacy results can be provided for adults with a language barrier, these adults were included in the new Nonliterate in English category in 2003 (see the discussion of this category in section 2).

# REFERENCES

- Baker, F. (2001). *The Basics of Item Response Theory*. College Park, MD: Educational Resources Information Center. Retrieved April 15, 2005, from <u>http://edres.org/irt/baker</u>.
- Campbell, A., Kirsch, I., and Kolstad, A. (1992). *Assessing Literacy: The Framework for the National Adult Literacy Survey* (NCES 92-113). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Hauser, R.M., Edley, C.F., Jr., Koenig, J.A., and Elliot, S.W. (Eds.). (2005). *Measuring Literacy: Performance Levels for Adults, Interim Report*. National Research Council, Board on Testing and Assessment, Committee on Performance Levels for Adult Literacy. Washington, DC: The National Academies Press.
- Kirsch, I., Yamamoto, K., Norris, N., Rock, D., Jungeblut, A., O'Reilly, P., Berlin, M., Mohadjer, L., Waksberg, J., Goksel, H., Burke, J., Rieger, S., Green, J., Klein, M., Campbell, A., Jenkins, L., Kolstad, A., Mosenthal, P., and Baldi, S. (2000). *Technical Report and Data File User's Manual for the 1992 National Adult Literacy Survey* (NCES 2001-457). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Kolen, M.J., and Brennan, R.L. (1995). Test Equating: Methods and Practices. New York: Springer-Verlag.

- Kutner, M., Greenberg, E., and Baer, J. (2005). *A First Look at the Literacy of America's Adults in the 21st Century* (NCES 2006-470). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Mitzel, H.C., Lewis, D.M., Patz, R.J., and Green, D.R. (2001). The Bookmark Procedure: Psychological Perspectives. Chapter 9 in Cizek, G.J., (Ed.). *Setting Performance Standards: Concepts, Methods, and Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Selden, C.R., Zorn, M., Ratzan, S.C., and Parker, R.M. (2000). *Current Bibliographies in Medicine: Health Literacy* (NLM Pub. No. 2000-1). Bethesda, MD: National Library of Medicine, National Institutes of Health, U.S. Department of Health and Human Services.
- U.S. Department of Health and Human Services. (2000). *Healthy People 2010: Understanding and Improving Health*. Washington, DC: Author.
- White, S. (2003). *The 2003 National Assessment of Adult Literacy (NAAL)* (NCES 2003-495r). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- White, S., and McCloskey, M. (forthcoming). *Framework for the 2003 National Assessment of Adult Literacy* (NCES 2006-473). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

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