

**CHAPTER TWO**

**Research Method**



**TABLE OF CONTENTS**

**SECTION I: INTRODUCTION .....25**

    SITE AND PARTICIPANT SELECTION .....25

*The Bunker Hill Community College Site* .....26

*The Even Start Family Literacy Site* .....26

*The Polaroid Workplace Site* .....26

    RESEARCH QUESTIONS .....27

**SECTION II: DATA COLLECTION METHODS.....27**

*Table 1: Schedule of Data Collection at Each Research Site* .....28

    QUALITATIVE AND QUANTITATIVE MEASURES: ROUNDS OF ADMINISTRATION.....28

**SECTION III: DATA ANALYSIS METHODS .....33**

    THE EARLY PHASE OF DATA ANALYSIS .....33

    THE SUBSTANTIVE PHASE OF DATA ANALYSIS .....34

*Role-Related Analytic Questions*.....34

*Learning and Teaching-Related Analytic Questions* .....34

**SECTION IV: ANALYSIS AND WRITING—HOPES AND INTENTIONS IN EMPLOYING A DEVELOPMENTAL PERSPECTIVE .....36**

**REFERENCES .....37**



## SECTION I: INTRODUCTION

We began our research with the hope of employing our developmental perspective to inform and be informed by the world of ABE/ESOL learners' experiences in three programs aimed at supporting adult learning and the development of enhanced role competency. As developmental psychologists and educators, we embarked on a process-based research study—our intention was to carefully track learners' experiences over time. Like prior developmental studies of transformational learning in adulthood, we employed a variety of research methods to deeply examine participants' internal or psychological processes of change. Our project built on techniques for conducting developmental case analyses of transformational learning developed and validated by Selman & Schultz (1990).

Specifically, our approach utilized a combination of structured and open-ended qualitative interviews, focus groups, and classroom observations to understand and explicate the learners' experiences of their programs over time. Additionally, we administered standard survey measures of stress, satisfaction with life, and self-efficacy, which helped us to assess participants' thinking at program start and completion (i.e., pre- and post- intervention levels). Together, these approaches enabled us to explore and thickly describe participants' learning experiences and their experiences of change in themselves over the course of their ABE/ESOL programs. In this chapter, we describe the three research sites, our methods of data collection, the instruments we administered, and our methods of data analysis. We offer our study's research methods as a resource for researchers and practitioners with the hope that they serve as a useful map toward better understanding ABE/ESOL learners' experiences in such programs.

### Site and Participant Selection

In 1997, we identified three Adult Basic Education (ABE/ESOL) settings running programs widely considered to be best practice (see, e.g., Harbison & Kegan, 1999). Best practice programs are commonly celebrated because they use effective methods for achieving excellent and targeted results and because such model programs often set benchmarks or standards for other programs to emulate (Hammer & Champy, 1993). In our case, we selected these programs because their designs, in part, allowed for long-term growth in students' understanding, thereby allowing us to examine the developmental dimensions of transformational learning.

In addition to having an established history of practices focused on learner-centered curriculum, each of these programs intentionally incorporated a variety of supports and challenges to facilitate adult learning. We examined how program design, teacher practice, learner expectations, and curricula might support and challenge learners with different ways of knowing and possibly lead to transformation. The selected programs also incorporated practices and curriculum that were aimed at supporting the enhancement of adults' specific role competency in one of three social roles: student, parent, or worker. Through our methodology, we were able to trace the ways in which participants, over time, reported program learning as helping them to perform specific social roles differently.

All adults enrolled in the three programs were invited to participate in our research (their participation was voluntary). At each site, all participants initially agreed to participate in our research. We began our study with 58 participants (17 from the community college site, 22 from the family literacy site, and 19 from the workplace site); however, during the course of the research, 17 participants (across settings) either withdrew or temporarily stopped out of their programs for a variety of reasons. We were able to conduct what we refer to as non-completer interviews with several of these participants after the programs ended for the year.

During 1998-99, we carefully followed the inner experiences of a group of 41 ABE/ESOL learners from all over the world, enrolled in three different U.S. programs where the explicit program goal was either to prepare learners for enrollment in a GED program or to help students learn English for speakers of other languages (i.e., the family literacy site); or to prepare learners for entry into academic coursework at the college level (i.e., the community college site); or to earn a high school diploma (i.e., the workplace site). This sample was diverse with respect to race, ethnicity, age, past educational experiences, and social roles (please see Appendix A for sample demographics). The great majority of the participants were non-native English speakers, from a lower socioeconomic background. We will briefly describe each site (fuller descriptions appear in later chapters).

