KNOW THYSELF: THE IMPACT OF PORTFOLIO DEVELOPMENT ON ADULT LEARNING

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Thousands of years ago the Greeks carved above their temples the phrase "know thyself," two simple words that imply a lifetime of investigation. Throughout the ages philosophers and scholars have emphasized the importance of self-knowledge as an outcome of learning. One teaching strategy that facilitates self-knowledge among adult students is the creation of an experiential learning portfolio. This study describes and explains how the development of such a portfolio affected a diverse group of adult undergraduates. Qualitative inquiry methods were employed within a case study design to obtain a detailed description of the portfolio experience from the participants' perspectives. The findings suggest that portfolio development increased students' understanding of what, why, and how they learned throughout their careers, enhanced their communication and organization skills, and reinforced the importance of reflection in learning.

The influx of adults into college in the last 25 years has changed the demographics of higher education in the United States and around the world (Cross, 1981; Flint, 1999; Kerka, 1995). Today, nearly 50 % of college students are adults (Davis, 1994; Merriam & Caffarella, 1998). This dramatic shift in the student population has led to equally dramatic changes in the academy's approach to instructional delivery, program design, and credit acquisition options (College Board/ETS, 1992; Merriam & Brockett, 1997). Since the 1970s, experiential learning portfolios have been used increasingly to address adult learners' academic needs (Gamson, 1989; Mayo & Thompson, 1995; Thomson, 1988; West, 1992). This type of portfolio can be used for admissions, placement, course exemption, or to gain credits to facilitate degree completion. In American institutions of higher learning, portfolios are

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created by learners primarily to acquire academic credits toward degree requirements. A 1998 survey of 1,135 higher education institutions in the United States indicated that 55% were offering individualized portfolio assessment (Flint, 1999).

Student portfolios vary greatly in their presentation and purpose. Some undergraduate portfolios include a compilation of students' work and progress in writing classes during all or a portion of their academic careers. Others demonstrate the learners' best work or are designed to assess academic growth and development; still others are employed to promote critical thinking and engage learners in self-assessment (Arter, Spandel, & Culham, 1995; Wenzel, Briggs, & Puryear, 1998). The experiential learning portfolio discussed in this study is intended to document adult students' learning outcomes resulting from professional and community activities. Students are asked to identify, analyze, evaluate, and communicate experiences that led to learning. This kind of portfolio is relatively rare in its focus on competency demonstration in broader academic disciplines without tying these competencies to specific course equivalents. This more flexible format allows students to actively participate in identifying and evaluating learning outcomes as well as creatively express themselves in narrative form. Learning outcomes incidentally result from the process itself.

This study investigates how the creation of this type of portfolio enhances and engenders different kinds of learning. From its inception, the inclusion of portfolios in adult degree programs has been controversial. The debate in the academy revolves around the assessment of prior learning experiences and their equation to knowledge gained in a formal educational setting (CAEL/ACE, 1993; Evans, 1993; Eversoll, 1986; Halpern, 1994). Though most colleges and universities recognize national academic and administrative assessment standards, skepticism remains, especially among faculty who question the correlation of experiential learning outcomes to those gained in college courses (Miller, 1991). This distrust may be due, in part, to concerns over how institutions tailor their portfolio programs to their particular student body and regional accreditation criteria. With this debate over assessment of prior learning taking center stage, discussions have rarely focused on the potential or actual learning outcomes from portfolio development (Tucker & Murphy, 1990).

RELATED LITERATURE

From the time Lindeman (1926) published his text, *The Meaning of Adult Education*, educators have noted that adults bring a wealth of lived experiences into the learning environment. Therefore, it is not surprising that many have argued for the recognition and valuing of learners' experiences in teaching this student population (Apps, 1991; Cross, 1981; Knowles, 1988). More specifically, three aspects of the literature on learning and experience provide some insight into the kinds of learning that might ensue from the process of portfolio development: (a) general learning theories, particularly those associated with learning in adulthood; (b) models of

learning from experience; and (c) a small set of studies that explore the learning outcomes associated with the development of portfolios.

General Theories of Learning

The most common thread throughout the literature is that learning is complex, multidimensional, and appears to be inextricably connected to the learner's experiences (Brookfield, 1991; Dewey, 1997; Knowles, 1984, 1988). Twentieth century gestalt psychologists like Kohler (1957) stated that "learning takes place through an act of insight" (p. 13) while the learner engages in and reflects on experiences. For students creating portfolios, insight may occur through reflecting on and writing about professional and personal experiences and result in greater self-knowledge. Humanistic learning theorists also see learning as grounded in experience, involving both affective and cognitive processes that lead to pervasive changes (Maslow, 1970; Rogers, 1983). Similarly, the portfolio engages affective and cognitive domains and can initiate an ubiquitous change in individuals' perspectives and attitudes.

