Lifelong and Life-Wide Adult Literacy Development

by Stephen Reder

Most research on adult literacy development looks at short-term changes within a single context, the adult basic skills classroom. These studies typically look at changes in adults' literacy skills over the relatively short periods of time in which they participate in basic skills classes. Most studies utilize short follow-up intervals and include only program participants, making it difficult to see patterns of program participation and persistence or to assess the long-term impact of program participation (Beder, 1999; Brooks et al., 2001; Lesgold & Ross-Welch, 2012; Miller, Esposito, & McCardle, 2011). Research that examines adult literacy development taking place across multiple contexts and over significant periods of time can provide a life-wide and lifelong perspective on adult literacy development.

The Longitudinal Study of Adult Learning

The Longitudinal Study of Adult Learning (LSAL) traced the growth of adults' literacy abilities and uses over long periods of time and across home, school, community, and work contexts: it is a *lifelong* and *life-wide* study. LSAL followed a target population for adult literacy education over nearly a decade. LSAL studied both participants and non-participants in adult literacy programs, examining their literacy use and growth in diverse settings and over long follow-up intervals, offering a rich picture of adult literacy development. It addresses four major research questions:

1. To what extent do adults' literacy abilities continue to develop after they are out of school?
2. What are adult learners' patterns of participation over time in literacy training and education? In other learning contexts?
3. What life experiences are associated with adult literacy development? How do formally organized basic skills programs contribute to these learning trajectories?
4. What impact does adult literacy development have on social and economic outcomes?

Design and Methodology

The LSAL study randomly sampled about 1,000 high school dropouts from its target population who were then followed from 1998 to 2007. At LSAL's onset, the target population was dropouts, ages 18 to 44, proficient but not necessarily native English speakers, and residents of the Portland, Oregon metropolitan area. The sample is evenly divided between males and females, one third from minority groups, and one tenth immigrants. Nearly one in three reported having a learning disability. Details of LSAL's design and methodology are available elsewhere (Reder, 2009a).

Some of the defining characteristics of LSAL's population changed over time. Some adults received alternative high school credentials, mainly the General Education Development (GED) tests, or college degrees, and some moved away from the Portland area. LSAL followed the study participants regardless of these changes, with about 90% of the original sample retained in the study until data collection ended in 2007.

LSAL conducted six periodic "waves" of in-depth interviews and skill assessments in respondents' homes between 1998 and 2007. Every wave included the standardized Test of Adult Literacy Skills, a proficiency measure of adults' abilities to extract and process information from everyday written documents; a scaled measure of engagement in everyday literacy practices, such as reading books and writing notes; and self-reported wave-to-wave changes in how often, how well, and what materials adults read and write (e.g., Do you read more often, less often or about the same as you did the last time we interviewed you in [year]?) Details of these measures are available in Reder (2009a).

The initial interview gathered background information (e.g., demographics, family-of-origin characteristics, K–12 school history). Interviews repeated in each wave captured information about recent social, economic and educational status, and activities (e.g., participation in basic skill programs; post-secondary education and training; formal and informal learning strategies; employment, job characteristics, and earnings; household and family composition; life goals and aspirations). A special module in Wave 3 gathered detailed information about learning disabilities from those who had self-identified in Wave 1. That information indicates that about two thirds of the adults who reported having learning disabilities were tested for and identified as having learning disabilities while they were in school.

There are methodological advantages and drawbacks to studying a local rather than national study population. In LSAL's study of a local population, almost everyone attended the same school systems as children and encountered the same labor market and educational options as adults. These shared contexts cast into relatively sharp relief differences in literacy, family, education, and work histories among individuals in the study.

Some Key LSAL Findings

The LSAL has generated a rich variety of findings about low-education adults. We summarize a few of the most important ones here.

Research Question 1:

To what extent do adults' literacy abilities continue to develop after they are out of school?

Adults' literacy skills continue to develop slowly but steadily after they leave school. This lifelong development process is best seen through trajectories or "growth curves" of literacy proficiency and engagement in literacy practices over time (Reder, 2009a). Some adults' proficiencies increase over time,

others' decrease, while still others' change relatively little. Individuals with relatively high levels of literacy proficiency also have relatively high levels of engagement in literacy practices and vice-versa. Despite the positive correlations between them at each point in time, the dynamics of change are quite different for these two types of measures (Reder, 2009a). This difference will be particularly important when we examine the effects of program participation on literacy development.

Individuals in the LSAL population with learning disabilities enter adulthood with lower initial levels of literacy proficiency but similar initial levels of literacy engagement to those without learning disabilities. For both measures, adults with learning disabilities showed comparable rates of literacy growth over time to others in the LSAL population (Reder, 2009a).

Age and Literacy Growth

Age provides a good example of how background variables influenced the trajectory of literacy development. The rate of an individual's proficiency growth was negatively related to age: the younger the adults, the more proficiency they tended to gain over time; middle-age adults showed small or no rates of change; and older adults showed the lowest, often negative, rates of change (i.e., they tend to lose proficiency over time). This pattern is closely related to the "inverted-U" profile of proficiency by age seen in many national and international survey snapshots, with literacy lowest among young and old adults and at highest levels among middle-aged adults with educational level and disabilities equated across age groups (Reder, 2009a; Willms & Murray, 2007).

