Research Methods for Studying ABE/ESOL Populations

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Acknowledgments

I acknowledge and thank all members of the Adult Development Research Team of the National Center for the Study of Adult Learning and Literacy (NCSALL), and especially our principal investigator, Professor Robert Kegan, whose collective wisdom infused this research project and team monograph.

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Introduction

As developmental psychologists interested in how adult education can support learning and development, we[1], the Adult Development Team of the National Center for the Study of Adult Learning and Literacy, carefully followed 41 adult basic education/English for speakers of other languages (ABE/ESOL) learners enrolled in three different U.S. programs (community college, family literacy, and workplace sites) for a year or more to examine their experiences of learning and change. Each program was aimed at enhancing participants' English language fluency, content knowledge, and effectiveness as students, parents, and/or workers. Our purpose was to understand better how these adults experienced learning in their programs; how this learning transferred to their roles as parents, workers, or learners; how the programs supported and challenged their learning; and how this learning helped them change.

This was the first in-depth study examining how adults "make meaning" of their learning experiences in ABE/ESOL programs. We refer to an adult's underlying meaning system—through which all experience is filtered and understood—as a way of knowing or a developmental level.[2] Prior studies employing Harvard psychologist Robert Kegan's (1982, 1994) constructive-developmental theory primarily involved white, well-educated, middle-class American adults who spoke English as their first language. Our research (Drago-Severson, 2004a; Drago-Severson, Helsing, Kegan, Broderick, Portnow, & Popp, 2001a; Kegan, Broderick, Drago-Severson, Helsing, Popp, & Portnow, 2001b) extended the use of this framework by applying it to adults who were not economically privileged, mostly not native-born Americans, and mostly non-native speakers of English.

This paper addresses questions of methodological and practical importance: What methodological challenges might be encountered when conducting research that relies heavily on language (to understand the content of learners' thoughts and assess the structure of their thinking) with adult ESOL learners? How might we adapt measures and develop strategies to better understand ESOL learners' perspectives on their program experiences and meaning making? What are the lessons learned from adapting measures to better suit this population?

[1] I acknowledge and thank all members of the Adult Development Research Team of NCSALL, and especially our principal investigator, Professor Robert Kegan, whose collective wisdom infused this research project and team monograph (Kegan, Broderick, Drago-Severson, Helsing, Popp, & Portnow., 2001a; Kegan et al., 2001b). In this writing, I refer to the Adult Development Team as the "team."

[2] In this writing, the terms *way of knowing* and *developmental level* are used interchangeably. Since Belenky et al.'s important work, especially *Women's Ways of Knowing* (1986), has achieved prominence in adult education it is important to stress that we use the term "way of knowing" in its literal sense in our research; we are not referring to its taxonomy. In our study, we employ the term *way of* knowing to refer to the structure of a person's meaning making: the subject-object relationship (Kegan, 1982). "Subject" refers to what a person with a particular way of knowing is identified with, cannot reflect upon, and cannot take a perspective on. "Object" refers to what a person with a particular way of knowing *can* examine, *have* perspective on, and manage. Different meaning systems are *qualitatively* different ways of organizing the subject-object relationship, and thus, experience. They are literally different "ways of knowing" and understanding reality (Kegan et al., 2001a; Kegan et al., 2001b).

To address these questions, I discuss the team's research methods and interpretive techniques. In so doing, I focus on the challenges we encountered and strategies we used to overcome them. Our research methods enabled us to listen carefully to participants' experiences and attend to their meaning making, allowing us to trace their learning processes and, in some cases, their transformation into being better able to handle the complexities of work and life (i.e., development). (For an in-depth analysis of the processes of learners' transformation, see Drago-Severson, 2004a, in press; Kegan et al., 2001a, 2001b).

To provide context for this methodological discussion, I first review the theoretical framework that guided our research and informed our approach to data collection and analysis. Next, I present a brief description of each quantitative and qualitative measure. Each description is followed by a discussion of *what we learned* from using each measure and how and why we adapted several standard measures traditionally employed with populations who are native English speakers to better understand the experiences of the ABE/ESOL sample we studied. In discussing how we adapted and learned from employing various measures, I highlight logistical, language, cultural, and contextual issues. I also describe what the team learned about the benefits of employing these research methods, given the visible and less visible challenges of research with this highly diverse population. In closing, I explain how using a range of measures helped triangulate data, provide a more comprehensive, textured snapshot of learners' experiences, and assess validity.

It is important to note that the larger study (Drago-Severson, 2004a; Kegan et al., 2001a, 2001b) illuminates how educators can attend mindfully to the qualitatively different ways in which adults make sense of their ABE experiences and increases understanding of how ABE/ESOL learners can be better supported in programs. This paper focuses on the value of using and adapting multiple research tools and developmental measures to inform our understanding of adult learners' experiences. More specifically, it shows how language-based measures can be employed if the effectiveness of the measures is carefully monitored, if they are properly adapted, if the adults' expressive English skills are adequate, and if multiple measures are used to triangulate findings and assess validity. I offer the study's research methods and lessons learned as resources for other researchers and practitioners.

Context and Theoretical Framework[3]

Researchers in ABE/ESOL are calling for in-depth qualitative studies that focus on learners' own perspectives on their experiences and needs rather than examining learners' perspectives in terms of a program's expectations or society's definitions of their needs (Horsman, 1990; Rockhill, 1982; Skilton-Sylvester & Carlo, 1998; Stein, 2000;

[3] Some portions of this section, the descriptions of the measures we employed (not what we learned from them or how we adapted them) and the phases of analysis appear in similar form in Drago-Severson (2004, in press), the research team monograph (Kegan et al., 2001a), its executive summary (Kegan et al., 2001b), and/or articles written for practitioners (Drago-Severson et al., 2001a, 2001b, & 2001c). They are cited herein.

Valentine, 1990; Wiley, 1993). In addition, Taylor (1996) highlights the value of using developmental theory to inform understanding of ABE learners' experiences.

The study discussed here responds to these calls in two ways. First, the team focused on learners' meaning-making (i.e., how they make sense of and actively construct their experiences) as the starting point. Second, in our approach to data collection and analysis, we employed a developmental lens to understand learners' program experiences. In so doing, we join Lytle and her colleagues (Lytle, 1991; Lytle & Schultz, 1990; Lytle, Marmor & Penner, 1986) in their call to develop a better understanding of how adults make sense of language, literacy, and the teaching and learning enterprise. To this end, we designed qualitative measures and adapted standard quantitative assessments that enabled us to understand how learners made sense of what they learned in their programs, what supports and challenges they named as facilitating their growth, and the changes they experienced over time.

To understand participants' meaning making and trace developmental changes, we employed Kegan's (1982, 1994) constructive-developmental theory. This theoretical framework is informed by 30 years of research suggesting that developmental principles can be applied to adults (Basseches, 1984; Belenky et al., 1986; Cranton, 1994, 1996; Daloz, 1986, 1999; Drago-Severson, 2004b; Kegan 1982, 1994; Kohlberg, 1969, 1984; Mezirow, 1991; Piaget, 1965; Weathersby, 1976). Our research methods enabled us to focus on how meaning systems—ways of knowing—shape and frame experience and on how learners' views of the worlds within and beyond the classroom can change over time (Drago-Severson, 2004a; Kegan et al., 2001a).

From the team's perspective, development involves more than learning new skills or acquiring knowledge, which we refer to as informational learning. Development also concerns transformational learning—learning that translates to a qualitative shift in how people know and understand themselves, their worlds, and the relationship between the two. Transformational learning enables people to take broader perspectives on themselves and others (Cranton, 1994; Kegan, 1982, 1994; Mezirow, 1991, 2000). It helps adults to enhance their capacities to manage the complexities of their lives as learners, parents, and workers (Drago-Severson, 2004a; Drago-Severson et al., 2001a; Drago-Severson, Kegan, Helsing, Broderick, Popp, & Portnow, 2001c; Helsing, Drago-Severson, Kegan, Popp, Broderick, & Portnow, 2001; Kegan et al., 2001a; Kegan et al., 2001b).

Kegan's (1982, 1994) theory enabled the research team to consider the ways people construct their reality (e.g., how learners understand their adult roles and responsibilities) and the ways these constructions can change over time. Moving from one developmental level to another is a progression of increasing complexity in an individual's cognitive, emotional, interpersonal, and intrapersonal capacities. Kegan identifies three qualitatively different ways (meaning systems) in which the majority of adults make sense of their world: instrumental, socializing, and self-authoring. Individuals' ways of knowing inform their understandings of their responsibilities as learners, parents, family members, and workers and their views of what makes a good teacher, student, parent, and employee.

We used this framework to inform our research design, protocols, and analysis. It influenced our questions, which were designed to help us understand how individual participants made sense of their motives and goals for learning, their expectations of themselves and their teachers, their supports and challenges, and their sense of themselves in social roles. In the next section, I discuss the team's research methods and pay particular attention to our research measures—what we learned from employing them, the challenges we encountered, how we adapted measures, and how they helped us to explore our research questions.

Methods

The following research questions guided the team's exploration of the developmental dimensions of transformational learning:

1) How does developmental level shape adults' experiences and definitions of the core roles they take on as learners, parents, and workers? What are the regularities in the ways in which adults at similar levels of development construct the role demands and supports in each of these domains?
2) How do adult learners' ways of knowing shape their experience and definition of programs dedicated to increasing their role competence? What are adult learners' motives for learning, definitions of success, conceptions of the learners' role, and understandings of their teachers' relationship to their learning?
3) What educational practices and processes contribute to changes in a learner's relationship to learning (vis-à-vis motive, efficacy, and meaning system) and specifically to any reconceptualization of core roles?

Site Selection

The sites we chose were programs that we considered to model best practice (see, e.g., Harbison & Kegan, 1999). Best practice programs use effective methods for achieving targeted results, and they set benchmarks for other programs to follow (Hammer & Champy, 1993). We selected three Massachusetts programs that were 9 to 14 months long, so that we could explore long-term growth in learners' understanding and examine the developmental dimensions of transformational learning (Drago-Severson et al., 2001a; Drago-Severson & Berger, 2001; Kegan et al., 2001a, 2001b).

The selected programs incorporated a variety of supports to facilitate adult learning (e.g., tutoring, advising, and technological support for learners). The goals of the programs were to prepare learners to enroll in a general educational development (GED) certificate program and to help them learn English, pursue college coursework, or earn a high school diploma. These three programs also had developed curricula to improve adults' specific role competency in one of three social roles: student, parent, or worker. We designed a variety of measures to examine and trace the ways in which participants, *over time*, reported program learning as helping them perform specific social roles differently. Therefore, each individual measure was shaped to focus on the ways in which participants at a particular site made sense of the social role that each program focused on. For example, Participant Interview #1, which was employed with participants before or near the time they entered a program, contained similar questions at all three sites and also included questions related to a particular social role. We also developed interview questions to explore how program design, teacher practice, and curricula might support and challenge learners with different ways of knowing and possibly lead to transformation.

Participant Selection

We followed 41 adult learners who immigrated to the US from different regions of the world and were enrolled in the three selected programs during 1998-1999. This sample was diverse in terms of the number of years in the US, race, ethnicity, age, past educational experiences, socioeconomic status, and social roles. The vast majority of participants across these three sites were non-native English speakers who had at least a sixth grade reading and writing level.

At Bunker Hill Community College (BHCC) in Charlestown, Massachusetts, we studied how a group of newly immigrated young adults (late teens or early 20s) experienced a pilot program designed to help them become better prepared for academic coursework in college. These adults were enrolled in the same two BHCC classes (an ESOL class and an introductory psychology class designed for ESOL learners) during their first semester. During the second term, the group separated, and each adult selected courses from the range available at BHCC. Like the adults at the other two sites, adults enrolled in this program were primarily from lower socioeconomic backgrounds and spoke English as a second language. Unlike learners at the other two sites, these adults had already earned a high school diploma and were matriculating to earn an associate's degree or a certificate of study. One of our main interests at this site was in learning how participation in this pilot program influenced the ways in which these adults conceived their roles as students.