Social learning theorists underscore the importance of the learner's social context (Bandura, 1970; Dewey, 1997; Vygotsky, 1978). Learning takes place not in isolation but through observation and modeling in social settings such as the family, the workplace, and schools. Bandura stresses the importance of social interaction, observation of social roles, and the critical role of mentors in the learning process. In student portfolios, the social settings of work and community as learning venues are acknowledged and analyzed.

Theories of andragogy and self-directed learning also provide ideas relevant to understanding learning outcomes potentially resulting from portfolio development. Andragogy, as delineated by Knowles, (1984) is "the art of teaching of adults" (p. 6). This theory, or philosophy of teaching and learning, includes the assumption that adult students have a wealth of experiences that can serve as a resource for learning. By exploring the learning that results from portfolio development, we might better understand how these experiences serve to facilitate learning. Studies of self-directed learning, such as those conducted by Tough (1979), indicate that the majority of learning projects by adults were "planned, implemented, and evaluated primarily by the learners themselves" (Merriam & Brockett, 1997, p. 138). Through the creation of portfolios, students may become more aware of their own self-directed learning as well as enhance their abilities to engage in further self-directed learning projects in the future.

Another theory related to this study is Mezirow's transformation theory, which defines transformative learning as "the process of learning through critical self-reflection" (Mezirow & Associates, 1990, p. xvi). Mezirow claims the adult learning process involves "critical reflection and discourse in human communication, [resulting in] the transformative potential of our interpretive frames of reference" (1996, p. 158). Creating a portfolio necessitates that students engage in some

degree of critical reflection as they identify, analyze, and evaluate their learning experiences, potentially contributing to a transformation in their perspectives.

Models of Learning from Experience

There are several more specific models of learning from experience that are relevant to the present study. Kolb's (1984) model of experiential learning is by far the most widely known and has been commonly used as a conceptual basis for many portfolio programs. It consists of a four-stage cycle of learning beginning with the learners' concrete experience, followed by reflective observation on the nature and meaning of the experience. This leads to the learners' formulation of generalizations and theories about the experience and culminates with their active experimentation and application of derived concepts in new situations (Baker & Kolb, 1990).

Boud's work (1993a, 1993b) on experiential learning in workplace training and other educational settings is likewise well known. He and his colleague proposed a three-stage model that includes preparation for the experience in the learning milieu, the experience itself, and reflection after the learning experience (Boud & Walker, 1991). Boud underscored that how the learner makes meaning of experiences is more important than the number of experiences. Accordingly, he emphasized the need to design instructional strategies around the learners' interpretation of experience because "learning outcomes of experience will be determined more by learners than by the one who designed the experience or who assisted in reflection on it" (Boud & Walker, 1991, p. 33).

Other scholars have emphasized particular aspects of learning from experience. For example, Cowan (1988) emphasized the role of the facilitator in the process and Sorohan (1993) connected theories of cognitive psychology to the process. It is interesting that many have cited the power of autobiographical writing, a strong component of portfolios, in experiential learning (Brady, 1990; Dominice, 1990).

Learning Outcomes From Portfolio Development

Although studies on the use of portfolios with K-12 students, traditional age undergraduates, and teachers are readily available in the literature (Addison & VanDe Weghe, 1999; Lyons, 1999), little has been written on what adults learn as a result of portfolio development. How does the process of creating a portfolio affect student learning? Anecdotal reports and studies from universities with portfolio programs (Charter Oak State College, 1997; Joerin & Gomes, 1998; White, 1995) indicate that students increase their self-knowledge, communication, organizational, and reflective abilities. Position papers by administrators and faculty involved in portfolio programs support these observations (Benshoff, 1993; Fisher, 1993). In Canada, an empirical study (Van Kleef, 2000) examined the records of 3,500 adult learners in seven institutions who had participated in portfolio assessment. The findings support what many educators know from their own experience,

that is, developing a portfolio supports not only identification of prior learning but also leads to new learning outcomes.

PURPOSE

The purpose of this study was to describe adult students' perspectives on the learning that resulted from their creation of an experiential learning portfolio. More specifically, the following questions were addressed:

1. How did developing a portfolio affect students' understanding and appreciation of what they learned in the workplace and community?
2. How did developing a portfolio affect students' understanding of the learning process in their professional lives?
3. What types of learning resulted from the more concrete, technical aspects of constructing a portfolio?