#### The Bunker Hill Community College Site

In the Summer of 1998 we negotiated a research relationship with Bunker Hill Community College (BHCC) in Charlestown, Massachusetts. During the 1998-99 academic year, we researched how a group of recently immigrated young adults, mostly in their late teens or early 20s, experienced a pilot program aimed at helping them become better prepared for academic coursework in college. These learners were enrolled in the same two classes at BHCC during their first semester (an ESOL class and an introductory psychology class designed for ESOL learners). During the second semester, the group disbanded, and each learner independently selected his or her own courses from the full range of academic courses available at BHCC. As part of this program, all learners also engaged in coursework at BHCC's Self-Directed Learning Center.

As at our other two sites, adults enrolled in this program were primarily from lower socioeconomic backgrounds and non-native English speakers. Unlike at our other two sites, these students had already earned a high school diploma and were matriculating for an Associate's degree or a certificate of study. Our interest was in learning how participation in this program influenced how these participants conceived their roles as students.

#### The Even Start Family Literacy Site

We negotiated a research relationship with the Even Start Family Literacy Program in Massachusetts during the Summer of 1998. To enroll in this program, participants needed to be from lower socioeconomic backgrounds. At this site, we carefully followed one group of parents who were members of a pre-GED class and another parent group enrolled in an ESOL class from the Fall of 1998 through July 1999. These parents, who were mostly in their 30s, emigrated from various countries and had been living in the United States for an average of approximately nine years. Parents in this program also had at least one child who attended the family literacy program. Enrolled parents participated in a five-component program which includes: 1) a pre-GED or ESOL class, 2) a class for their child or children, 3) home visits from site administrators, 4) parent and child time meetings, and 5) parent discussion groups where the two cohorts of adults (ESOL and pre-GED) came together for weekly discussions. Our interest was in learning how participation in this family literacy program affected the ways in which these adults conceived and enacted their roles as parents.

#### The Polaroid Workplace Site

The Polaroid Corporation of Waltham, Massachusetts, our workplace site, was selected in the Fall of 1997. At this site 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 workers were in their 30s and 40s, had lived in the U.S. for more than

20 years, were married, and had children. We began data collection in March 1998 and completed it in June 1999. All adults enrolled in CEI's Adult Diploma Program took five classes: mathematics, writing/English, U.S. history, science, and life employment workshop. Our interest was in learning how participation in this program affected the ways in which these individuals conceived and enacted their role as workers. When we began data collection there were 19 participants at this site: Sixteen were Polaroid employees, and three were from a nearby company that paid for three employees to participate in the program. However, one employee from Polaroid and two employees from the nearby company dropped out of the CEI Adult Diploma Program at the beginning of their second trimester.

Not only did we believe that these programs would be ones from which we could deeply examine adults' learning experience in ABE/ESOL programs, but we also believed that they were programs from which other program designers and practitioners could gain new insights. Our study benefited from a longitudinal and process-oriented design through which we were able to follow closely individual learners throughout the duration of their programs, explore our research questions, and understand how, if at all, learners experienced transformational changes as they participated in these programs.

### Research Questions

By looking at the developmental dimensions of transformational learning, we sought to examine, from the learners' perspective and from our developmental perspective, how the mix of supports and challenges provided by the three programs helped these adults in their learning. The following research questions guided our exploration:

- 1) How does developmental level (i.e., way of knowing) 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 the learner's relationship to learning (vis-à-vis motive, efficacy, and meaning system) and specifically to any reconceptualizations of core roles?

- 4) To what extent does the level of a person's development/transformation predict success/competence?

Are the similarities in experiences across roles related to developmental levels (i.e., ways of knowing)?

## SECTION II: DATA COLLECTION METHODS

We employed a variety of data collection methods and tools, including qualitative interviews, structured exercises, classroom observations, focus groups, and quantitative survey type measures and Likert scales that we administered to each adult learner on at least three different occasions during the program (see Table 1 for data collection schedule).