At the second site, we followed two groups of parents enrolled in a family literacy program.[4] One group was in a pre-GED class, and the second parent group was enrolled in an ESOL class. These parents (mostly women in their 30s) emigrated from different countries and had been living in the United States for an average of nine years. Parents in this program also had at least one child who attended a class in the family literacy program. Our interest was in learning how participation in this family literacy program affected the ways in which these adults conceived of and enacted their roles as parents.

[4] This site prefers to remain anonymous.

At the third site, the Polaroid Corporation manufacturing plant in Norwood, Massachusetts, we studied a group of workers who participated in a 14-month Adult Diploma Program designed and delivered by the Continuing Education Institute (CEI) of Watertown, Massachusetts. Most of these adults were in their 30s and 40s, had lived in the United States for more than 20 years, were married, and had children. One of our central interests was in learning how participation in this program affected the ways in which these individuals conceived of and enacted their role as workers.

All adults enrolled in these three programs were invited to participate in our research. At each site, all participants initially agreed to participate in our study. We began with 58 participants (17 from BHCC, 22 from the family literacy site, and 19 from Polaroid); however, during the research 17 participants across the sites either withdrew or temporarily stopped out of their programs for a variety of reasons (Kegan et al., 2001a). After the program year ended, we conducted "noncompleter" interviews with a few of these participants who did not complete the program in order to understand why they decided to leave and how they made sense of their experience in and after leaving the program. We wanted to learn about how these participants thought about their experiences during the year, how and why they decided to leave the program, and what were their current conceptions about learning. This interview was designed to help us learn more about the heart of participants' experience and the differences in how learners thought or felt about themselves at the end of the program year as compared with the beginning of the year, when they were enrolled in a program.

Data Collection

The adults who participated in the complete study made time available on three (and, at one site, four) separate, extended occasions to share their thinking via a variety of data collection methods and tools. These included tape-recorded, open-ended qualitative interviews; structured exercises; classroom observations; focus groups; and survey-type measures. Table 1 presents the timeline for our data collection. Note that at the workplace site we administered two middle rounds of measures because this program's duration—14 months—was longer than that of the other sites.

Table 1: Data Collection Schedule at Each Research Site

SITE	FIRST ROUND OF DATA COLLECTION	SECOND ROUND OF DATA COLLECTION	THIRD ROUND OF DATA COLLECTION	FOURTH ROUND OF DATA COLLECTION
Community College Site	October 1998 (for several hours on two days)	December 1998 (for several hours on two days)	May 1999 (for several hours on two days)	
Family Literacy Site	November 1998 (for several hours on two days)	March 1999 (for several hours on two days)	July 1999 (for several hours on two days)	
Workplace Site	March/April 1998 (for several hours on two days)	September 1998 (for several hours on two days)	March 1999 (for several hours on two days)	June 1999 (for several hours on two days)

As shown in Table 1, each site visit lasted several hours on at least two different days during each round of data collection, allowing us to gather a wealth of data on participants' experience of varied aspects of learning and teaching. For example, questions included: "What are your purposes in pursuing this learning? What, in your view, makes a person a good teacher? What effect is your learning having on your work, on your relationship with your child, or on your role as a prospective college student?" These and other questions helped us to examine how these adults were experiencing program learning, what the processes of transformational learning looked like, how learners with different developmental levels experienced such processes, and what practices learners named as supportive to these changes.

In addition, at all sites, we conducted classroom observations of each class during the academic year; program teacher interviews at the start and end of the year; and program director interviews at the start and, in some cases, the end of the year. In total, we conducted and analyzed approximately 670 hours of semistructured qualitative interviews and developmental assessments (tape-recorded and transcribed), 160 hours of quantitative survey-type measures, and 25 hours of observations. We also analyzed various documents.

Employing the various measures gave rise to six key arenas for learning, which the team attended to during the process of data collection. More specifically, we met as a full team before, during, and after each round of data collection to reflect on what we were learning from participants within and across sites, what was working well, and what measures needed refinement in order to help us understand how the data shed light on our research questions. These full-team conversations enabled us to improve the measures and *the way* in which we employed them with this diverse ABE/ESOL sample. This iterative and ongoing process of revisiting and revising our measures helped us to better understand participants' meaning making. These issues are introduced briefly here and explained in more detail in the next section where the measures and our adaptations of them are discussed.

1) **Logistical Issues:** Time constraints for data collection made it necessary to alter and shorten certain measures so that they could be employed with learners at each site during the time frame we had been allocated for each data collection round. For example, we shortened one measure from a 90-minute interview to be conducted as a 60-minute interview, reducing the number of probes we asked to account for the decreased time. In order to engage each learner in the array of measures we selected and/or created for each round of data collection, we needed to hire and train additional researchers to help with data collection. We learned that it was important to hold these training sessions for researchers so that they could ask questions about the intentions of each measure. In addition, on the measures themselves, we wrote explicit instructions to help interviewers with engaging the participants in the interview (e.g., setting the context, including probing questions to help with accessing the structure of a person's thinking). To familiarize researchers with what was learned from a participant during a prior round of data

collection, we asked all researchers to read the transcript from the participant's interview during the prior round of data collection, or to listen to the audiotape, if the transcript was not available. When participants were absent from the program during scheduled data collection days, we scheduled make-up interviews with absentees as soon as possible after the data collection. Although we invested great effort into contacting participants who did not complete a program so that we could learn more about their experience at the end of the program, gaining access was sometimes difficult. When we were able to connect with the participants who did not complete the program, we oftentimes interviewed them at their homes or in their workplace.

2) **The Importance of Building Research Relationships:** As a team, we decided to pair the same interviewer with the same interviewee, whenever possible, to help build rapport and research relationships. Revisiting the same participants at different points during the program also enabled team members to ask follow-up questions, inquire about changes in their perspective, and track the development of such changes. We were surprised to learn that participants across all three sites said that knowing that members of our team would be "coming back" supported their persistence in the programs. Across sites, participants named either our research team as a group or the research relationship the participant had with a member of our team as a support to persisting.

3) **Language Issues:** All interviews were administered individually, in English. Although we considered interviewing each adult in his or her first language, the first-language diversity of this sample across and within sites made the cost of this strategy prohibitive and impractical. In other words, after carefully investigating this option, we realized that the project could not afford to hire and train interviewers to interview all participants in their first language and then finance transcribers, who spoke the language, to translate the audiotaped interviews into English, so that the team could analyze them. In addition, we knew that participants' language and its meaning would not translate directly into English. Especially at the programs' start, we learned that participants' levels of expressive English (e.g., vocabulary, grammar, difficulty and/or ability to fully express ideas) varied. This influenced both our choice of measure and the ways in which we adapted them to better suit participants. For example, we listed several ways of phrasing the same question so learners, with varying levels of English proficiency, could understand the questions. To address validity issues related to interviewing participants in their second language, we triangulated data from various sources and asked participants, throughout data collection, whether their responses would be similar to what they were able to say in English had we interviewed them in their first language. As will be discussed below, participants told team members that their responses would be similar, but that they would be able to relate more experiences to us.

4) **Cultural Issues:** When we administered some of the paper and pencil measures, including the Loevinger sentence completion test, cultural issues emerged. As will be discussed, we decided to drop the Loevinger sentence completion test after reflecting on learnings from engaging learners with it at the first site. In other words, after comparing participants' scores on this measure with scores on two other developmental measures (i.e., the subject-object interview and the developmental problem-solving vignettes), we discovered that cultural issues embedded in this measure influenced participants' scores. Team discussion, after the first round of data collection, and our learnings from consultation with a Loevinger scoring expert helped us realize that the participants' understanding of the words in the sentence stems and the way this assessment is to be scored, did not match up well with the expressive English skills and participants' ways of making meaning of the sentence stems. Therefore, we opted to drop this measure and focus on the two other assessments we employed to track participants' developmental orientations. We learned that the Subject-object interview (Lahey, Souvaine, Kegan, Goodman, & Felix, 1988), a developmental assessment in which participants are invited to select the content issues to be discussed during the interview, and the problem-solving vignette that we designed, encouraged participants to discuss cultural issues.

5) **Contextual Issues:** Across sites, focus groups provided a rich and safe context in which participants could express feelings and concerns that did not necessarily emerge in individual interviews. For example, at the workplace site, recent downsizing and layoffs were discussed in-depth in focus groups—and not in individual interviews. During focus group conversations several workers voiced concern about being "let go" and what that would mean to them. At the community college site, the focus groups provided a context in which individuals and groups of adults expressed their thoughts about the importance of community. This did not emerge as powerfully in individual interviews.

6) **The Benefits of Employing Multiple Measures:** We learned that employing a variety of measures enabled us to compare learnings from measures to understand better how participants experienced program learning, supports and challenges that helped them learn, and the changes they experienced during program participation. As discussed below, it also allowed the team to triangulate data and attend to validity. Moreover, we discovered that certain measures helped us to understand different arenas of the participants' lives (e.g., work, family, school). Understanding how participants make sense of these arenas helped us to explore how they reported program learning as transferring to various domains of their lives.

7) **The Benefits of Working as a Team, Engaging in Ongoing Analysis, and Conducting Longitudinal Research:** One of the many strengths of this research is that it benefited from the collective wisdom of a team of researchers. As a team we created and revised protocols, discussed learnings from each round of data collection and used them to adapt measures and

inform questions for subsequent rounds of data collection, across sites. Engaging in ongoing analysis through large and small group team meetings strengthened not only the measures we employed to access information related to participants' understandings of the research questions guiding this study, but also our analytic plan. All data collectors were invited to attend pre and post data collection meetings, which generated a deep understanding of what measures worked well, which measures needed improvement, and what we were learning within and across sites. These conversations were tape recorded. We also requested that team members write analytic memos (Maxwell, 1996) to highlight important lessons from interviewing participants and administering measures throughout data collection and the preliminary and substantive analytic phases, which strengthened findings. In these meetings, we assessed what had worked well and what we needed to improve. Conducting longitudinal research enabled us to track changes in participants' experiences and meaning making.

Next, I present an overview of the qualitative measures, structured exercises, and quantitative measures that we employed with participants at all three sites. In addition to describing the measures and the reasons why we employed them, I discuss the challenges we encountered, how—if at all—we adapted both standardized measures and our own measures in an effort to improve our administration of them, and our rationale for doing so. In addition, I highlight how using an array of measures helped us triangulate data and assess validity. Each measure helped us in its own way to understand better participants' perspectives on program learning and/or a social role and to trace changes over time.

Measures and Research Team's Adaptations

Measures Administered at Program Start

Before or near the start day of each of the three programs, we administered the following protocols:

1) **Pre-Program Learner Focus Groups.** We facilitated focus groups with adult learners at each site because we wanted to understand their hopes and expectations for learning in their programs prior to participating in their programs (see Appendix A).
2) **Experiences of Learning Interview (Participant Interview #1, PI #1).** We created this qualitative interview because we wanted to understand how each learner's previous learning experiences and theories about the teaching and learning processes influenced their conceptions of the learning-teaching enterprise. Each protocol was adjusted for the particular site, and through it we gathered information on learners' motives for participating in the program, learning goals, and current understanding of the targeted role (i.e., student, parent, or worker). Additional topical areas included educational history, conceptions of support for learning, and demographics (see Appendix B).

Asking participants to comment initially and at different points in the program on their motives and goals for learning and their perceptions of how program learning was helping them, both in the program and in their social roles, allowed us to track both content-related and developmental changes over time. More specifically, asking questions that helped us to understand a learner's developmental orientation such as "What makes for a good teacher?" and "What do you see as a student's job?" helped us to trace changes in learners' understandings. These questions also enabled us to illustrate whether, and how, people's ways of knowing are demonstrated. For example, describing how a learner constructs his or her role as a learner before the program and after the program might powerfully demonstrate a change in his or her conceptions of that role. What were they able to take responsibility for? What do they think their teachers are responsible for? How, if at all, did their conceptions change during the program?