METHODOLOGY

Qualitative techniques of inquiry (Berg, 1998; Janesick, 1994, 1998; Stake, 1995) were employed to produce a descriptive account of portfolio development and learning outcomes from the perspectives of eight adult students. A case study design allowed for an in-depth look at a particular setting, program, and group of students (Patton, 1990; Stake, 1995). The institutional setting for the research was Barry University's School of Adult and Continuing Education (ACE) in Miami, Florida, where nearly 80% of adult undergraduate students develop an experiential learning portfolio. The school was created in the mid-1970s, and like other programs of that era, ACE's purpose was to provide a nontraditional undergraduate degree for a growing number of adult students. Flexible class schedules, evening and weekend courses, open admissions, and the opportunity to gain credits toward degree completion from prior experiential learning all contributed to this goal. Since its inception, over 10,000 adults at ACE have completed bachelor degrees with a portfolio component.

The Portfolio Program

ACE portfolios primarily represent learning acquired through professional work experiences and participation in professional and community activities. A required portfolio seminar introduces students to the development process and provides them with instructional modules and a sample portfolio. Students receive further assistance from their academic advisors throughout the development phase.

Portfolios are extensive documents averaging between 70 and 100 pages and consisting of five major sections. The Introductory Section contains a goal statement focused on reasons for entering or reentering college. The next section contains

the Experiential Learning Resume, in which students list college-level equivalent learning experiences according to nationally recognized criteria (Keeton, 1992; Whitaker, 1989). In the following section, the Learning Assessment Worksheet, students elaborate on each position and activity listed in their resumes, identifying learning outcomes related to but distinct from their experiences. For example, if a student lists the development of a policy and procedure manual as part of her/his experience in a given position, then the learning that resulted from this experience may be communication and critical thinking skills.

The Worksheet becomes the outline for the Autobiographical Learning Essay. Students communicate, in narrative form, what they learned, why they learned, and how they applied their learning, using Kolb's model as a guide (Baker & Kolb, 1990). At the end of the essay, they equate their learning to the broad goals of academic disciplines rather than to specific courses.

The final part of the portfolio is documentation. Students must provide reliable and valid documentation of their experiences and learning elaborated in the other sections, to receive credit. ACE's full-time faculty evaluate students' learning in portfolios using a competency-based system. These individual assessments are presented to a faculty portfolio committee for final determination of credits.

Study Participants

Six of the study participants were purposively selected from a pool of 20 students who had piloted new instructional materials for portfolio development from 1997 to 1998. The remaining 2 participants were selected to give equal, rather than proportional, representation to males and females. Additional criteria included the following: (a) all students had completed their portfolios within 6 months of the interviews, (b) they were within 6 months of graduation or had recently graduated, and (c) they came from one of the school's four major ethnic/ racial groups (African American, Caribbean Black, Caucasian, Hispanic). Although we wished to ensure representation of each ethnic/racial group, the small number of participants precluded any analysis of ethnic or racial differences in the portfolio experience. Table 1 provides a list of the participants (using pseudonyms) and relevant demographic information.

Data Collection and Analysis

Two primary sources of data were used: portfolio documents and interviews with the study participants. I also kept a researcher's reflective journal that proved critical in the identification of the findings (Eisner, 1998; Janesick, 1998). I conducted two interviews of each participant on a one-on-one basis over a 4-month period. I read each student's portfolio prior to the interview; this enabled me to individualize the semi-structured interview questions and provided a point of reference

TABLE 1
Pseudonyms and Demographics of the Study Participants

Name	Gender	Ethnic/ Cultural Background	Profession	Age
Kenyatta	Female	African American	Supervisor/Waste Mgmt. County Govt.	35
Luther	Male	African American	Inspector/Housing County Govt.	42
Antoinette	Female	Caribbean/Black Haitian	Manager/Health Clinic	39
Churchill	Male	Caribbean/Black Trinidad	Regional Sales Mgr./*Fortune* 500 Co.	42
Ginger	Female	Caucasian	Head Nurse/Emergency Room	45
Carl	Male	Caucasian	Supervisor/DOT County Govt.	38
Marcia	Female	Hispanic Cuba	Human Resources/City Govt.	55
Juan	Male	Hispanic Puerto Rico	Manager/Computer Co.	32

for the conversation. Assurances of anonymity and the ability to withdraw from the study at any time were made clear to the participants from inception to completion of the study (Kvale, 1996).

The audiotapes were transcribed and the 2 participants reviewed their transcribed responses to allow member check of content validity and reliability. I also employed peer reviews by faculty portfolio evaluators to support the descriptive validity, congruency, and reliability of the study (Lincoln & Guba, 1985).