**Table 1: Schedule of Data Collection at Each Research Site**

| <b>SITE</b>                                | <b>ROUND ONE OF DATA COLLECTION</b>                                 | <b>ROUND TWO OF DATA COLLECTION</b>                               | <b>ROUND THREE OF DATA COLLECTION</b>                         | <b>ROUND FOUR OF DATA COLLECTION</b>                         |
|--|---|---|---|--|
| <b>BHCC,</b><br>Community College Site     | <b>October 1998</b><br>(for several hours on two separate days)     | <b>December 1998</b><br>(for several hours on two separate days)  | <b>May 1999</b><br>(for several hours on two separate days)   |  |
| <b>Even Start,</b><br>Family Literacy site | <b>November 1998</b><br>(for several hours on two separate days)    | <b>March 1999</b><br>(for several hours on two separate days)     | <b>July 1999</b><br>(for several hours on two separate days)  |  |
| <b>Polaroid,</b><br>Workplace site         | <b>March/April 1998</b><br>(for several hours on two separate days) | <b>September 1998</b><br>(for several hours on two separate days) | <b>March 1999</b><br>(for several hours on two separate days) | <b>June 1999</b><br>(for several hours on two separate days) |

As Table 1 indicates, the first wave of intensive data collection at BHCC occurred in early October 1998, the second in December 1998, and the final round in May 1999. Additionally, at this site, we conducted observations of classes during the academic year and teacher interviews at the start and toward the end of the academic year. At Even Start, the first wave of data collection took place in November 1998 and the second and third in March and July 1999. We also conducted periodic classroom observations. Additionally, teacher and program director interviews took place at the start and end of this program. At the Polaroid site, we engaged in four rounds of data collection (March/April 1998, September 1998, March 1999, and June 1999). We conducted periodic classroom observations throughout the duration of the CEI program. Similar to the other two sites, we conducted interviews with program teachers at the start and end of the program.

Although we considered interviewing each adult learner in his or her first language, because of the diversity of our sample across the three research sites and the expense associated with hiring interviewers who spoke each of the represented languages, this was not feasible. All interviews were administered individually and conducted in English. Talking individually with adult learners at different points during their programs helped us learn about their internal experiences of change. In this monograph we will discuss more fully what the processes of transformational learning looked like, how learners with different ways of knowing experienced such processes, and the practices and processes that learners named as supports to these changes.

### **Qualitative and Quantitative Measures: Rounds of Administration**

Following is an overview of the qualitative interviews and survey-type measures we administered to the participants at all three sites. Before or near the start of each program, we administered the following protocols:

- 1) **Pre-Program Learner Focus Groups.** We facilitated focus groups in which adults were asked questions about their hopes and expectations for learning in their programs.
- 2) **Experiences of Learning Interview.** This qualitative interview was designed to help us better understand a learner's previous learning experiences and theories of teaching and learning processes. This interview was tailor-designed for each site, and through it we gathered information on learners' motives for participation, their learning goals, and their current understanding of the targeted role (i.e., student, parent, or worker). Additional topics included: educational history, conceptions of support for learning, and demographics.
- 3) **The Subject-Object Interview (SOI, see Lahey et al., 1988).** We administered the Subject-Object Interview to participants at all three of our sites during our first and final rounds of data collection. The Subject-Object interview is a semi-structured interview created to explore the ways an individual student, parent, or worker makes sense of his or her experience. The interview takes about one hour and is conversational in nature. Dr. Robert Kegan and his associates at the Harvard Graduate School of Education created the original SOI. The interview procedure is structured around a uniform set of probes, around which real-life situations of the interviewee are generated. The probes are constituted by a set of five cards. The interviewee writes a word or phrase on each card. The interviewer then explores the meaning that experience had for the interviewee and how meaning is organized. Through the SOI assessment procedure, we are able 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 collection. We were particularly interested in assessing changes in the ways in which participants made sense of their experiences from our first data collection period to our final one.
- 4) **Loevinger's Ego Development Sentence Completion Test.** We administered this measure to assess participant's developmental level.<sup>1</sup>
- 5) **Vignettes.** As will be discussed in Chapter 8, the vignette is a developmental measure we created for each of the sites (i.e., a hypothetical-problem solving measure used to assess an individual's way of knowing, and role competence in specific domains). The **Learner Vignette** is a developmental student-situated dilemma created to explore a student's decision-making, problem-solving skills, and sense of competency as related to their construction of authority. It presented a student/school dilemma and invited participants to respond to a set of questions designed to help us understand the reasoning underlying the decisions they would make. The **Parent Vignette** is a developmental role-situated dilemma created to explore a parent's decision-making, problem-solving skills and sense of competency as related to their construction of authority. It presented a parent dilemma and invited participants to respond to a set of questions designed to help us understand the reasoning underlying the decisions they would make. The **Worker Vignette** is a developmental work-situated dilemma created to explore a