Research Question 2:

What are adult learners' patterns of participation over time in literacy training and education? In other learning contexts?

Nearly half (49%) of the LSAL population participated in a basic skills program during the study. A significant fraction of these program participants stopped but restarted later, either in the same or a different program, creating fragmented patterns of program participation over time. The majority (71%) of the population had "self-studied," that is, worked on their own to improve their basic skills or prepare for the GED tests. Over half (54%) of the adults who never attended a class self-studied in this way.

Most of the adult basic skills classes were offered by local community colleges and offered both classroom instruction and teacher-facilitated computer labs. Self-study activities focused on improving a variety of basic skills and preparing for the GED tests. Self-study activities utilized workbooks, computer software, multimedia, and other instructional materials. There seemed to be a continuum of formats between formal classroom instruction at one end and self-study at the other, with learning in the teacher-facilitated, self-paced computer labs being an intermediate form.

Self-study sometimes preceded any formal program participation, sometimes followed or overlapped with participation, and sometimes occurred between disjointed periods of participation. Most adults who attempted to improve their basic skills tried both self-study and participation in a course. Some individuals used only one approach, some used neither, and the largest group used both. Self-study and program participation thus appear to be partially complementary approaches to improving basic skills, providing alternative ways to learn based in part by individual preferences and in part by how times and locations of formal classes fit with family and work responsibilities (Reder, 2007; Reder & Strawn, 2006).

Research Question 3:

What life experiences are associated with adult literacy development? How do formally organized basic skills programs contribute to these learning trajectories?

In LSAL there is no immediate relationship between proficiency change and participation in adult basic skills programs. This lack of impact may seem at odds with the small learning gains that programs typically report between pre- and post-tests. However, analyses of program learning gains typically do not compare the gains made by similar groups of adults not in programs. Small proficiency gains found among program participants in LSAL were equivalent to gains found among comparable non-participants (Reder, 2009a).

On the other hand, program participation is directly related to changes in engagement in literacy practices. With many statistical controls in place, there were direct relationships between participation in adult education programs and increased engagement with literacy practices (e.g., reading books). The sequence of the observed changes makes it clear that program participation influences practices (Reder, 2009a).

LSAL also shows strong effects of program participation on adults' reported changes in literacy from one wave to the next. Significantly more improvement was reported over periods that included program participation than over periods that did not. These substantial effects of participation on reading engagement appear with many other variables statistically controlled. The most change was reported by adults who both participated in programs and self-studied; the least was reported by those who did neither; intermediate amounts were reported by those who did one of the two. A strikingly similar pattern of effects was seen when the dependent variable was the percentage of adults who passed the GED. The highest rate of GED attainment occurred for adults who both participated in programs and self-studied; the lowest rate of GED attainment was reported by those who did neither; intermediate GED attainment rates were reported by those who did one of the two. The similarity of how GED attainment varied with participation is important because GED attainment is a "hard" outcome variable based on administrative records rather than on self-reports of literacy changes (Reder, 2010a).

These patterns hold for both individuals with learning disabilities as well as those without. However, preferred modes of learning new things differed across the two groups. LSAL adults with learning disabilities were less likely to learn by reading, using a library, or a computer, whereas they were more likely to learn by doing (hands-on). The two groups were equally likely to learn by asking others, taking classes, or watching TV.

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Non-longitudinal research is consistent with these findings. Several reviews of the impact of program participation on literacy proficiency concluded that there are no systematic effects in studies that involve comparison groups and statistical controls (Beder, 1999; Brooks et al., 2001; Smith, 2009). Sheehan-Holt and Smith (2000) examined differences within the National Adult Literacy Survey between recent program participants and non-participants. They found no significant differences in proficiency between participants and non-participants but did find significant differences in measures of reading engagement. Purcell-Gates and colleagues (2004, 2000) found programs that focus instruction around authentic literacy practices (i.e., everyday literacy tasks and materials) have greater impact on engagement in literacy practices after students leave programs.

LSAL results also indicate that key life history events may alter the course of literacy development. For example, starting a job after a period of non-employment had significant positive influences on the likelihood of reading better. Similarly, the addition of a child to the household had an immediate, positive impact on adults reading more often. These life history influences on literacy were often amplified for individuals with learning disabilities (Reder, 2010a).

Practice Engagement Theory

Reder (1994) and Sheehan-Holt and Smith (2000) argued that engagement in literacy practices leads to growth in literacy proficiency. They suggested that greater engagement in literacy practices leads over a sustained period of time to greater proficiency. The framework for understanding how engagement in everyday literacy practices leads to proficiency increases has been termed "Practice Engagement Theory" (Reder, 1994). The maxims that "practice makes perfect" and "use it or lose it" remind us how important such practice engagement can be. But it can take time for such effects to take hold. It took approximately 5–6 years in LSAL to see the impact of practice engagement on proficiency. This practice engagement effect, with higher levels of engagement in literacy practices leading to greater gains in literacy proficiency, was statistically significant with numerous demographic and background variables controlled (Reder, 2009b).