3) **The Subject-Object Interview (SOI).** We used the SOI, a semi-structured interview that was created to explore how an individual makes sense of his or her experience, as a developmental assessment to learn how participants were constructing their experiences at program entry and program completion. The interview is usually conducted in 90 minutes and is conversational in nature. Dr. Robert Kegan and his colleagues at the Harvard Graduate School of Education created the original SOI (see Lahey et al., 1988, and Appendix C).

The SOI interview is structured around a uniform set of ten probes and generates responses from interviewees' real-life situations. For each of the ten probes, the interviewee writes a word or phrase on the card associated with the named subject header (e.g., "success," "important to me," or "torn"). The interviewer then explores the meaning that experience has for the interviewee and how meaning is organized. We used this measure to help us understand each person's developmental orientation because through analysis of the responses the measure generates, it is possible to distinguish five gradations between each way of knowing. Interrater reliability in studies using the original measure has ranged from .75 to .90. Several studies report expectedly high correlations with like measures (cognitive and social-cognitive measures). Our analysis of this measure included a developmental comparison of each participant's meaning making during our initial and final data collections. We were particularly interested in assessing developmental changes in how participants made sense of their experiences from our first data collection period to our final one.

We engaged learners in the SOI in one hour rather than 90 minutes because of time constraints (logistics) at each site. Although we had two different days for collecting data from participants at each site, since we had multiple measures to employ during our scheduled time for data collection, we needed to reduce the amount of time for this measure. Therefore, we adapted the original SOI by reducing the number of probing phrases from ten to five. After participants wrote a few words, phrases, or sentences on each card, we invited them to talk about some of the things they had written. Interviewers told participants that *they* could decide what to talk about and also choose when they wanted to stop talking about a particular card topic. Unlike other measures that were more structured, with this measure, learners themselves decided on the content (e.g., home, school, work) they discussed.

We selected the following five prompts because we thought they would be most relevant to participants' learning experiences in these programs: angry, torn, success, worried or nervous, and important to me. Participants' SOIs from the initial assessment were scored by at least three different team members, who were trained as reliable scorers, and scores were discussed to assess reliability of scoring and a means of assessing validity. As this was the first time this measure was employed with this particular population, it was especially useful for team members to discuss how and why they were scoring the measures as they were. We compared these scores with scores from the vignettes (described below) and developmentally driven questions from the first participant interview. Doing so helped us in assessing validity threats related to expressive English skills and allowed us to triangulate data from the three data sources.

4) **Loevinger's Ego Development Sentence Completion Test (SCT).** Loevinger and Wessler (1970) designed this measure to explore the way people make sense of themselves and the world. Usually, participants write down their first response, which allows administration of the measure to large groups of people. Occasionally, the researcher writes down participants' verbal answers. Loevinger and Wessler identified six stages of ego development, or complex thinking, and their measure is scored in accordance with these developmental stages. We used the short form of this measure, which is composed of 18 sentence stems, rather than the longer form, because of the time we had to engage learners during data collection. Participants are asked to complete a sentence stem in any way they wish by responding spontaneously to the stem. Each individual sentence stem is scored according to a rubric, and a total score is calculated to assess a participant's development level. The way in which a person completes these sentences is thought to reveal a person's way of interpreting events—his or her way of knowing (see Appendix D).

We engaged learners with this measure as a second way to assess their developmental level. As Appendix D indicates, this measure depends on a participant being able to respond spontaneously to a sentence stem, which we observed to be challenging for many of the ESOL learners in this sample. In addition, administration of this measure in the English language to ABE/ESOL learners relies on English language proficiency/literacy. Therefore, scores that rate each response depend on a person's understanding of each word in the sentence stem, the capacity to formulate a response fairly quickly, and expressive language skills and vocabulary in English needed to complete the sentence stems. In our case, given the differing levels of participants' writing and expressive language skills at program entry, we decided to administer this measure one-on-one—rather than in a large group—and to read each sentence stem aloud to participants and record their first response.

After engaging learners with this measure, we discussed our observations and the challenges associated with employing it. Several of the sentence stems, we agreed, included words that participants did not understand, and we learned that participants asked interviewers to help them understand the meaning of words. Several interviewers explained the meaning of concepts to participants in an effort to enable them to complete the sentence stems. Some sentence stems included phrases in which were embedded cultural assumptions that were incongruent with participants' experiences, which caused them to ask questions about the *meaning* of the words in the sentence stem or the meaning of the stem itself. For example, the female version of the Loevinger asks that a participant respond to the following questions:

15. A wife should ______________________________________

16. I feel sorry ____

17. A man feels good when ______________________________

We learned that participants did not know how to respond to these stems, and that they did not understand what was being asked of them. Also, in a few instances, a male interviewer was paired with a female participant (and vice versa), and we wondered how, if at all, this might influence the participant's response. We also questioned whether and how cultural norms might affect participants' responses. Several participants gave a first response (the response that interviewers wrote down for each person) and then articulated a second (and sometimes third) response that was often more complex.

Given our observations concerning language, cultural and logistical issues concerning engaging learners one-on-one rather than in a large group, and the ways in which these issues and challenges might influence this measure's validity, we decided to consult with an expert Loevinger scorer before administering this measure at the third site. The expert scorer, who had broad experience and knowledge of administering this measure with varied populations, scored the first set of the measures from the first site. After analyzing and scoring participants' responses to this measure from this site, we believed we could not accurately assess participants' responses, and we had doubts about the validity of the measure with this sample. Accordingly, and after learning from the expert consultant, we decided not to administer it to participants at our third site.

5) **Role-Related Vignettes.** We created three developmental vignettes—a measure asking participants to solve a hypothetical problem—to assess an individual's way of knowing and role competence in specific domains for each site. Each vignette was designed specifically for one of the three sites (parent, worker, or student). The vignettes presented a hypothetical problem related to a particular social role. After reading the vignette to a participant, the interviewer asked how the participant would solve the problem that was presented in the vignette (a story that presented a dilemma). By asking developmentally oriented probing questions about how and why the person would solve the problem in a particular way, for example, data was generated that allowed us to assess an individual's way of knowing and sense of role competence in specific domains (e.g., parenting). For example, the learner vignette was a developmental, student-situated dilemma that presented a

classroom situation in which the teacher directed students to work collaboratively in groups to complete an assignment. The protagonist, however, was in a group composed of friends—and some of them were not following the teacher's directions. The participant was asked to assume the role of the protagonist in the story and the interviewer asked questions to explore the participant's decision-making skills, problem-solving skills, and sense of competency in relation to their construction of authority as a student. Likewise, the parent vignette was a developmental, role-situated dilemma created to examine parents' decision-making skills, problem-solving skills, and sense of competency in relation to their construction of authority. The worker vignette was a developmental work-situated dilemma created to explore workers' decision-making skills, problem-solving skills, and sense of competency in relation to their construction of authority. (See Appendix E.) In each of the three sites, these one-on-one interviews were tape recorded and transcribed verbatim.

Participants' responses to the vignettes, like the SOIs, were analyzed and scored in accordance with Kegan's constructive-developmental theory, generating an additional way to assess participants' meaning making. The vignette scores (pre and post program) were compared with participants' SOIs scores and provided an important means of triangulating data as well as a validity check. We also analyzed these vignettes for role competency themes and compared these with other data where participants discussed role competency (e.g., self-in-role-maps).

In some cases, we discovered that it was difficult to assess a person's developmental level in scoring these vignettes because there were context-specific company or institutional rules that participants reported. More specifically, at the workplace site there were specific procedures to follow when a worker detects a defect in a product. This was the situation presented in the vignette. Therefore, to gain a better sense of participants' decision-making skills (and their meaning making), we asked participants to respond to the probing questions related to the vignette by taking the institutional policies into consideration and also by imagining that the policies did not exist. Yet, it was still sometimes challenging to discern an individual's problem-solving abilities amidst his or her desire to abide by company policies to avoid risk of job loss, for example.

6) **Quantitative Survey Measures.** We administered three well-established quantitative measures because we were interested in assessing participants' levels of satisfaction, feelings of self-efficacy and success, and locus of control (see descriptions below and in Appendix F) at program entry and program completion. In addition to examining changes in these scores from program entry to program end, our quantitative analysis also explored relationships between the scores on these indices and the scores generated by our developmental assessments (for a detailed discussion, please see Kegan et al., 2001a).

a. Satisfaction with Life Scale (SWLS): The SWLS is a five-statement questionnaire created by Diener, Emmons, Larsen, and Griffin (1985) that ascertains a person's subjective judgment of his or her overall satisfaction with life. Using a scale of 1 to 5, people are asked to indicate the extent to which they agree or disagree with each statement.

b. Perceived Efficacy Beliefs Scale (PEBS): The PEBS is a 10-statement questionnaire that assesses a person's perceived self-efficacy. Created by Riggs, Warka, Babasa, Betancourt, and Hooker (1994), this measure also asks people the extent to which they agree or disagree with each statement. The PEBS assesses individuals' thinking about their capacity to successfully perform role-related tasks within a particular sphere (as a worker, say, or as a parent).

c. Locus of Control Scale (LOC): The LOC is a seven-statement questionnaire that assesses people's beliefs in their ability to control life circumstances, events, and problems. Again, they are asked the extent to which they agree with each statement in the measure. Created by Pearlin and Schooler (1978), the LOC assesses the extent to which people believe their life experiences are under their own control (internally determined) as opposed to being the result of things that happen to them (externally determined, or controlled by fate).

We administered each of the above three measures not only before program entry but also after program completion. This gave us the means to assess any changes taking place in each individual with respect to each measure over the course of the program.

Adapting the Measure to Focus on Role-Related Satisfaction: We wanted to amend the SWLS such that it would reflect an individual's global as well as role-related satisfaction, since one of our central research questions focused on how participants made sense of a particular social role at each site. In accordance with experts' suggestions, we added five role-related global satisfaction questions to the original questionnaire, thus making it a 10-item questionnaire. For example, at the workplace site, these questions related to overall satisfaction with work, and at the parent site, these questions focused on overall satisfaction with parenting. Following is an example of a question (#1) that we added to the SWLS that was administered to parents and also a question (#2) from the original SWLS.

Q#1: In most ways my life as a parent is just how I wish it would be.

Q#2: In most ways my life is just how I wish it would be.

Altering the Scales: Before administering the PEBS and the LOC measures, we checked with experts in the field and decided to modify their seven-point scales to five-point scales. The SWLS was already rated on a scale of 1 to 5.

Clarifying the Scales: After meeting as a full team to debrief what we had learned from engaging learners with these three measures at the first site (learners completed these measures on the same day, one after the other), we decided that it was necessary to make the scales more user-friendly for participants. Several researchers on the team observed that the differences in the ways ratings were applied were confusing. For example, assigning a rating of 1 on the PEBS scale (Strongly Disagree) meant the opposite of assigning a rating of 1 on the SWLS scale (Strongly Agree). While completing these measures at the first site, participants asked questions about how to assign a number indicating their agreement with a statement. Several participants had difficulty understanding the meaning of the scales themselves. Additionally, through our initial analysis of these measures, we noticed that some participants' responses in one measure conflicted with their responses in other measures.

We took several steps to clarify the scales in each measure for participants. One was the addition of small faces (about the size of a quarter) above each number in a scale, ranging from a frown to indicate strong disagreement to a smiley face to indicate strong agreement. We also explained the scale of each particular measure before engaging participants with the measure. Finally, we decided to employ the measures with small groups of participants rather than with the larger cohort groups. We also offered to sit with each participant to administer the measures one-on-one, if needed. Only a small number of participants made use of this option. Small group administration enabled us to respond to questions that, for the most part, related to the meaning of a word or the meaning attributed to the numbers on the scales. In the final round of data collection, we observed across the sites that participants asked fewer questions about the meaning of words. This may have been the result of an increase in their proficiency in English (i.e., vocabulary) and/or their familiarity with these types of measures and scales.