The data were analyzed according to grounded theory procedures (Creswell, 1998; Strauss & Corbin, 1997). Constant comparative analysis and open coding of each data source was begun during data collection and continued after the completion of all interviews. Each evening following an interview, I replayed the recorded tape and wrote comments in my journal about the responses. After a few sessions, I began to discover similar ideas among the different participants. Eventually, this process led to the identification of themes and subthemes from the portfolios and the interviews. I then employed axial coding between sources to collapse and connect the initial themes (Creswell, 1998). This procedure resulted in the identification of the major findings about learning outcomes associated with portfolio development.

FINDINGS

Three major findings that will be discussed in this section include: (a) a marked increase in the participants' self-knowledge after portfolio development; (b) a greater recognition of the value of learning from work and from mentors; and (c) improved communication and organization skills, and greater appreciation of the role of reflection in recognizing learning.

Increase in Self-Knowledge

Participants' perspectives on their professional and educational lives changed after developing a portfolio. Students expressed: (a) increased recognition of all they had accomplished in the course of their careers, and (b) a new sense of self-discovery and personal empowerment to achieve future goals.

Accomplishments. All of the participants increased their awareness of their accomplishments in the workplace. Luther noted with amazement: "It made me realize that I had accomplished much more in life than I realized. It made me more cognizant of my abilities and that I could do different things, that I had so much knowledge. . . . "

When I asked Mariela if her perception of herself changed after portfolio development, she expressed it this way: "Developing a portfolio changed my whole perception of my professional and personal life accomplishments. [Through] this process I discovered abilities acquired through my years of work experience that I didn't even realize I possessed."

Self-discovery and empowerment. In terms of self-discovery and empowerment, Juan noted that "It's just something that you do even if you don't get credit for it—you learn so much about yourself." Churchill was beaming when he said: "It sort of gave me more pep in my step and actually gave me a sense of pride. . . . It really gave me a sense of empowerment, and I shared it with my wife, my brother, my boss. . . . I shared it with everyone." The self-assured Ginger went further in her comments. She experienced the completion of a portfolio as the achievement of an important personal goal. Poised on the edge of her chair, she vividly described her feeling:

> It really made me stop and think. You know, well, I'm not so bad, I am really a pretty neat person. It reinforced my belief in myself. It made me remember how I started and . . . the steps I have taken along the way, certain things that I have done that I haven't thought about in years. I tend to get so caught up in everyday situations that I forget that I ever did something, you know, fifteen years ago.

Value of Learning Through Work and Mentors

The second finding was the participants' increased recognition of learning in the workplace, including: (a) the value of learning through work experiences, and (b) the role of mentors in one's life and learning.

Learning through work. All participants commented on the importance of work as a source of learning and of development. For Ginger, reflecting on her work life during portfolio development confirmed her belief that "there is no textbook that

can replace hands-on experience." In our first interview she said: "I have been a nurse for 24 years. . . . I think that it does everyone good to stop at one point or another in their life no matter where they are. The portfolio came at a time in my life when I needed to know that I'd done a good job."

Carl also discussed his opinions about the value of learning from work experiences. We were talking about college and work experiences and how his department in county government required both a degree and experience to secure a permanent supervisory position. He was emphatic when he said:

> I am a very firm believer that you can go to a college all day [and yet] you will learn ninety percent of knowledge and skills out in the real world. You know that's why when the portfolio was brought to my attention, it was very interesting that someone actually wanted to know what I've learned in my life and give me credits for it—to me it was a plus—actually someone read what I did and said "yes, he is knowledgeable."

The portfolio process helped the participants realize how work affected their development as adults. Antoinette said:

> I was thinking [after writing the portfolio] that I had worked at one company for fourteen years. So from a young adult I became a woman through working with that particular company. I knew where I had started, where I was [when I left] and that I had moved up, but I never looked at in this way. What the portfolio made me realize was that I was much more mature, more confident. I never looked at myself as somebody who was special in a way.

Juan echoed her sentiments when he declared:

> You sit down and you say, "Wow, I have lived thirty-something years; what has really made a difference in my life? What has made me who I am today? What are the influences and who were the people and [what are] the jobs that have influenced me?" That's the perspective that it gives you; a chance to review your entire life and figure out who you are today.

Mentors. The participants again shared common experiences as they spoke of the importance of mentors and mentoring. Juan, Ginger, Carl, Luther, and Churchill mentioned the women and men who helped them throughout their lives. For Luther his first job mentor, CC, had a tremendous influence on him:

> When I graduated from high school, I looked around me and all I saw were bright, intelligent minds going to waste. With my mentor, CC, in July of 1974, we created Teen King, Inc., a youth self-help organization. Most programs during that time wanted to teach teens in a classroom and try to find them jobs. The kids in these programs never got to see past entry-level positions. They never got to see what they could be, what they could aspire to. That's what CC and I wanted to do. With [CC's] support we [found] a former restaurant, negotiated a lease, did some remodeling, and introduced the first teen disco in the county.