---

<sup>1</sup> After analyzing participants' initial responses to this measure, we decided not to administer it to participants during our final round of data collection. This and other survey type measures were the only protocols that we did not tape-record and transcribe.

worker's decision-making, problem-solving skills, and sense of competency as related to his or her construction of authority. It presented a workplace dilemma and invited participants to respond to a set of questions designed to help us understand the reasoning underlying the decisions they would make. We analyzed these vignettes qualitatively for role competency themes and also scored participants' responses in accordance with Kegan's constructive-developmental theory.

- 6) **Quantitative Survey Measures.** We administered several well-established and highly regarded quantitative measures to assess participants' levels of satisfaction, feelings of self-efficacy and success, and motivation.
  - Satisfaction with Life Scale: a five-statement questionnaire which ascertains a person's subjective judgment of his/her global life satisfaction.
  - Perceived Self-efficacy Scale: a 14-statement questionnaire which assess a person's perceived self-efficacy.
  - Locus of Control Scale: a seven-statement questionnaire which assesses a person's beliefs in her/his ability to control life circumstances, events, and problems.
- 7) **Self as Learner, Parent, or Worker Map.** We created and administered three tailor-designed mapping interviews to explore participants' perceptions of their roles as learners, parents, and workers. The mapping exercise provides a picture of the participant's current conceptions of the core elements of a particular role (i.e., learner, parent, or worker), his or her perceptions of the relationships among those elements, and their thinking processes. We used this as a tool for establishing and then tracking the participants' changing perceptions of themselves in their roles, the ways in which they value or devalue their role, their view of role relationships, the central emotions and beliefs they associate with a particular role, and the activities of their role. Each participant was invited to create a diagram of how they saw themselves in a particular role and to respond to our probes. This map helped us to explore each participant's role perception in his or her own words and through the lens of our theory.

Near the start of the program, we also administered a qualitative interview (i.e., the Teacher Experience Interview) to program teachers that focused on their goals for their students and their classes, their philosophy of teaching, and their methods for assessing learners' progress.

During each of the programs, we administered the following protocols to participants at each of the three sites:<sup>2</sup>

- 1) **Focus Groups.** We administered two different types of focus groups to program participants during the middle of the programs. One focus group invited participants to reflect on their learning experiences in their program classes, and the other invited them to discuss any changes they noticed in themselves as learners and as they enacted a particular role. In the second type of focus group, our intention was to better understand how learners felt their participation in a particular program was or was not affecting their performance in a particular role (i.e., worker, parent, or learner) at each site. We

---

<sup>2</sup> As noted previously, at the Polaroid site we conducted two rounds of data collection during the middle months of the program.

developed this protocol to explore individuals' thinking perceptions of their roles and role-related responsibilities.

- 2) **During the Program—Experiences of Learning Interview.** This open-ended, semi-structured 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 to their thinking about and enactment of their role as worker, parent, or learner.
- 3) **Reflecting on Changes in Self as Learner, Parent, or Worker Map.** This interview was created and administered to continue exploring participants' perceptions of their role as workers, parents, or learners, in their own words and through the lens of our theory. It provided an opportunity for a participant to reflect on and add to the picture/map-diagram that he or she created when describing him or her self during the first round of data collection. Specifically, we asked learners to add to or change their prior map in any way that seemed appropriate based on changes that they saw in themselves and the ways in which their learning in the program was affecting their sense of themselves in a particular role. This protocol enabled us to trace learners' changing perceptions of themselves in a particular role, changes in the ways in which they valued or devalued their work, changes in their view 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.
- 4) **Classroom Observations.** We conducted observations of learners in each of their program classes at least one time during each semester.