7) **Mapping the Self as Learner, Parent, or Worker.** We created three custom-designed mapping interviews because we wanted to explore participants' perceptions of their roles as learners, parents, and workers. The mapping exercise provides a picture of participants' current conceptions of the core elements of a particular role (i.e., learner, parent, or worker), their perceptions of the relationships between the core elements, and their thought processes. Mapping interviews helped us to track participants' changing perceptions of the roles and of themselves in the roles. (See Appendix G.)

Initially, participants were invited to create a diagram of how they saw themselves in a particular role and to respond to probing questions. During each subsequent round of data collection, participants were invited to review the prior map of their thinking and to comment on how, if at all, their perceptions had changed as they progressed through the program. This map helped us to explore participants' role perception in their own words.

After engaging participants in the mapping exercise at each site, we met as a full team to discuss what we learned from employing it. All data collectors were invited to attend these meetings so that as a team we could assess how the measures were working (i.e., what worked well and what needed to be improved). We learned that although many participants found it easy to select terms they ascribed to themselves (e.g., patient, strict, easygoing) from the descriptors we had created for the map diagram, it was often understandably difficult for them to generate their own words to describe themselves. We found this especially true during our first round of data collection; in some cases, participants became better able to generate descriptors as they participated in their programs. However, this was one limitation of employing this type of measure, which requires participants to articulate fine distinctions between words (e.g., some participants had difficulty articulating the meaning they assigned to both the prepared descriptors and to their own self-generated descriptors). We also learned that it was useful to create what we called "capture sheets," on which interviewers recorded notes on the meaning participants ascribed to preexisting and self-generated descriptors.

8) **The Teacher Experience Interview:** Near the start of each program, we also conducted a qualitative teacher experience interview with program teachers at each site to learn about their goals for their students and their classes, their philosophy of teaching, and their methods of assessing learners' progress.

As noted earlier, for a variety of reasons we needed to interview all participants in English. After reflecting on our first round of data collection, we believed it would be helpful to ask an important question of participants in individual and group interviews after engaging them with measures. We asked them, " If you could be interviewed in your first language, would your responses be the same as those you give us in English?" Most participants responded by telling us that the meaning of their responses would be the same but that they might have "more words"—or more sophisticated words—with which to express themselves. This question is an example of one of the ways in which we tried to understand the influence of interviewing participants in English, which for the most part was not their first language, and attend to validity issues.

Measures Administered In the Middle-Months of the Programs

During the middle months of each program, we engaged participants at each of the three sites with the following measures.[5]

1) **Focus Groups.** During the middle round(s) of data collection, we facilitated two types of focus groups. In one type of group, we invited participants to reflect on their learning experiences in their program classes, and in the other we invited them to discuss any changes they noticed in themselves as learners and as they enacted a particular social role. In this second type of focus group, our intention was to understand how learners at each site believed their participation in a particular program was or was not affecting their perceived performance in a particular role (i.e., worker, parent, or learner). We developed these questions to explore individuals' perceptions of their roles and role-related responsibilities.

[5] As mentioned previously, we conducted two rounds of data collection in the middle months at Polaroid.

Just as in any group, we found that some participants talked more than others and that some preferred to participate by listening. We adopted a policy of stating at the beginning of each focus group that participants were not required to speak if they preferred not to do so. Our general policy was noted in our focus group interview guide, which was given to the focus group facilitator: Present a middle-ground invitation, not a requirement to speak. Say something like: “I want to give each of you who want to, a chance to talk. So I want to give each of you who have not yet spoken a chance to say what you’re thinking if you want to.”

Participants reported that they enjoyed and valued the focus groups. At the BHCC site, for example, several students reported that they experienced the groups as opportunities to reconnect with colleagues after their first two courses had ended and they were no longer taking courses as a group during the second semester. Focus group data gave us an additional way to understand how participants believed that their program learning was transferring to their social roles and perceived competencies within a particular role (i.e., triangulation). Also, participants in these groups seemed to feel at ease discussing the challenges associated with their social roles (i.e., context). For example, some participants at the workplace site talked more about their work (e.g., relationships with coworkers and supervisors, fears associated with the possibility of being laid off from work) during focus groups than in individual interviews.

Transcripts from the focus groups presented not only what was said but also identified who said what. This allowed us to trace group themes as well as to use data from particular participants in coordination with other data we collected (e.g., participant interviews, maps, and SOIs). This also helped with triangulation of data (Miles & Huberman, 1994) especially with respect to participants’ social roles and perceived competencies. It proved very useful in revealing the fuller context and culture of participants’ lives.

2) **During the Program—Experiences of Learning Interview.** This open-ended, semistructured interview was designed to help us better understand participants’ program learning experiences and how, if at all, they thought that their learning was making a difference in their thinking about and enactment of their role as a worker, parent, or learner.

As noted, we did our best to match interviewer–interviewee pairs during every data collection round. We thought that this would help build rapport, and, as I discuss later, this effort proved beneficial on several fronts. In fact, participants asked about interviewers if a particular interviewer was not able to participate in a scheduled data collection. When it was not possible to match the same interviewer with a participant from one round of data collection to the next, we introduced the new interviewer to the participant and explained that the previous interviewer could not take part in that day’s activities.

All interviewers were asked to familiarize themselves with participants by reading transcripts from prior measures. In many cases, this allowed interviewers to ask about experiences shared during prior rounds of data collection and to integrate their understanding of aspects of the participant's experiences that emerged as important to them into the current interview. This strategy was highly effective and not only yielded richer data but also helped, in most cases, to strengthen rapport between interviewer and participant. Additionally, as several of the same questions were asked during each round of data collection, this measure offered another way to track content-related and developmental change over time.

The team learned that it was also important and necessary to phrase questions in multiple ways on the interview guide itself to give participants the greatest chance to understand our questions. Explicitly stating or reframing questions proved beneficial with this sample of learners. For example, in asking a participant to tell us about a classroom experience that was helpful to her learning, we developed multiple ways of framing our question to access the participant's meaning making. To understand learners' conceptions of their teachers, we asked: What makes for a good teacher? or What do you see as a teacher's job? Some participants responded immediately to only one of these prompts—they appeared unable to answer the question when we framed it the other way. To learn why participants found a particular learning experience helpful or supportive, we created alternative ways to frame our probes: What was most helpful to you about that experience? What was most satisfying about that experience? What did you feel best about in terms of that experience? What did you feel good about in that experience? What were you happiest about in that experience? Presenting interviewers with alternative ways of posing questions often helped participants respond in fuller ways.

Additionally, because we were interested in learning about participants' thinking (and its underlying structure), we held training sessions for interviewers to help them understand the purposes and intentions behind each of the measures we designed. We wrote explicit directions on the cover page of interview guides to remind interviewers to ask two different types of developmentally oriented probing questions about participants' stories. The first type were *process probes* that helped interviewers to understand a learner's thinking. We urged interviewers to invite participants to provide an example or talk about a situation related to a particular experience. For example, on our interview guides, we wrote the following about how to employ this kind of probing question: "If learners say they were surprised by their ability to do the homework, ask them to tell you a story (or to describe a situation; some learners interpret "a story" as something that is made up) about a particular time in class when this happened. You can ask learners for an example of a time when they felt surprised. Remember you will want to ask questions that will help you learn what it was that surprised them." The second type of probe was intended help interviewers understand *why* learners felt a particular way about their experience. Suggested questions were: "What was most important to you about _______? Why? What was it about a particular experience that was most helpful?" Both types of probes helped the team to gain a deeper understanding of how participants were making sense of their experiences.

3) **Reflecting on Changes in Self as Learner, Parent, or Worker Map.** We designed this measure to continue exploring participants' perceptions of their role as workers, parents, or learners, as expressed in their own words and through the lens of Kegan's (1982, 1994) developmental theory. It gave participants an opportunity to reflect on and add to the picture/map/diagram that participants created during the first round of data collection (i.e., Map #1). Specifically, we asked learners to add to or change their prior map in any way that seemed appropriate based on changes they saw in themselves and in the ways in which their learning in the program was affecting their sense of themselves in a particular role. This measure enabled us to track learners' changing perceptions of themselves in a particular role, changes in the ways in which they valued or devalued their work, changes in their views of role relationships, changes in the central emotions and beliefs they associated with work, and changes in the way they conceptualized their role activities and responsibilities.

The mapping exercise was designed as a tool for establishing and tracking any shift in students' perceptions of their social roles over the course of the program. During this round, we created "capture sheets" that we used to write down what learners said about connections between student skills and social role skills. We also wrote down the descriptors participants added to their maps and the meaning participants assigned to these descriptors.

At this point in data collection, we were not sure if we would be able to have all of the tapes fully transcribed from these mapping exercises. Transcription, for the most part, was more costly and time-consuming than initially anticipated. It was more difficult to transcribe some of the tapes because of factors such as tape quality, background noise, damaged tape recorders, and speech patterns (e.g., speaking softly, alternative pronunciation of words, and some phrasing that was unfamiliar to the transcriptionist). We retained the audiotape recordings from this and Map #3 for reference and transcribed key sections, which was somewhat helpful to our analysis.

4) **Classroom Observations.** We conducted observations of learners in each of their program classes at least once during each semester.

Classroom observations provided useful contextual data that we drew upon for use in our qualitative interviews, and they also helped build rapport with participants. We wish it had been feasible to conduct additional observations; however, insufficient resources (e.g., human, time, and financial) made this impossible. We also learned during the study that several participants wanted members of our research team to observe them in the other contexts of their lives. For example, several Polaroid Corporation workers voiced their wish that we observe them in their work setting—rather than only in the classroom—as they used machinery in their jobs. While these observations would have enriched the research and learning, time constraints, the logistics of access, and associated expenses prevented us from conducting these kinds of observations. We recommend that future research incorporate these kinds of observations into study design.

Measures Administered at Program End

Near the end of or shortly after program completion, we engaged participants with the following measures at all three sites:

1) **The Subject-Object Interview (SOI).** We conducted a final SOI with each participant to assess his or her developmental level (i.e., way of knowing) at program completion. We compared this final score with our initial assessment of each individual's developmental level in order to trace any changes in meaning making over time. In addition, we compared scores and emergent themes from these final interviews with initial SOI scores and themes.

At this time, we noticed that many participants' expressive English language skills appeared to be stronger after participating in the program. There were three ways in which we found it helpful to use the SOI data in conjunction with data from other measures. First, SOI data helped with triangulation; we compared SOI scores with participants' vignette scores and we also triangulated data from SOIs with participant interview data. Second, it allowed us to learn about other issues—not necessarily connected to program learning or the social role we were focusing on at each site—that were important to participants but not discussed or made explicit in other measures. Third, developmental assessments for participants that were derived from SOI data enabled us to make comparisons between developmental levels and their relationship to levels of satisfaction, efficacy, and locus of control. (For a full discussion of how we combined learnings from qualitative and quantitative measures, please see Kegan et al., 2001a).

2) **Final Learning Experience Participant Interview (PI #3, or at one site, PI #4).** We designed this open-ended, semistructured interview because we wanted to understand how participants at each site were thinking about their program experiences, how they believed they had changed since beginning their program, and how they felt about themselves as learners and in their social role at program completion. This helped us gain a deeper understanding of how participants described and made sense of changes they noticed in themselves and what they experienced as sources of challenge and support in their student and social (parent, worker, or learner) roles. Additionally, we asked learners to reflect on their program experience overall—that is, how their learning influenced their perceived role competencies, their learning goals, and their overall satisfaction with the program.