Research Question 4:

What impact does adult literacy development have on social and economic outcomes?

Large-scale national and international population surveys that include assessments of adult literacy typically report strong positive correlations among literacy proficiency, educational attainment, employment, and earnings. At given levels of educational attainment, there are strong positive relationships between adult literacy proficiency and income. Following high school dropouts over time, LSAL found a strong positive correlation between proficiency and earnings. Individuals' literacy proficiency at the beginning of the LSAL time period influenced both their initial earnings level and their subsequent earnings growth. Beyond the effects of proficiency *level* on earnings, the rate of proficiency *growth* also influenced earnings. It may thus be essential not only for adults to enter the labor market with adequate levels of literacy proficiency, but to keep developing their literacy over time (Reder, 2010b).

Implications

The key LSAL findings have important implications for adult literacy programs and policy:

The Economic Case for Investments in Adult Literacy Development

K–12 school improvement efforts alone will not meet future workforce development needs. Adults need to improve their literacy skills after they leave school. LSAL strongly suggests that programs that elevate the rate of adult literacy growth will help raise future levels of employment and earnings. But LSAL findings about program impact pose a critical dilemma for adult education. On one hand, the production of increased proficiency and its associated economic benefits is often the primary justification for investments in literacy programs. On the other hand, programs have demonstrable, short-term impact only on measures of literacy practices, not on measures of proficiency.

Before we can make a strong economic case for adult literacy programs, we need to reconcile these findings and create more realistic policies for adult literacy program design and evaluation. Practice engagement theory offers one way to reconcile these apparent inconsistencies. Programs generate increased levels of engagement in literacy practices in the short term that lead to increased proficiency levels in the long term.

Multiple Literacy Measures for Accountability and Continuous Improvement

There is a major misalignment between observed program impact on literacy development and the short-term proficiency gains for which programs are currently accountable. For continuous program improvement, short-term proficiency gains have very limited utility as an outcome measure. The LSAL findings suggest that changing engagement in literacy practices would be a more effective measure of short-term program effectiveness and be more suitable for continuous improvement efforts. Proficiency measures alone do not enable programs to put their best foot forward. Using changes in literacy engagement as an additional program outcome measure would allow continuity with both the current proficiency-based regimes and connection with what research indicates is the stronger measure of short-term impact.

Design of Adult Literacy Programs

In LSAL, many adults who never attend a program work independently to improve their basic skills. Many others engage in "self study" between periods of program participation.

Because the largest gains are made by individuals who both participate in programs and engage in self-study, programs that connect traditional classes and self-directed learning activities could be highly effective. Technology could be very helpful here, not only by offering distance education but by connecting different learning modalities and activities over time.

Adult literacy students stay in programs for relatively short periods of time, often producing fragmented patterns of participation across multiple programs and services. Providers often struggle to coordinate their offerings and services, leaving learners to assemble and coordinate these experiences into coherent wholes. New types of learning support systems are needed that provide persistent structures or pathways for adults. These pathways could coordinate activities in which adults attend programs, use online materials to work independently or with tutors, and receive support services from local community-based organizations and volunteer programs.

Develop Literacy Programs for Older Adults

We found older adults' literacy proficiencies tend to decline over time, a trend that begins around age 40. We often think about two sources of adults with basic skills needs: youth leaving school and adult immigrants arriving without the skills they need. LSAL findings suggest a third source: older adults who have lost skills they once had. With our graying workforce and society, there is increasing need for programs that focus on skill retention among older adults. Practice engagement theory provides a useful starting point for the design of such programs.

Develop a New Logic Model for Program Impact

LSAL found systematic relationships between program participation and increased engagement in literacy practices. No such relationship is found, however, between the amount of participation and measured gains. Recent experimental classroom studies of adult reading instruction report no significant effects of hours of attendance on a wide range of outcome measures (Condelli, Wrigley, & Yoon, 2009; Miller et al., 2011). These results suggest a need to rethink the prevailing logic model that links adult literacy instruction to learning outcomes.

Rather than continuing with a "parking lot" conception of adult literacy instruction—in which what matters is how long students are retained ("parked") in the program—we need a "busy intersection" model where what counts is not how long students spend in the intersection but the direction they take and how far they go after they leave. Students come to the program or intersection from different directions and depart toward different destinations. The program helps them choose the best path beyond the classroom and provides resources and supports for them to become persistent lifelong learners and reach their destinations (Miller et al., 2011). Within this logic model, program impact on learning is best seen in different ways at different points along the adult's trajectory. According to LSAL research, the initial impact of adult literacy programs is best measured in terms of changing literacy engagement. Over time, these changes in engagement will lead to increased proficiency levels.

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