Near the end of or shortly after program completion, we administered the following protocols:

- 1) **The Subject-Object Interview (SOI).** Once again, we conducted a SOI with each participant in order to assess his or her developmental level (i.e., way of knowing). Scores and emergent themes from these interviews were compared to initial SOI scores and themes.
- 2) **Final Learning Experience Participant Interview.** We administered this open-ended, semistructured interview that we designed to better understand how participants at each of our three sites were thinking about their experiences in their program, the ways in which they felt they changed since the beginning of the program, and how each participant felt about himself or herself as a learner and in his or her social role at the end of the program. This protocol helped us to gain a deeper understanding of how the participants made sense of the changes they noticed in themselves and also to understand what participants experienced as sources of challenge and support in their role as a students and in their social roles (i.e., parent, worker, or learner). Additionally, we asked learners to reflect on their program experience overall, how their learning influenced their perceived role competencies, their learning goals, and their overall satisfaction with the program.
- 3) **Teacher Interview on the Changes They Noticed in Their Students.** This qualitative interview was administered to program teachers at or near the end of the program. It was designed to help us understand the changes these teachers noticed in each of their students during the course of the program. When administering this protocol to program

teachers at each site, we asked each teacher to talk with us about the changes he or she noticed in each of the learners in the program and to what or who he or she (the teacher) attributed the changes.

- 4) **Quantitative Survey Measures.** At program completion, we administered the same measures that we administered at the start of our research. Our goal was to assess participants' levels of satisfaction, feelings of self-efficacy and success, and motivation at program completion and to note any changes in these from the initial assessment we made before or near the start of the program.
- 5) **Vignettes.** At program completion, we administered the same vignette from our initial round of data collection to each learner at each site. Learner responses were analyzed qualitatively for role competency themes and also in accordance with Kegan's constructive-developmental theory.
- 6) **Reflecting on Changes Map.** We administered a final mapping interview (The Reflecting on Self as Student, Parent, or Worker Map). Separate mapping exercises/interviews were created for and administered to participants at each of the three sites. The protocols 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' current thinking about their perceptions of role competence and also attended to changes they discussed in their self-regard. This enabled us to continue exploring participants' perceptions of their role as workers, parents or learners, in their own words and through the lens of our theory. Since we had administered at least two prior mapping protocols to participants at each of our sites during our prior two rounds of data collection, this final mapping protocol gave participants a chance to discuss their current perceptions about their social role. Learners at each site were asked to review two past diagrams (i.e. maps) that they created and to add to or change the map in any way that seemed appropriate to them based on any changes that they noticed in themselves and the ways in which they saw their program learning as affecting their sense of themselves in a particular role. We documented learners' changing perceptions of themselves in a particular role, changes in the ways in which they valued or devalued their role, changes in the ways in which they viewed their role relationships, changes in the central emotions and beliefs they associated with a particular role, and changes in how they understood their role activities and responsibilities.

We also created a qualitative interview that we administered after the program had ended to several participants who did not complete their program. We refer to this as the **Non-Completer Interview**. Our goal was to gain a better understanding of how these participants were thinking about their experiences during the year, how and why they made the decision to leave the program, and their current conceptions of learning. Our aim was to learn more about what was *different* or *changed* for them since the beginning of the year. This interview was designed to help us learn more about the heart of the participant's experience—and the *differences* in how each learner thought or felt about himself or herself at the end of the year as compared to the beginning of the year. We probed participants' responses to better understand how they made sense of any changes they noticed in themselves and to learn about how they thought about the supports and challenges in their lives.

### SECTION III: DATA ANALYSIS METHODS

Our data analysis consisted of two distinct phases. We referred to these as the early and substantive phases. Research gains depth and focus when data collection and analyses are continuously integrated (Coffey & Atkinson, 1996; Strauss & Corbin, 1998). Our study benefited from this kind of purposeful integration.

#### The Early Phase of Data Analysis

Our early phase of data analysis focused on identifying consistencies and discrepancies within and across participants' data (Maxwell, 1996). We began this preliminary analysis by carefully examining data from the initial round of interviews at one site in order to develop and refine our analytic framework, which was later employed to analyze data from all sites. In this early phase we began by coding the learner interviews and the learner-generated maps to develop a coding schema. We then compiled a list of emerging themes derived from both theoretical codes (i.e., etic codes), and participant's own language (i.e., emic codes) (Geertz, 1974; Miles & Huberman, 1994).

To facilitate coding, we initially utilized a qualitative data analysis software package entitled "NUD\*IST;" however, we did not use this program in our later analysis because of unforeseen circumstances that arose in data formatting. As coding proceeded, we reorganized and reduced our code list to reflect key emerging concepts. This allowed us to better draw out distinctions among participants (e.g., participants' thinking about the learner/teacher relationship and how it changed over time, and the learners' experiences with fellow cohort members in their program and how their relationships changed over time).