In assessing our learning from prior PIs and from other measures, we decided to integrate more questions about how learning in the program was, from the participants' perspective, transferring to their social roles. Although we focused on a particular social role at each site, learners at the sites often discussed the ways in which program learning was also helpful to them in other social roles. For example, at the workplace site, where we were interested in how program learning was transferring primarily to the social role of worker, many participants also discussed how their learning was helping them in their role as a parent.

3) **Teacher Interview on Student Changes.** We conducted this qualitative interview with program teachers at or near the end of each program. We designed this interview to help us understand the changes program teachers noticed in each of their students during the program. During these interviews with program teachers we asked them to talk about the changes they noticed in each of the learners in the program and to what or whom the teachers attributed the changes.

Given our interest in tracking changes over time, this measure was helpful to building our understanding of teachers' perceptions of their students and, in some cases, also provided us with additional information about relationships students had with one another that may not have emerged during our observations and interviews. As program teachers spent much more time with learners throughout the program and had a perspective that was different from ours as researchers, these interviews provided rich and interesting data, especially about the relationships the participants had with each other and to the program.

4) **Quantitative Survey Measures.** At program completion, we asked participants to complete the same set of quantitative measures that they completed at the start of our research. One of our goals was to assess participants' levels of satisfaction, feelings of self-efficacy, and locus of control at program completion and to note changes in these measures from the initial assessment. A second goal, as mentioned, was to examine relationships between these measures and developmental assessments from the SOI's and the vignettes. For example, we found a positive relationship between developmental level and internal locus of control. In other words, participants with more complex ways of making meaning, according to Kegan's framework, had higher internal locus of control.

These measures and the modifications we made to them were discussed earlier in this paper.

5) **Vignettes.** At program completion, we asked participants to engage with the same vignette from our initial round of data collection. We conducted these interviews with each learner at each site and they were tape recorded and transcribed. Learner responses were examined for role competency themes and also scored in accordance with Kegan's constructive-developmental theory. These scores were compared with SOI scores.

6) **Reflecting on Changes Map (Map #3, and, at the workplace site, Map #4).** We conducted a final mapping interview (The Reflecting on Self as Student, Parent, or Worker Map) with each participant at program completion.

Distinct mapping exercises were designed for participants at each of the three sites. These created an opportunity for our research team to talk with participants about the changes they noticed in their perceptions about themselves in a particular social role. We probed participants' end-of-program thinking about their perceptions of role competence. We also inquired about any changes related to their self-regard. Doing so enabled us to continue exploring participants' perceptions of their roles as workers, parents, or learners, in their own words. As we had conducted at least two prior mapping interviews with participants at each site during prior rounds of data collection, this final mapping gave participants a chance to discuss their current perceptions about their social roles.

At each site, during the interview we asked learners to review two past diagrams (i.e., maps) that they had created and to add to or change the map in any way that seemed appropriate, based on changes they noticed in themselves and in the ways in which they saw their program learning affecting their sense of themselves in a particular role. We carefully examined changes in learners' perceptions of themselves in a particular role, in the ways in which they valued or devalued their role, in the ways in which they viewed their role relationships, in the central emotions and beliefs they associated with a particular role, and in how they understood their role activities and responsibilities.

To administer successfully the final map at each site, we asked interviewers to review the protocol and participant transcripts and/or notes from prior maps. We created two tables that helped us organize our notes and write down what participants said about how they saw themselves as enacting their social roles, in a way either different from or the same as the way they had in the previous mapping exercises. As we transcribed key sections of the tapes, we asked interviewers only to take notes, not attempt to capture explanations verbatim.

7) **Non-completer Interview.** We created a qualitative interview that we conducted after program completion with several participants who did not complete their program. Our goal was to gain a better understanding of how these participants thought about their experiences during the year, how and why they decided to leave the program, and what were their current conceptions about learning. This interview was designed to help us learn more about these participants' experience and any differences in how they thought or felt about themselves at the end of the program year as compared with the beginning of the year—when they were enrolled in the program. We probed participants' responses to better understand how they made sense of any changes they noticed in themselves and to learn what they thought about the supports and challenges in their lives. We also asked these participants, who did not complete the program, to complete the quantitative measures (discussed above) and to engage in an SOI interview. Again, we were particularly interested in assessing any potential changes in their ways of making meaning.

We were able to interview several people who did not complete their programs, but it was difficult to make contact with others for various reasons (e.g., they moved, changed phone numbers, changed jobs). In some cases, it was not possible to locate participants or to engage them in noncompleter interviews.

Data Analysis

Data analysis was ongoing and continuously integrated. It consisted of two distinct phases: the preliminary and the substantive phases. As noted, our study benefited from purposeful integration and triangulation of data.

The Preliminary Phase

After collecting the first round of data from our first site, the workplace site, smaller sub-teams were created to begin data analysis. This first phase of analysis, which lasted until all data was collected, was helpful in two main ways. First, analyzing data that was generated from each of the measures helped us to create an analytic framework. This framework was continually refined throughout this phase of data analysis and we were able to use it in the second phase of analysis, which occurred after all data was collected. Second, analyzing data generated from various measures helped us to assess the measures, evaluate the data that was generated in terms of our research questions, and revise measures so that they could be more effective in future rounds of data collection across sites.

We began data analysis by coding both the participant interviews and the learner-generated role-maps from the workplace site's first round of data collection. We used opening coding (i.e., emic codes) (Geertz, 1974; Miles & Huberman, 1994) and theoretical codes (i.e., etic codes) to develop a code list. Coding helped with identifying emergent themes and in refining our analytic framework, which we later employed to analyze data from all three sites during the second analytic phase. We then compiled a list of emerging themes derived from both theoretical and emic codes. In this early analytic phase we also focused on identifying consistencies and discrepancies within and across participants' data (Maxwell, 1996). Next, we revised and reduced our code list to reflect 12 key emerging categories and their subconcepts (e.g., participants' thinking about the learner/teacher relationship and how it changed over time). Next, we built matrices to understand participants' responses to key interview questions across site data and created narrative summaries (Coffey & Atkinson, 1996; Maxwell & Miller, 1991) that extracted the critical themes and main points from the interviews (e.g., the ways in which participants described their experiences in collaborative learning activities). After each round of data collection, the research team—and doctoral students who assisted with data collection—wrote analytic memos (Strauss & Corbin, 1998; Maxwell, 1996). Shortly after data collection at each site, our full team met to discuss learning, assess measures, and develop preliminary strategies for subsequent rounds of data collection and analysis. The analytic memos and our tape-recorded conversations after data collection at each site informed and were vital to both the early and substantive analytic phases.

The collective wisdom of the research team served as a tremendous resource, strengthening both study design and data analyses.

To explore the influence of learners' developmental levels on their experiences of change in the program, we examined and scored the subject-object interviews and the vignettes from our initial round of data collection at each site and related these to our analysis of the quantitative measures. The subject-object interviews and vignettes were scored according to the *Guide to Scoring the Subject-Object Interview* (Lahey et al., 1988). As mentioned earlier, we initially scored one full set of SOIs and vignettes, using multiple scorers to establish inter-rater reliability. (We employed similar methods in our substantive analytic phase.) The preliminary quantitative and qualitative analyses, analytic memos, and full-team analytic conversations helped us to identify patterns of transformation and develop an analytic framework for our intensive analytic phase.

The Substantive Phase

After all data had been collected (July 1999), the team engaged in a second phase of analysis. This phase of analysis included both analysis and writing and was ongoing from August 1999 through August 2000. First, we revisited and revised our analytic framework during August 1999, which was informed by and grounded in our developmental perspective. In September 1999, research team members were assigned to three analytic subteams, each analyzing data from one of the three sites. Each of the three analytic subteams first examined data from those participants with common preprogram SOI scores from their site. After focusing on data from participants with a particular way of knowing, subteam members moved to examining data from participants with the next common way of knowing to explore contrasts and similarities across developmental levels, or ways of knowing (Kegan et al., 2001a). To do this, we examined four analytic questions related to learning and teaching and four analytic questions that focused on examining a particular social role (Seidman, 1998). This analysis created in-depth portraits of similarity and differences across each way of knowing as well as the ways in which participants' conceptions of their roles changed over time.

To answer our analytic questions, subteam members created in-depth analytic memos, which included data and interpretations, in response to the two role-related sets of questions, and we then discussed these memos in site subteam weekly meetings. In these weekly meetings, we learned about one another's interpretations, considered alternative plausible interpretations, and incorporated the subteam's additional questions, discoveries, and ideas. Incorporating multiple perspectives from subteam members on each participant's data enhanced the analytic role memos, strengthened interpretations, and our analysis in general. During this intensive analytic phase, subteams came together regularly as a full research team to discuss what we were learning from participants *at each site* and to identify key findings *within* and *across* sites.

To examine carefully connections between learners' developmental levels and their experiences of change in the program, we looked primarily at the scores and themes that emerged from subject-object interviews and the social role–related vignettes. The scoring from the quantitative measures of stress, life satisfaction, and locus of control (i.e., pre- and post program assessments) documented changes from program start to finish. The degree and direction of change were assessed in our quantitative analysis through descriptive statistics and multiple regression analyses. We correlated the assessments of variability in these with changes in SOI score (see, e.g., Kegan et al., 2001a).

The developmental assessment measures and qualitative interview data enhanced our understanding of transformation and the holding environment, so they corresponded to data from the study itself (Strauss & Corbin, 1998). We looked for relationships between participants' experiences of change in terms of their way of knowing and built matrices that linked patterns in ways of knowing across groups to other aspects of learners' experiences (e.g., other ongoing supportive contexts and their motivation and goals). We examined patterns that emerged across the map diagrams to understand participants' descriptions of self and role within each context and carefully documented any changes in these over time.

After we identified learners whose experiences appeared transformational (i.e., those demonstrating a change in way of knowing from program start to finish) and those whose experiences changed in other important ways, we examined the supports and challenges that learners named in describing both kinds of change. In representing participants' experiences, our intention was to illustrate key points in narratives and to link them to salient themes common to cases within and across all three sites (e.g., the cohort and teacher-learner relationships). We integrated data from a variety of measures, which allowed us to create a complex and rich narrative for each case example. Many of these highlight participants' program experience, descriptions of their own skills, ways of generalizing to the concept of competency in a particular social role, reported changes during the program, and recent experiences of success.

In interpreting the data, we attended in multiple ways to validity threats throughout the design, data collection, and analytic phases of this study. We collected data through multiple measures and, when possible, triangulated what we were learning from multiple data sources. After the first round of data collection, we asked participants whether what they told us about the complexity of their experience would have been different had we interviewed them in their first language. We sought to enhance validity by frequently asking participants about how well they felt they were expressing the full complexity of their ideas. As noted, we combined multiple analytic tools to address interpretative validity. During every phase of analysis, we engaged in cross-checking codes (Miles & Huberman, 1994) and discussed and incorporated multiple interpretations among subteam members and with the full research team. Throughout analytic phases, we searched for and examined discrepant data to test both the power and scope of our emerging theory (Maxwell, 1996; Merriam, 1998). By attending to data at the level of the individual storyline, group patterns, and case write-ups, we generated a grounded theory that accounts for the multiple levels of data and role-specific perspectives on its interpretation (Glaser & Strauss, 1967; Strauss & Corbin, 1998).

Summary and Implications: Lessons Learned

Throughout this paper, I have described the range of measures we employed to gain a deep understanding of various facets of the learners' experiences in the program and in other domains of their lives. In so doing, I highlighted the barriers we encountered and how our team's research process of reflecting on what we were learning and how we could improve measures throughout data collection strengthened our measures and in turn our research design. I have discussed why we adapted measures to better match the needs of these ESOL learners and the strategies we employed to understand better what their learning meant to them, how they believed their program learning transferred to their social roles as parents, workers, and students, and the changes they noticed in themselves during their programs. Using a range of measures helped the team triangulate data from a variety of sources. In this summary, I highlight strategies that strengthened this research and the key methodological lessons learned from this work.