Antoinette and Kenyatta also had influential mentors in their work lives. Kenyatta's first manager was especially important because of her low self-esteem when she entered the work force. She reported that she had little confidence in herself when she took a job with the county. She only had a high school education and a GED at that. She was pensive as she talked about that period of her life:

> Before our department got so vast, [the director] used to come around and he used to interact with a lot of people. He'd say [to me], "You know, you're very intelligent, a little rough around the edges, but you have potential." He was my mentor and because of him I got promoted to a lead worker . . . [with] more responsibility. He would talk to me weekly asking, "How are things going?" When they had big meetings with [management] I was actually invited in to give a presentation from the worker's point of view. So he motivated me a great deal . . . because getting a GED made me feel like I hadn't really accomplished anything and it really lowered my self-esteem.

When Kenyatta attained her first supervisory position, she incorporated her mentor's management style into her own. In her portfolio, she wrote, "I encouraged my staff to be part of the solution, not just the problem. I believed by getting them involved in the decision-making process, and making them know they were important to the unit promoted motivation."

Antoinette was also influenced greatly by her first boss who was a mentor for work and a role model for school:

> My ex-boss had come from a New York ghetto—Harlem. He said that from where he had come it had been a long road [to get through work and college]. I wouldn't have to do it as hard as he had to, because I was in a different setting [and] time, and opportunities were there for me to go to school. So he was a great influence on me wanting to move up in my career and finish school.

Their experiences in this area support the ideas of social learning theorists who stress the importance of role models and mentors in one's social setting—work, school, and so on—as a critical factor in the learning process (Bandura, 1970; Vygotsky, 1978). In addition, the personal insights experienced as a result of the portfolio development process, the change of behavior, and the self-knowledge gained through reflection on prior experiences echo the ideas of gestalt psychology, andragogy, and transformative learning (Kohler, 1957; Knowles, 1984; Mezirow & Associates, 1990).

Improved Competencies

The third finding includes the participants' enhanced communication and organizational skills, and their recognition of the importance of reflection in learning.

Communication. Without exception, the study participants described an increase in organizational and written communication skills as a result of the portfolio

process. Carl was especially proud of his improved writing skills; it gave him "confidence in his ability to write." Ginger showed a sophisticated understanding of the structure and style of autobiography when she commented:

> I would like to continue to write. I mean, I enjoyed it. I wanted the person who sat down to read my portfolio, I wanted to grasp one hundred percent of that person's attention. I didn't want them to be like [saying] "next page, next page." I wanted them to feel what I felt. . . . I wanted them to know where I'd been and how I felt when I was there. I mean I hadn't written other autobiographies [and] I wanted someone to know that this is a story about me. Not just I, I, I.

Juan emphasized how important writing about his work responsibilities and competencies became for him when he said, "Since writing the portfolio I am beginning to journal my accomplishments at work. It means so much more once you put it in writing." His response surprised me as I had not expected any of the participants to continue the process of reflective writing beyond completing the portfolio.

Organization. Carl summed up the participants' views on gaining increased organizational skills in this way:

> . . . it reinforced organization, definitely because it made me organize what I wanted to put on paper . . . it made me sit down and think of what I wanted to do before I actually did it. Reading the directions and looking at the [instructional] modules that stated this has to go from present to past not past to present, etc., made the process heavy on organizational skills for me.

Other participants confirmed the acquisition of better organizational skills as a consequence of portfolio development. Churchill's remarks were illustrative of the others when he remarked, "I guess it helped me focus on my experience and organize it on paper. This has allowed me to see what my learning process was all about."

Reflection. Before portfolio development, the participants saw themselves primarily as "doers," rarely analyzing how they got from place A to place B. The portfolio process helped them understand how their learning took place due to the need to critically analyze, organize, evaluate, and write about their learning from experiences. Mariela spoke about being too busy to take the time to appreciate how one advances and grows in life. She said that prior to developing her portfolio, she only thought about these things "when there was a problem and you're trying to find out what happened. It's a fast-paced life we live in but with this—the portfolio—it was nice because, you know, you start taking the time to reflect." The reflective element of the portfolio development process helped her appreciate how she grew, through training and experience, in her professional and personal life. Churchill also said he became more reflective on the job as a result of the portfolio development experience. He expressed it this way:

> I think in my jobs [that] I was just moving as opposed to reflecting. If I did reflect it was rather quickly because I was into performance . . . but portfolio development has started a process in me of being more aware of what I'm doing on the job.