To organize these analyses, we built matrices that enabled us to understand participants' responses to key interview questions across the sample site data. We also created "narrative summaries" (Coffey & Atkinson, 1996; Maxwell & Miller, 1991) that extracted the critical themes and main points from the interview. In creating these summaries, we drew from interview data and our own interpretations of the data. Also, after each round of interviews at each of the sites research team members wrote analytic memos (Strauss & Corbin, 1998; Maxwell, 1996), and as a full team we met to discuss our learnings. These memos and our tape-recorded conversations informed both the early and substantive phases of analysis.

To explore the influence of learners' ways of knowing on their experiences of change in the program, we examined the subject-object interviews and the vignettes. The subject-object interviews were scored using the principles and techniques which are described in the *Guide to Scoring the Subject-Object Interview* (Lahey et al., 1988). We initially scored one full set of SOI's and vignettes using multiple scorers to establish inter-rater reliability (we used the same method in our substantive analytic phase). We also coded these protocols using a subset of codes we developed earlier for the Learner Interviews.

The preliminary analyses, our individual analytic memos, and our full-team analytic conversations helped us organize important themes, highlight patterns across the data about how participants expressed their understanding of program learning, their relationships with their teachers, and their self-perceptions of their own skill development as learners and in a particular role over time. In combination, these matrices, summaries, and analytic conversations helped us identify patterns of transformation and develop the analytic framework that we employed in our substantive analytic phase.

### The Substantive Phase of Data Analysis

Our substantive phase of data analysis was guided by the creation and refinement of our analytic framework, which we developed in light of learning from the early phase. During this second phase, our research team divided into analytic sub-teams (one sub-team analyzed data from each of the three sites). We focused on one participant per site per week and created thick narrative summaries in response to our overarching research questions. Since our analysis pivoted around our developmental perspective, we sequenced the exploration of our participants (in each sub-team) purposively. By this we mean that all individual analytic sub-teams first considered those participants with common initial (Time One) SOI scores. All sub-teams began with the participants who demonstrated an Instrumental way of knowing. Our analysis gradually built up a picture of the variety and commonality across that meaning-making world. After completing this part of the analysis, the sub-teams moved on to another common subject-object world to explore contrasts and commonalities across subject-object worlds.

In this exploration, we closely examined both social role-related analytic questions and learning and teaching related analytic questions. Additionally, we carefully explored how participants' conceptions of their roles changed over time. Our guiding questions for this analytic phase were as follows:

#### Role-Related Analytic Questions

- 1-A. How does the participant construct his or her role (parent, worker, or higher education student), and how does that construction change over time?
- 1-B. In the context of that role, how self-confident is the participant and how competent does he or she perceive himself or herself to be; and how does this change over time?
- 1-C. Is there any evidence of how competent the participant actually is in this specific role? Any evidence of how actual competence changes over time?
- 1-D. With respect to any changes noted in 1-A, 1-B, 1-C, what aspects of the participant's ABE program seem to contribute to the change? What outside the program seems to have contributed to the change?

#### Learning and Teaching-Related Analytic Questions

- 2-A. How does the participant construct the learning and teaching enterprise, and how does this construction change over time?
- 2-B. In the context of the role of a learner, how self-confident is the participant, and how competent does he or she perceive himself/herself to be; and how does this change over time?
- 2-C. Is there any evidence of how competent as a learner/student the participant actually is? Any evidence of how actual competence as a learner/student changes over time?

- 2-D. With respect to any changes noted in 2-A, 2-B, 2-C, what aspects of the participant's ABE program seem to contribute to the change? What outside the program seems to have contributed to the change?

To answer each of the four sub-questions, we created four-part analytic memos for each of the two role-related sets of questions and discussed these memos in site sub-team weekly meetings. In these meetings, we shared interpretations, entertained alternative plausible interpretations, and incorporated additional issues, discoveries, and ideas the sub-team noticed. These analytic role memos (which included data and interpretations) were then enhanced and elaborated on by integrating our sub-team conversations. During this intensive individual week-by-week participant analysis, our analytic sub-teams also met periodically 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 (these conversations were tape-recorded).

To explore the influence of learners' ways of knowing on their experiences of change in the program, we examined the subject-object interviews and the vignettes. Also, the scoring of the formal measures of stress, life satisfaction, and ego development (collected as pre and post-assessments before and at the end of each program) were used to establish baselines as well as changes in these core constructs over time. The degree of change and the direction of change were captured in our quantitative analysis through descriptive statistics (please see Appendix A for a full description of our statistical analyses and their results). These assessments of variability were also correlated with changes in SOI score.