1. Learning from Logistical Issues

As is the case with any research project, data collection, which took place at three different sites, was set to be completed within limited time periods. This made it necessary to use our time wisely and to map out carefully both the sequence and the time allocation for each measure on each day of data collection. This was especially important since we were interested in engaging learners in a variety of measures. As noted, due to time constraints, it was necessary to adapt certain measures so that they could be employed in a shorter amount of time. We adapted the SOI, for example, such that it could be administered in one hour, reducing the number of questions from ten to five. I discussed how this was accomplished and how this developmental measure helped us assess development on its own and in combination with other measures (e.g., the vignettes). Carefully planning the sequence and the timing of each measure during data collection and carving out time for the team to reflect together on the content and the length of each measure before and after data collection were strategies we employed to collect rich data during the allocated timeframe. Another strategy we employed was to hold training sessions for the additional interviewers who helped with data collection. This was important because it gave the interviewers (who were not members of the research team) a chance to become familiar with and ask questions about the measures.

2. Learning from Building Research Relationships

As with all research, it is essential to attend to the research relationship. This was true in our study and seemed especially important since for the most part this was the first time these participants had engaged in a research project. We worked to build and attend to research relationships in multiple ways throughout the study, which facilitated trust between participants and team members, enhanced rapport, and seemed to help participants feel safe in sharing their experiences with us.

First, as mentioned, whenever possible, the team tried to match the same participants with the same interviewers during each round of data collection. This was one of the most important decisions we made. I think that this helped the participants to feel known and cared for. Revisiting the same participant at different points during the program not only enabled team members to ask follow-up questions, inquire about changes in their perspective, and track the development of such changes, but it helped to develop research relationships—participants actually looked forward to talking with members of our team.

Second, asking all interviewers to review participants' data before interviewing them served two important relational purposes. First, it enabled interviewers to become familiar with the participants and helped to develop rapport and trust. Second, as this was a developmental study, we wanted all interviewers to understand participants' stories from prior interviews so they could attend to their stories by integrating questions about them into the interview and incorporate developmentally oriented probing questions to help with understanding their sense making.

Third, a central and unexpected lesson that relates to the importance of research relationships concerns the participants' perspectives on their participation in the research project. Specifically, three themes emerged that related to participants' perspectives on their involvement in our study. First, many participants told us how our interview questions encouraged them to reflect on their experiences. Second, participants across all three sites reported that knowing we would be "coming back" supported their persistence in the programs. Several program teachers also emphasized the important ways in which our research team helped support and improve learner retention and, in some cases, supported successful completion of the program. Last, in our final rounds of interviews with participants, we again asked what supports they believed had been helpful to them in their learning and in completing their program. Many participants named either our research team as a group (e.g., "you guys") or an individual interviewer—who listened carefully to their words, tracked changes in their thinking, asked questions, and valued their experience throughout the program's duration.

3. Learning from Language Issues

In this research, all interviews were administered individually in English to the ABE/ESOL participants because the first-language diversity of this sample made the cost of interviewing participants in their first language impractical, given budgetary constraints. Especially at the programs' start, participants' levels of expressive English (e.g., vocabulary, grammar, difficulty and/or ability to fully express ideas) varied. This influenced both our choice of measure and the ways in which we adapted them to better suit participants. We learned the value of carefully attending to and evaluating our measures and how they were working in an ongoing way during the research. Several methodological lessons are important to highlight.

First, there is great benefit to employing a combination of measures with participants who speak English as a second language. Engaging learners in some measures that invite them to select the content to be discussed can be helpful in two ways. First, since participants choose the content, researchers can learn about the different domains of participants' lives that they may not discuss in response to more structured questions. Second, open-ended protocols do not require the participants to understand vocabulary that may be unfamiliar to them. As discussed, in the SOI, learners select the content to be discussed and thus have the opportunity to discuss their own experiences. This differs from other types of measures, which have predetermined content and invite learners to respond to set questions that may require certain types of vocabulary knowledge or cultural literacy that may or may not be familiar to learners from diverse cultural backgrounds.

Second, it is important to be mindful of the limitations of measures that require ABE/ESOL learners to articulate fine distinctions between words or to complete sentence stems that require participants to spontaneously complete sentence stems. For example, when conducting the role maps interviews, although many participants found it easy to select terms they ascribed to themselves (e.g., patient, strict, easygoing) from the descriptors we had created, it was often understandably difficult for them to generate their own words to describe themselves. We found this especially true during our first round of data collection; however, in general, participants became better able to generate descriptors as they progressed in their programs and improved their expressive English skills. Also, we learned about the challenges participants experienced when completing the Loevinger sentence completion test, which requires participants to spontaneously complete sentence stems.

Yet, this does not mean that ESOL/ABE learners cannot engage with measures that have a more structured format (e.g., paper-and-pencil survey type measures or structured qualitative interviews). *When administering these more structured measures, it is important to attend to how they are administered (e.g., individually or in a group) and to adapt them in ways that may make them more accessible to ABE/ESOL learners.* It was necessary to adapt standard quantitative measures and Likert scales (e.g., locus of control) to better match this sample's characteristics so that the scales would be clear, consistent, and understandable. As discussed, we altered the scale from a seven-point to a five-point scale, made these measures user-friendly by adding smiley faces above the numbers on the Likert scales, and reminded learners about the scale's meaning before administering measures.

I also highlighted other challenges associated with language issues and the ways in which the team developed alternative strategies. We learned that some of the paper-and-pencil measures contained vocabulary words unfamiliar to participants. For instance, one of the questions in the PEBS asked learners to state their degree of agreement or disagreement with this sentence: I feel threatened when I have to present my work in class. Several learners did not understand the meaning of the word "threatened." We altered our administration of these measures—from large- to small-group administration—so we could attend to these language issues.

Even in cases where measures are semi-structured, we learned the importance of rephrasing questions when learning from ABE/ESOL learners. Rephrasing questions in multiple ways (for example, in the participant interviews, we asked: What makes for a good teacher? or What do you see as a teacher's job?) helped learners understand and respond more fully to questions. This also provided us with additional data sources for understanding a person's way of knowing. Also, as noted, after reflecting on our first round of data collection, we believed it would be helpful to ask a meaningful question of participants individually and as a group after engaging them with measures. We asked them, " If you could be interviewed in your first language, would your responses be the same as those you give us in English?" Most participants responded by telling us that the meaning of their responses would be the same but that they might have "more words"—or more sophisticated words—with which to express themselves. This question is an example of one of the ways in which we tried to understand the influence of interviewing participants in English, which for the most part was not their first language and to address validity threats.

4. Learning from Cultural Issues

We learned that cultural issues and cultural assumptions that can be embedded in various measures are important to attend to throughout the research process. When we engaged learners with standard paper and pencil measures during the first round of data collection we learned that it was important to think carefully about how to administer the measures in the final round. For example, a few participants told us that the statement "I am an excellent student" was "hard" for them to agree or disagree with because of their home country's cultural norms, which state that a person should "not speak in this way about himself."

Also, in the Loevinger sentence completion test, some sentence stems included phrases that seemed to contain cultural assumptions and did not align with the participants' experiences, causing participants to ask questions about the *meaning* of the stem. For example, in the female version of the Loevinger, a participant is required to respond to the following sentence stems: "A wife should…" and "A man feels good when…" As a few of the female participants were paired with male interviewers, we wondered how, if at all, this might influence their responses to stems and how, if at all, cultural norms in participants' home countries might influence their responses to stems. Several participants gave a first response (i.e., the response that interviewers wrote down) and then articulated a second and sometimes third response that was often more complexly formulated. I have discussed the ways in which other measures—the SOI, in this case—helped us understand participants' experiences more fully and how we used this measure in combination with other data sources. Researchers might explore the administration of measures that are even less language-based than those we employed; doing so could provide the field with an interesting and important contribution.

5. Learning from Contextual Issues

Across sites, focus groups provided a safe context in which participants could express feelings and concerns that did not emerge in individual interviews. Using focus groups in combination with individual interviews helped the team to understand better participants' experiences. For example, at the workplace site, recent downsizing and layoffs were discussed in-depth in focus groups—and not in individual interviews. It seemed that hearing other learners discuss this aspect of their experience may have helped participants to feel that it was okay for them to do so as well. During focus group conversations several workers voiced concern about being "let go" and what that would mean to them. At the community college site, the focus groups provided a context in which individuals and groups of adults expressed their thoughts about the importance of community. This did not emerge as powerfully in individual interviews. At the community college site, participants told us that they valued the focus groups we facilitated; they felt that the focus groups served to gather students and facilitate reconnection.

We also learned that classroom observations provided useful contextual data that we drew upon for use in our qualitative interviews, and they also helped build rapport with participants. We wish it had been feasible to conduct additional observations; however, insufficient resources (e.g., human, time, and financial) made this impossible.

6. Lessons Learned from Using Range of Measures to Understand Learners' Meaning Making and Program Experiences

Another important lesson concerns the value of using a range of measures (e.g., in-depth qualitative interviews, subject-object interviews, focus groups, role maps, quantitative measures, vignettes, classroom observations, and learner-centered interviews), which helped in triangulating data from multiple sources, tracking both content-related and developmental changes over time, and assessing validity.

We designed each measure to focus on particular aspects of learners' experiences and when viewed holistically, we were able to understand different aspects of their learning and experience and to trace changes over time. Our learner-centered interview (i.e., the participant interview) administered to participants during each round of data collection was not initially intended as a developmental assessment tool (although we included several developmental questions within the interview). And the subject-object interview was not designed to examine participants' experiences in the program. However, as we analyzed the data from these interviews, we learned that, taken together, they gave us a fuller, more textured picture of participants' learning experiences and, in some cases, a broader picture of their lives, helping us to understand how they saw themselves in their various roles. Similarly, transcripts from the focus groups presented not only what was said but also identified who said what. This allowed us to trace group themes as well as to use data from particular participants in coordination with other data we collected (e.g., participant interviews, maps, and SOIs). This also helped with triangulation of data (Miles & Huberman, 1994) and proved very useful in revealing the fuller context and culture of participants' lives.

Learning from various sources of data also helped us to assess validity and to compare our developmental assessments across measures. Significantly, we discovered that developmental measures (e.g., the SOI, quantitative measures, and vignettes) could be used reliably with adults from diverse cultural backgrounds. There were three ways in which we found it helpful to use the SOI data in conjunction with data from other measures. First, SOI data helped with triangulation; we compared SOI scores with participants' vignette scores and we also triangulated data from SOIs with participant interview data. Second, it allowed us to learn about other issues—not necessarily connected to program learning or the social role we were focusing on at each site—that were important to participants but not discussed or made explicit in other measures. For example, at the workplace site, where we were interested in how program learning was transferring primarily to the social role of worker, many participants also discussed how their learning was helping them in their role as a parent during their SOIs. Third, developmental assessments for participants that were derived from SOI data enabled us to make comparisons between developmental levels and their relationship to levels of satisfaction, efficacy, and locus of control.

Using multiple developmental assessment tools, the SOIs and the role-based vignettes that we designed and administered both before program entry and at program completion helped us to assess developmental change over time. Talking individually with adult learners at different points during their programs enabled us to learn about their internal experiences of change over time. For instance, the map interviews, which were conducted during each round of data collection, enabled us to track learners' changing perceptions of themselves in a particular role, changes in the ways in which they valued or devalued their work, changes in their views of role relationships, changes in the central emotions and beliefs they associated with work, and changes in the way they conceptualized their role activities and responsibilities. The longitudinal nature of our study and the design of our measures enabled us to revisit the same participants at different points, allowing us to carefully document changes in their thinking and to ask of data and participant: Are there changes in learner views?