Kenyatta had a similar response:

> I think I have always had a systematic way of doing things that I never put a value on until I had to sit down, reflect on it and systematically go through it. I guess I've always done it before, but reflecting on it and actually giving value to it is what I was able to do by doing the portfolio.

The portfolio, due to its very nature, required the participants to step back and deeply reflect on their personal and professional lives. All the study participants expressed, in varying degrees of intensity, a transformation in how they viewed themselves and their professional lives. This awareness affected their behavior. For example, Kenyatta was more confident after portfolio development. She took more risks in expressing her ideas in meetings. Ginger, Luther and Juan were also more confident of their ability to reach future goals.

DISCUSSION

The purpose of this study was to understand the learning outcomes of the portfolio development process. The findings further our appreciation of the portfolio as an instructional strategy for adults by documenting its ability to produce learning outcomes beyond the identification of prior learning.

Self-Knowledge as Learning

Educational researchers have noted the influence of in and out of classroom experiences on the growth and development of college students in both cognitive and affective domains—an important goal of higher education (Graham & Donaldson, 1996; Kuh, 1993; Pascarella & Terenzini, 1991). The findings of this study strongly suggest that the creation of an experiential portfolio promotes self-knowledge and personal growth among adult learners. Examination of previous experiences provides students with valuable information about their learning process. As one participant, Churchill, said: "Well, I wish I had my portfolio before, because I would employ me! It helped me focus on my experiences and competencies and organize them on paper. This has allowed me to see what my learning process was all about."

Brady (1990) asks in his discussion on learning through autobiography:

> Is this not our destiny as human beings: to learn, to grow, to come to know ourselves and the meanings of our life in the deepest, richest, most textured way possible? If we

> do not know the self, what can we know? If we cannot learn from reflection from our
> own lived experiences, from what can we learn? (p. 51)

He further concludes that self-examination and the resulting self-knowledge is "not a function of mere self-interest . . . to the contrary, it is an important and perhaps even necessary condition for learning about other human beings" (p. 50). Thus, the self-knowledge gained through portfolio development might be used as a basis for greater understanding and appreciation of the lives and perspectives of others. In this way, portfolio development could serve as a valuable means of preparing students to engage in other kinds of learning typically associated with higher education, particularly in the humanities and social sciences, as well as the professions.

Role of Writing in Learning

Writing enabled the participants, in the tradition of "writing across the curriculum" advocates like Janet Emig (1977), to learn about themselves from the process of organizing, analyzing, evaluating, and writing about their experiential learning. Luther summed this up when he said: "It's always a surprise when you actually put in writing those things that you've done, always a way of learning more." The study findings support the use of portfolios as a means of improving writing skills and, in addition, as a tool for reflection and learning. The faculty portfolio evaluator (P. M. Feito, personal communication, April 9th, 1999) who authored the portfolio instructional module on the development of the autobiographical learning essay, commented:

> Portfolio autobiographical learning essays can be designed to integrate the formal
> structure of expository essay writing. As such, writing the portfolio can act as an as-
> sessment instrument that both validates prior learning while reinforcing college-level
> writing skills. Students learn more about themselves in the process of writing. They
> produce more than just a chronological list of professional and community learning
> experiences. They also learn from the synthesis and analysis of their experiences in
> the writing process.

The importance of writing as a tool for learning cannot be overestimated. We make sense of ideas and experiences in a more profound way by writing about them. However, many students may view academic writing as tedious or intimidating. Portfolios increase students' motivation to write by giving them the opportunity to "write with enthusiasm about topics that interest them and that are relevant to their careers" (Weinberg, 1993). Such enthusiasm and interest is reflected in Carl's comment: "You know, just to see what I've done in each job and how I've learned it in my life is so interesting. I would have never thought of it—never! Oh, [I said to myself], that's how I learned it. I remember now. I really had to think about it and put it down on paper."

The study participants also spoke about how the process of writing a portfolio had significance for them in the areas of transformation, expression, and audience. Like Ginger, most made a conscious and literary effort to do more than chronologically narrate their professional lives. They sought to describe who they are and how they became the persons they are. Herein lies the power of the portfolio as an expository writing tool.

Transformative Learning
and Portfolio Development

Mezirow (1990) aptly defined transformative learning, whether it takes place within professional, personal, or educational settings, as "the process of learning through critical self-reflection, which results in the reformulation of a meaning perspective to allow a more inclusive, discriminating, and integrative understanding of one's experience. Learning includes acting on these insights" (p. xvi). The findings indicate that the participants experienced varying degrees of transformative learning through the portfolio development process. The students acted upon their newfound insights in their professional and personal lives. Kenyatta was more confident of herself in meetings, because she had a "blueprint" of her past performances that helped her take more risks in expressing her ideas. Ginger, who was aware of her professional goals prior to completing her portfolio, received a necessary confirmation of her future direction and added assurance that she could reach her career aspirations. While these transformative learning outcomes were not always dramatic, the increased value that students placed on reflection suggests that they might be more inclined to engage in critical reflection—and tranformative learning—in the future.