We used the developmental and qualitative data to dimensionalize (Strauss & Corbin, 1998) our definition of transformation and the holding environment, so that they corresponded to the data from the study itself. We looked for relationships between participants' experiences of changes as they related both to developmental level and to the timing of their occurrence in the trajectory of development from one stage to the next. We created matrices that linked patterns in ways of knowing across the groups to other aspects of participants' experiences, (e.g., other ongoing supportive contexts and their self-described motivation and goals). We traced patterns that emerged across the maps to track frequent and compelling descriptions of self and role in each context.

Having identified the learners whose experiences appeared transformational and those whose experiences changed in other ways, we analyzed the supports and challenges that coincided with both kinds of changes. Sub-teams then selected a set of participants whose stories served as case examples. These cases extended earlier narrative summaries in analytic memos of participants' experience, concentrating on key stories participants told about changes they experienced during the program. We integrated data from various sources and created a storyline for each case summarizing their experience in the program, their descriptions of their own skills, how they generalized to the concept of role competence, their reported changes during the program, and their recent experiences of real success.

**SECTION IV: ANALYSIS AND WRITING—HOPES AND INTENTIONS IN EMPLOYING A DEVELOPMENTAL PERSPECTIVE**

In our writing, our intention has been to illustrate key points in narratives as well as link them to salient themes across cases within and across all three sites. Our work illuminates how participants across a wide range of ways of knowing made sense of their program learning experience and how this learning influenced the ways in which they felt they were better able to enact their social roles. We see these cases as exemplars (Mishler, 1986) rather than as representative of a larger population. Each case example drew on all data sources to build a picture of the person's experiences as a learner and in a particular social role.

Throughout our analysis, we also looked for and examined discrepant data to test both the power and scope of our theory (Maxwell, 1996; Merriam, 1998). By attending to the data at the level of the individual narrative, group patterns, and case write-ups, we have built theory that accounts for the many levels of data and role specific perspectives on its interpretation (Glaser & Strauss, 1967).

It is our hope that this work illuminates how a developmental perspective can be a tool for better understanding how adults make sense of their program learning experiences and how this learning helps adults to grow to enact their roles as learners, parents, and workers differently. By better understanding learners' experiences teachers can better accompany them. Our intention is to broaden conceptions about how to support adult learners in their educational processes. More specifically, by bringing an explicitly meaning-making and adult developmental perspective to the world of ABE, we hope that this work will be useful to a wide range of professionals: concerned ABE learning-policy planners, program planners, ABE teachers, and professors of adult learning as well as their students. We hope to enable teachers and program planners to understand better how their students make sense of and enact the expectations placed on them in the classroom and in their lives beyond the classroom. We hope such understandings enable teachers and other practitioners to match educational practices and expectations more closely to the developing capacities and experience of their adult students. We offer our study's method as a resource for researchers and practitioners.

## REFERENCES

- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks, CA: Sage.
- Geertz, C. (1974). From the native's point of view: On the nature of anthropological understanding. *Bulletin of the American academy of arts and sciences*, 28, 221–237.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine de Gruyter.
- Hammer, M., & Champy, J. (1993). *Reengineering the corporation: A manifesto for business revolution*. New York: HarperCollins Publishers, Inc.
- Harbison, A., with Kegan, R. (1999). *Best practice programs in professional education: A working paper prepared for programs in professional education*. Unpublished manuscript.
- Lahey, L., Souvaine, E., Kegan, R., Goodman, R., & Felix, S. (1988). *A Guide to the subject-object interview: Its administration and interpretation*. Cambridge, MA: Harvard Graduate School of Education.
- Maxwell, J. A. (1996). *Qualitative Research design: An interactive approach*. Thousand Oaks, CA: Sage.
- Maxwell, J., & Miller, B. (1991). *Categorization and contextualization as components of qualitative data analysis*. Unpublished manuscript.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Mishler, E. G. (1986). *Research interviewing: Context and narrative*. Cambridge, MA: Harvard University.
- Miles, M. B., & Huberman, A. M. (1994). *An expanded sourcebook: Qualitative data analysis*. Thousand Oaks, CA: Sage.
- Selman, R., & Schultz, L. H. (1990). *Making a friend in youth: Developmental theory and pair therapy*. Chicago: The University of Chicago Press.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