In sum, these methodological findings have important implications for future research. Our study demonstrates that language-based research measures can be administered if the effectiveness of the measures is carefully monitored and assessed, if they are properly adapted, if the students' expressive English skills are adequate, and if multiple measures are used to triangulate findings and assess validity. Also, validity can be enhanced if participants are frequently asked during interviews how well they feel they are expressing the full complexity of their ideas in English. This creates an additional check on the data quality.

I hope that our research methods, the challenges we encountered, the strategies we developed and the methodological lessons we learned are useful to future researchers and practitioners as we seek to develop research tools that will help us to better understand ABE/ESOL learners' perspectives on their learning and all that it means to them.

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Appendix A

Focus Group Questions for Family Literacy Site
(First Round of Data Collection, 9/98)

Introduction: *Explain the purpose of the focus group to learners.*

For the next 45 minutes that we have together, we invite you to have a conversation with us. Our hope is to get to know you a little. We're also hoping to learn how you are thinking about the program before it starts.

We're interested in getting a sense of how you're thinking about the program now. It's nice to have this chance to talk with you before the program starts.

So that we can remember what you tell us, we'd like to tape record our conversation today. No one from your program or your teachers in the program will hear the tape. Our conversation will be kept private. So is it OK with all of you if we tape? **Let's move on!**

Note to Interviewer: *If there is silence, constricted participation: Put people in pairs, let them discuss each question with each other first; then, after a few minutes, ask if anyone is willing to tell the group what they were talking about in pairs.*

1. What are one or two of the most important reasons why you wanted to be a student in the family literacy program?

2. What have you liked best about the family literacy program so far?

Note to Interviewer*: You might want to let the group know that you'll be asking this question again at a later point during the program to see if their thinking has changed.*

3. What have you found to be the most difficult part of the program so far?

4. Do you have any other thoughts or feelings about the program, even before it starts, that you think would be good for us to know about?

5. In what ways have you changed or become different during the program so far?

6. Do you have any questions you want to ask us?

General Policy*: Present a middle-ground invitation, not a requirement to speak. Say something like, "I want to give each of you who want to, to have a chance to talk. So I want to give/invite each of you who have not yet spoken a chance to say what you're thinking if you want to."*

Appendix B

Participant Interview #1 (Polaroid Workplace Site, 3/98)

Name of interviewee: ______________________________
Name of interviewer: ______________________________
Date: ______________________________
Duration of interview:______________________________

Section I: Context

1. Appreciation and Introduction
Thanks so much for participating in our study. I appreciate your taking the time to talk with me today. Before beginning the interview, I want to introduce myself, tell you more about the purpose of our project, let you know what the kinds of questions I'll be asking you today, and address issues of confidentiality.

Note to Interviewer: *Tell the participant about your work and how long you've been in the field, and say something about your interest in this study. Remind the person being interviewed that he or she is "the expert"—your interest is in learning from him or her.*

2. Overview of Our Purpose and Goals
Our hope for this research is to learn more about your experience as a learner in the diploma program. During our conversation, I'm going to ask you questions so that I can better understand how you think/feel about your experience as a learner. I'd like to ask you questions about how you see yourself as a worker at Polaroid and a learner in this program. I'd also like to ask you some questions that will help me learn more about your background and family. There are no right or wrong answers. Instead, talking with you will help me to better understand your experience. This interview will take about one hour or less.

3. Confidentiality
As researchers we will write about what you tell us. When writing about your experience, we will not use your real name. Everything you say will be kept private. We will never identify to anyone the names of any of the people who are helping us to learn about the learning relationships. We may quote things that you say in anything that we write, but we'd never use your name. You do not have to answer any question that you do not want to answer.

4. Taping
To make sure that I can listen to you well and so that I can review what you have said, I will be tape recording our conversation. I want you to know that no one other than the research team will have access to the tape. We never identify who said what to us to anyone, and this includes everyone at Polaroid and your teachers. T he tapes will be transcribed, but no one will see the transcript except for our research team. If you want to see the transcript, we will give you a copy of it.

5. Questions
Do you have any questions before we begin? If you have any questions at any time during our conversation, or if you don't understand something I've said, please let me know.

Section II: Getting Started

1. What name do you prefer to be called?

____ (capture pronunciation)

2. How did you learn about the diploma program?

3. Why did you enroll in the diploma program?

Section III: Demographics

a) Family Status: *Tell the person that you would like to ask a few questions about his or her family.*

1. Marital Status (Ask these questions in a conversational manner):

    Have you ever been married? Do you have any children? If so, how many?

    ____ Married **(if yes)** Spouse's occupation ____________________
    ____ Single
    ____ Divorced
    ____ Widowed

2. Number of children _______

3. Children's ages

_____ _____ _____ _____ _____ _____ _____ _____
(If person tells you the names of children, you might want to jot them down.)

4. Do you have any other family living in the area?

    Probe: Who lives in your home?

5. What languages do you speak at home?

b) Re: Learner

1a. How old are you? **or** Can you tell me how old you are? When is your birthday?

Date of Birth _______/_______/________ or Date of Birthday _______/_____/______

1b. Gender ______Male ______Female

2. Where were you born? ______________________________ **(Write down country of birth)**

3. How long have you lived in the USA? _____ **(Enter number of years)**

4. Have you lived your whole life in the USA? _________________

c) Educational History

1. Where did you go to school?

2. How many years of school have you had? _____ **(Enter number of years)**

3. How long has it been since you've been in a classroom as a student?

Probe: When were you last in a learning experience?
What do you see as a powerful learning experience?

Can I ask you a little about your parents?

4. How many years of school did your **mother** have? _____**(Enter number of years)**

5. How many years of school did your **father** have? _____ **(Enter number of years)**

6. How many years of school have your **children** had? **(Enter number of years for each child)**

_____________ _____________ _____________ _____________

Section IV: Learner's Views on Learning and Teaching

a) Views of the Program

1. How do you feel about participating in this program?

2. What do you think will be the best part of the program?

3. What do you think is going to be the most difficult part of the program?

4. Of the five classes in the diploma program, which ones are you most interested in? Why?

Five Classes: 1) Reading/Writing, 2) Math, 3) History, 4) Science, 5) Life Employment Workshop

5. What do your family and friends think about your being in the diploma program?

b) Learner's General Theories about Learning and Teaching

<u>Step 1: Story Generating Level (Getting at Learner's Notions of Learning)</u>

Let's talk a little about your experiences as a learner. I'm hoping that you can tell me a little about your experiences of learning in and out of school (as a child and as a teacher). I don't just mean your experiences learning in school (e.g., formal learning in a class); you can talk about learning experiences at work, too (e.g., in an apprentice situation, formal class, or on-the-job training).

1. Can you tell me about a powerful learning experience? **OR** Can you tell me about one of your best learning experiences?

    Probe: What was it about the learning experience that made it really powerful?

    Note to Interviewer: *If the participant tells a story about a childhood learning experience, ask him or her to tell a story about a recent learning experience –(as an adult)*

    Note to Interviewer: *If the person is blocked and cannot think of a "powerful" or "best" learning experience, ask him or her to tell you about a "worst" learning experience (Q#2).*

2. Can you tell me about one of your worst learning experiences?

    Note to Interviewer: *If the person cannot answer the above questions, then ask question #3.*

3. Who have you learned the most from in your life?

    Probe: What made him or her a good teacher?

<u>Step 2: Support for Learning and Teaching</u>

Probe the story to get at theories about learning. Try to stay within the context of the learner's story. You may have to ask these questions in different ways. Use the form that works best.

1. What's the best way for you to learn? What makes it easier or harder for you to learn something? What are the ways in which you learn best?

2. What helps you most when learning? **OR** What helps you most when you're learning something new?

Step 3: Theories about Learning

1. What do you think makes a person a really good learner (or student)?

 Probe: *Ask questions about how successful students become successful.*

What do you see as a student's responsibilities?

2. How do you know when you have really learned something?

 Probe: *Try to get the person to tell a* **story***. This becomes a platform for* thinking about the learner's theories of learning and teaching.

3. What do you think makes a person a really good teacher?

 Probe: *Why?* ***OR*** *Why was he or she a good teacher?*

4. How do you think teachers would describe their job?

Section V: Engaging with Us

1. Do you have any questions for us? Is there anything you need to know?

2. Is there anything else that you'd like to add?

Contact Information

Work Phone (________)__________________ Home Phone (_______)___________________

Street Address ____

City ____________________ State __________________________ Zip Code__________

Appendix C

Subject-Object Interview Procedures

In this interview I want to find out how you think about things. It will take about one hour. There are no right or wrong answers in this interview. Every person has a different way of thinking about things, and I want to learn about/understand how you think about things. I will be asking you a lot of questions to help me learn how you think about things. Some of the questions might sound kind of silly, but I just want to make sure that I understand what you mean.

We'll spend the first five minutes or so going through these cards. [Show cards to interviewee.] These cards are for you to use. I will ask you to write down a few words or sentences on each one, and then we will talk about some of the things that you wrote down. What we talk about is up to you. You don't have to talk about anything that you don't want to talk about. So if you start to feel uncomfortable with something we're talking about, please tell me and we'll go on to something else.

OK, let's start with the first card.

(HAND <u>ANGRY</u> CARD TO INTERVIEWEE)

ANGRY: I'd like you to think back over the last few weeks or months and think if there was something that made you feel really angry or something you got really angry about. It could be anything; it doesn't have to be about work. Are there one or two things that you can think of?

Write down two or three words just to remind yourself of what happened. Again, these cards are for you to use. I don't need to see them.

(HAND INTERVIEWEE <u>TORN</u> CARD)

TORN: Can you think of a time or some times in the last few weeks or months when you felt torn about something—when if felt like something or someone was pulling you in one direction and something or someone else was pulling you in another direction, and you really felt pulled in two different directions at the same time? This can be about anything in your life. Write down a few words to remind yourself of that time.

(HAND INTERVIEWEE <u>SUCCESS</u> CARD)

SUCCESS: I'd like you to think about a time recently when you felt very successful, when you did a really good job on something and you felt really proud of yourself. Maybe you finished something that was really hard for you or you did a really great job on something. Again, this can be about anything in your life. Write down a few words just to remind yourself about these experiences.

(HAND INTERVIEWEE <u>WORRIED OR NERVOUS</u> CARD)

WORRIED OR NERVOUS: Think of a time or some times recently when you felt nervous about something or were worried or afraid about something. Write down a few words to remind yourself of what that was.

(HAND INTERVIEWEE IMPORTANT TO ME CARD)

IMPORTANT TO ME: If I asked you what is most important to you in your life right now, what are two or three things that you would say? Again, write down a few words to remind yourself what those important things are.

OK. Now we'll spend the rest of the hour talking about some of the things that you wrote down on the cards. We don't have to talk about all of the cards. Some people only get to one of them and some people go through all five. Either way is just as good.

You can choose which card you would like to start with—any one you want is fine. Remember, you don't have to talk about anything you don't want to. So, why don't you choose one and we'll begin.

After the interviewee picks a card, say: OK, great, can you tell me a little bit about what happened and then I'll ask you some questions.

Appendix D

Paper and Pencil Measure: SENTENCE COMPLETION TEST.

<u>Overall Context for Paper and Pencil Forms</u>
(especially if these are the first questions that we ask of the workers in a one to one session)

1. Introduction to the Study and Welcome
Thank you for coming by today and taking the time to help us with our research. Before beginning the interview, I want to introduce myself, tell you more about the purpose of the project, and let you know the kinds of questions I'll be asking you today.

Note to Interviewer: *Explain what you do for work and how long you've been in the field; say something about your involvement in this study and interest in adult learning. Remind the interviewee that he or she is "the expert"—your interest is in learning from and about him or her.*

2. Overview of Study Purposes and Goals
The hope for this research is to understand the things that help adults learn best in diploma programs. So I will be talking with you about your experiences because I believe what you have to tell us is really important. Today, I'd like to learn more about your work and more about you. One of the ways in which I would like to do this is by asking you to answer some questions about your work and yourself. We'll read these pages of questions together and fill them out. There are no right or wrong answers. What you put down will help me to learn more about you. The questions will take about half an hour.