IMPLICATIONS FOR RESEARCH

In my experience with over 5,000 students who have developed portfolios, not everyone experiences the same degree of learning as the study respondents. However, for the great majority of students, the outcomes described by the participants are unexpected and welcomed results of the development process. The study findings raise a number of important research questions for further exploration.

One area of inquiry relates to the concerns expressed about the academic abilities and achievement of students who earn undergraduate degrees with a portfolio component. The participants in this study seemed to gain valuable knowledge and skills that might be useful in their further academic work, both at the undergraduate and even graduate levels. Future research might investigate the effects of portfolio development on students' future academic plans and accomplishments. Similarly, studies could explore the impact of portfolio development on students' subsequent work-related learning and career advancement.

Another area of future inquiry concerns the views of faculty evaluators on the learning outcomes of portfolio development. For the thousands of students that develop experiential learning portfolios, there are thousands of faculty who support these learners and evaluate their portfolios. What kinds of learning outcomes do faculty members observe in their contact with students and their review of portfolios? How do they compare or equate it to traditional classroom learning? How are faculty's views of learning affected by their participation in this "nontraditional" approach to the identification and assessment of learning? From my experience with dozens of faculty evaluators, such research could yield useful information for faculty development as well as for the improvement of portfolio assessment practices.

Given the increasingly diverse adult college population, a third area for future research concerns the significance of attributes such as age, gender, and ethnicity/race in the learning outcomes of portfolio development. The learning outcomes described by these students—in this local context—seemed to transcend their varying demographic characteristics. This is contrary to the literature of the 1980s and 1990s that identifies dissimilar ways of knowing among men, women, and different ethnic/racial groups. However, a more recent study asserts that the process of reflection takes place in similar ways for individuals regardless of culture (Buckley, 1999). The somewhat structured nature of the portfolio development process also may account for some of the similarity of responses. Additional research with larger numbers of students is needed to more adequately explore these issues of diversity in learning preferences and outcomes.

A final recommendation is for research on the learning outcomes of portfolio development in different college and university programs. As noted previously, there are hundreds of colleges and universities that offer portfolio programs, but the literature on these programs consists primarily of position papers, opinion papers, and anecdotal information from program administrators. More rigorous research might investigate the learning outcomes of different types of portfolio programs, with different populations.

CONCLUSION

Adult students and undergraduate programs designed to serve them will continue to challenge the academy. The growing numbers of adult students are contributing to the idea that the "university experience must now be viewed as an integrated component of the broader mosaic of the student's life. The information presented, the in-class methods of engagement, and the outcome assessment activities must reflect a sensitivity to the wider range of learning experiences of the [adult] student" (Jackson, 1992, p. 2). Educators intent on categorizing academic learning in terms of traditional tests and measurements may view portfolio assessment as just "too clumsy, subjective . . . and time consuming for everyone" (Mandell, 2000, p. 41). Yet Kolb (1991) reminds us that "learning is big," too big to

fit neatly into quantifiable compartments. The findings of this small study only begin to suggest the expansive nature of this learning, once it is documented and expressed with tools such as portfolios.

In particular, institutions of higher learning can rise to the occasion by investigating new ways of assessing learning such as competency-based portfolios used at ACE that are not wedded to course-equivalency models. This type of portfolio process, out of the "grip of the course-equivalency model" (Travis, 1995) encourages reflection and written expression rather than reducing experiential learning to predetermined units of knowledge. For if, as Brady declares, "learning is essentially the seeking after knowledge . . . and the struggle to adapt, survive, and make meaning of human life, can we, without terrible risk, sidestep self-knowledge . . . ? (p. 50)." I think not and therefore encourage greater attention to experiential learning portfolios on the part of adult education scholars as well as practitioners.

References

Addison, J., & Van De Weghe, R. (1999, October). *Portfolio-based assessment and professional development*. National Council of Teachers of English Conference on Composition and Communication. Urbana, IL.

Apps, J. W. (1991). *Mastering the teaching of adults*. Malabar, FL: Krieger.

Arter, J. A., Spandel, V., & Culham, R. (1995). Portfolios for assessment and instruction. *ERIC Digest*. Washington, DC: US Department of Education. (ED 388890)

Baker, R. J., & Kolb, D. A. (1990). *Learning style exercise*. Boston: McBer.

Bandura, A. (1970). *Social learning theory.*Englewood Cliffs, NJ: Prentice-Hall.