3. Confidentiality
Everything you say or write will be private. What you write or say will not be shared with anyone at Polaroid or CEI. We will use the alias we have assigned after reviewing your paper.

If the research team does write about what you tell us, we will disguise your name. *(This will be integrated to be the same as ED-S model.)*

4. Questions
Do you have any questions before we begin? If you have any questions at any time during our time together or if you don't understand something I've said, please let me know.

Loevinger Sentence Completion Test
<u>(The Loevinger following this page is the FEMALE version.)</u>

Purpose:
The Loevinger Sentence Completion Test (SCT) was designed by Loevinger and Wessler (1970) to explore the way a person makes sense of him- or herself and the world.

Introduction to the Loevinger:
The underlying idea of the SCT is that a person has a customary orientation to the world and to him- or herself, or a kind of "frame of reference," which are called stages. The short form of the SCT is made up eighteen sentence fragments (or stems) that an individual is asked to complete in any way that he or she wishes. The way a person completes these sentences is believed to reveal the frame of reference through which he or she understands events and interprets the world. This "frame of reference" represents a person's developmental level and reflects the complexity of his or her thinking.

The SCT has been well researched and is highly respected for reliability and validity. The completed sentences are compared with those in a scoring manual and are scored accordingly. The SCT distinguishes six stages of increasingly complex thinking.

****

<u>INTERVIEWER'S COPY</u>

Instructions for Administration of the Sentence Completions:
I'd like you finish the following sentences that I read to you. You can tell me the words you want me to write down for each sentence, or you can write down the words yourself, right on this page. Whichever way you want to do it is OK. These sentences are intended to explore the way you think about different things. There are no right or wrong answers. For example, here is half of a sentence I'd like you to finish. Tell me or write down what you want to say to finish this sentence. You can finish it in any way you like.

Yesterday, I…

Paper and Pencil Measures

NAME ________________   DATE________

1. When a child will not join in group activities…
2. Raising a family…
3. When I am criticized…
4. A man's job…
5. Being with other people…
6. The thing I like about myself is…
7. My mother and I…
8. What gets me into trouble is…
9. Education…
10. When people are helpless…
11. Women are lucky because…
12. A good father…
13. A girl has a right to…
14. When they talked about sex, I…
15. A wife should…
16. I feel sorry…
17. A man feels good when…
18. Rules are…

f-form 81-2

Paper and Pencil Measures (continued)

NAME ________________ DATE________

19. Crime and delinquency could be stopped if…
20. Men are lucky because…
21. I just can't stand people who…
22. At times she worried about…
23. I am…
24. A woman feels good when…
25. My main problem is…
26. A husband has a right to…
27. The worst thing about being a woman…
28. A good mother…
29. When I am with a man…
30. Sometimes she wished that…
31. My father…
32. If I can't get what I want…
33. Usually, she felt that sex…
34. For a woman, a career is…
35. My conscience bothers me if…
36. A woman should always…

Appendix E

Learner Vignettes: Community College Site

Learner Vignette
(Male Version)

Name of Interviewee: ______________________________________

Name of Interviewer: ______________________________________

Date: ________________________________

Duration: ________________________________

Set Context

What name do you prefer to be called? ______________________________

1) Thanks and Appreciation

2) *Introduce the vignette:* I want to tell you a story and hear how you think about it. This is a story about students. At the end of the program, I'll be talking with you again about the same story. It will be a chance to hear how your thinking might have changed.

3) We will talk for about 20 minutes.

4) You do not have to answer any question that you do not want to answer.

5) So that I can listen well and review what you tell me, I will tape record our conversation.

6) Questions

a) Do you have any questions before we begin?

b) If you have any questions during our conversation, or if you don't understand something, please let me know.

The Vignette

Joseph is in a community studies class in a community college. One day the teacher divides the class into groups of seven people each to work on an assignment. The teacher tells the students that to complete the assignment successfully, each person in the group will have to participate and contribute. The teacher then gives the groups specific instructions about what they are to work on.

Joseph's group gets together and starts to talk about the assignment. One person in his group says, "I have a really great idea for getting this done. It's not quite how the teacher says to do it, but I've seen it done in other places and it's really cool and a lot of fun, and I think we'll actually learn more. What do you guys think?" Some students in the group nod their heads and say they'd like to hear more about it. A few other students protest and say that it's not doing the assignment in the way the teacher instructed them, and they don't want to do anything different from what was assigned. The group argues about which way to do the assignment and finally someone says, "Let's take a vote." Up to this point, Joseph hasn't said anything. He realizes that his two good friends in the group disagree on what the group should do. One of them wants to go with the new idea and the other friend wants to follow the teacher's instructions. From listening to the others argue, Joseph also realizes that his own vote will break the tie in the group and decide the way it will go. Joseph is not sure what to do.

Probes

1) If you were Joseph, what would you do?

2) Which way would you vote? Why?

> How would you make that decision? How do you know this is the right decision?
> What would it be like for you to vote against one of your good friends?

3) What would be the hardest thing for you in this situation?

> How would you deal with that?

Note to the Interviewer*: In this vignette, we are trying to get at how the interviewee makes sense of conflict, group loyalty, loyalty to the teacher, authority (source of authority, and what constitutes legitimate learning), and decision-making issues. Let these themes be a guide for your probes when they seem relevant.*

Listen for the following as you probe: where the interviewee seems to locate the authority, the interviewee's sense of adherence to the rules or not, conflict over following the teacher's instructions or not and what that conflict is about for the participant, how the participant deals with issues that challenge or threaten group loyalty and cohesiveness.

You don't need to ask questions about each of the above themes—let them be a guide for your probes.

Learner Vignette
(Female Version)

Name of Interviewee: ____________________________________

Name of Interviewer: ____________________________________

Date: ______________________________

Duration: ______________________________

Set Context

What name do you prefer to be called? _____________________________

1) Thanks and Appreciation [ANY SAMPLE TEXT HERE?]

2) *Introduce the vignette:* I want to tell you a story and hear how you think about it. This is a story about students. At the end of the program, I'll be talking with you again about the same story. It will be a chance to hear how your thinking might have changed.

3) We will talk for about 20 minutes.

4) You do not have to answer any question that you do not want to answer.

5) So that I can listen well and review what you tell me, I will tape record our conversation.

6) Questions

a) Do you have any questions before we begin?

b) If you have any questions during our conversation, or if you don't understand something, please let me know.

The Vignette

Susan is in a community studies class in a community college. One day the teacher divides the class into groups of seven people each to work on an assignment. The teacher tells the students that to complete the assignment successfully, each person in the group has to participate and contribute. The teacher then gives the groups specific instructions about what they are to work on.

Susan's group gets together and starts to talk about the assignment. One person in her group says "I have a really great idea for getting this done. It's not quite how the teacher says to do it, but I've seen it done in other places and it's really cool and a lot of fun, and I think we'll actually learn more. What do you guys think?" Some students in the group nod their heads and say they'd like to hear more about it. A few other students protest and say that it's not doing the assignment in the way the teacher instructed, and they don't want to do anything different from what was assigned. The group argues about which way to do the assignment and finally someone says "let's take a vote." Up to this point, Susan hasn't said anything. She realizes that her two good friends in the group disagree on what the group should do. One of them wants to go with the new ideas and the other friend wants to follow the teacher's instructions. From listening to the others argue, Susan also realizes that her own vote will break the tie in the group and decide the way it will go. Susan is not sure what to do.

Probes

1) If you were Susan, what would you do?

2) Which way would you vote? Why?

How would you make that decision? How do you know this is the right decision? What would it be like for you to vote against one of your good friends?

3) What would be the hardest thing for you in this situation?

How would you deal with that?

Note to the Interviewer: *In this vignette, we are trying to get at how the interviewee makes sense of conflict, group loyalty, loyalty to the teacher, authority (source of authority, and what constitutes legitimate learning), and decision-making issues. Let these themes be a guide for your probes when they seem relevant.*

Listen for the following as you probe: where the interviewee seems to locate the authority, the interviewee's sense of adherence to the rules or not, conflict over following the teacher's instructions or not and what that conflict is about for the participant, how the participant deals with issues that challenge or threaten group loyalty and cohesiveness.

Ask questions about each of the above themes—let them be a guide for your probes.

Appendix F

Locus of Control Scale

Purpose
To identify and record a person's beliefs and perceptions about his or her ability to control life circumstances, events, and problems.

Background
The Locus of Control Scale (LOCS) created by Pearlin and Schooler (1978) assesses the extent to which a person believes that one's life chances are under one's own control and the extent to which a person believes that life chances are the result of things that happen outside of oneself and are as such controlled by "fate." This measure will provide a means to establish the extent to which a person's perception (locus) of control is more internally or externally placed as well as a way to record any changes in this self-sense.

The LOCS comprises seven statements, which an individual is asked to read (or listen to) and respond to by rating how much he or she agrees with each of the statements. Using the number rating scale of one through five, the individual is asked to place the number which best describes his or her degree of agreement in the blank space next to the statement.

The LOCS is a widely used and widely respected assessment tool. Summing the number ratings for the seven statements attains a score. The scores represent a range of perceived control and mastery (from control seen as outside oneself versus seen as internal or within oneself). An internal locus of control has been associated with helping to cope with the complexities of life.

Instructions
On this paper there are different statements that describe feelings and thoughts people often have about themselves. After you read each one, please indicate how much you agree or disagree with each statement? At the top of the page is a line of numbers from 1-5. Each different number stands for or describes a different amount of agreement or disagreement. Choose the number that you feel matches how much or how little you agree with the statement. Write that number in the space that is to the right of the statement. There are no right or wrong answers, we just what to learn what you think.

LOCS

NAME: ______________________________ DATE: __________________

NO!	NO		YES	YES!
1 Strongly Disagree	**2** Disagree	**3** Neither Agree nor Disagree	**4** Agree	**5** Strongly Agree

1. There is really no way I can solve some of the problems I have. _______
2. Sometimes I feel that I am being pushed around in life. _______
3. I have little control over the things that happen to me. _______
4. I can do just about anything I really set my mind to. _______
5. I often feel helpless in dealing with the problems of life. _______
6. What happens to me in the future depends mostly on me. _______
7. There is little I can do to change many of the important things in my life. _______

NCSALL

National Center for the Study of Adult Learning and Literacy

NCSALL's Mission

The National Center for the Study of Adult Learning and Literacy (NCSALL) provides information used to improve practice in programs that offer adult basic education, English for speakers of other languages, and adult secondary education. In pursuit of this goal, NCSALL has undertaken research in four areas: learner motivation, classroom practice and the teaching/learning interaction, staff development, and assessment.

NCSALL conducts basic and applied research; builds partnerships between researchers and practitioners; disseminates research and best practices to practitioners, scholars, and policymakers; and works with the field of adult literacy education to develop a comprehensive research agenda.

NCSALL is a partnership of the Harvard Graduate School of Education, World Education, Rutgers University, Portland State University in Oregon, and the Center for Literacy Studies at the University of Tennessee in Knoxville. NCSALL is primarily funded by the U.S. Department of Education's Office of Educational Research and Improvement.

NCSALL's Dissemination Initiative

NCSALL's dissemination initiative focuses on ensuring that the research results reach practitioners, administrators, policymakers, and scholars of adult education through print, electronic, and face-to-face communication. NCSALL publishes research reports, occasional papers, research briefs, and teaching and training materials; a semi-annual policy brief *Focus on Policy*, a quarterly journal *Focus on Basics*; and *The Review of Adult Learning and Literacy*, a scholarly review of major issues, current research, and best practices.

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