Benshoff, J. M. (1993, November). *Educational opportunities, developmental challenges: Understanding nontraditional college students*. Paper presented at the Annual Conference of the Association for Adult Development and Aging, New Orleans, LA. (ERIC Document Reproduction Service No. ED 363 842)

Berg, B. L. (1998). *Qualitative research for the social sciences* (3rd ed.). Boston: Allyn and Bacon.

Boud, D. (1993a). Experience as the base for learning. *Higher Education Research and Development, 12*(1), 33-44.

Boud, D. (Ed.). (1993b). *Using experience for learning*. Bristol, PA: Open University Press.

Boud, D., & Walker, D. (1991). *Experiential learning: Reflection at work*. Victoria, Australia: Deakin University.

Brady, E. M. (1990). Redeemed from time: Learning through autobiography. *Adult Education Quarterly, 41*(1), 43-52.

Brookfield, S. D. (1991). *The skillful teacher.*San Francisco: Jossey-Bass.

Buckley, J. (1999, February). *Multicultural reflection*. Paper presented at the Annual Meeting of the American Association of Colleges for Teachers, Washington, DC. (ERIC Document Reproduction Service No. ED 429 983).

Charter Oak State College. (1997). *In-house portfolio survey document*. New Britain, CT.

College Board of the Educational Testing Service (ETS) (Producer). (1992, February 25). *Adults as students: Their role and status in higher education* [Television Broadcast]. Boston: Public Broadcasting Service.

Council for Adult and Experiential Learning and the American Council on Education (CAEL/ACE). (1993). *Adult degree programs: Quality issues, problem areas, action steps*. Chicago: Council for Adult and Experiential Learning Publications.

Cowan, J. (1988). Learning to facilitate experiential learning. *Studies in Continuing Education, 10*(1), 19-29.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Cross, K. P. (1981). *Adults as learners*. San Francisco: Jossey-Bass.

Davis, L. H. (1994). Relating work to adult higher education. *Journal of Continuing Higher Education, 42*(1), 17-22.

Denzin, N. K. (1978). *Sociological methods: A source book* (2nd ed.). New York: McGraw-Hill.

Dewey, J. (1997). *Experience and education*. New York: MacMillan.

Dominice, P. F. (1990). Composing educational biographies: Group reflection through life histories. In J. Mezirow (Ed.), *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 194-212). San Francisco: Jossey-Bass.

Eisner, E. W. (1998). *The enlightened eye*. Upper Saddle River, NJ: Prentice-Hall.

Emig, J. (1977). Writing as a mode of learning. *College Compositions and Communication, 28*, 122-128.

Evans, L. (1993, April). *Development of a student's perceptions instrument to assess contributions of the learning environment to the enhancement of student learning in higher education*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Eversoll, D. B. (1986). Institutional planning with successful participants: A "listening ear" for adult baccalaureate degree graduates. *Journal of Continuing Higher Education, 4*(2), 24-26.

Fisher, V. A. (1993). An institutional evaluation of perceptions and expectations for a portfolio assessment program. *PAACE Journal of Lifelong Learning, 2*, 27-32.

Flint, T. (1999). Prior learning assessment: A status report. *Assessment and Accountability Forum, 1*(IX), 15-16, 19.

Gamson, Z. F. (1989). *Higher education and the real world: The story of CAEL*. Wolfeboro, NH: Longwood Academic.

Graham, S., & Donaldson, J. (1996). Assessing personal growth for adults enrolled in higher education. *Journal of Continuing Higher Education, 9*, 7-22.

Halpern, D. F. (Ed.). (1994). *Changing college classrooms: New teaching and learning strategies for an increasingly complex world*. San Francisco: Jossey-Bass.

Jackson, L. (Ed.). (1992). *Applying experiential learning in college teaching and assessment: A process model*. Greeley: University of Northern Colorado. (ERIC Document Reproduction Service No. ED 365 634)

Janesick, V.J. (1994). The dance of qualitative design: Metaphor, methodolatry, and meaning. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (p. 244). Thousand Oaks, CA: Sage.

Janesick, V. J. (1998). *"Stretching" exercises for qualitative research*. Thousand Oaks, CA: Sage.

Joerin, C., & Gomes, M. (1998). *Qualitative analysis of the prior learning assessment process at Malaspina University-College and transcript review of PLA candidate success in post-secondary education*. Victoria, British Columbia, Canada: Centre for Curriculum, Transfer and Technology.

Keeton, M. T. (1992). Assessment of experiential learning. *National Institute on the Assessment of Experiential Learning Proceedings* (pp. 28-30). Trenton, NJ: Council on Adult and Experiential Learning Publications.

Kerka, S. (1995). Adult learner retention revisited. *ERIC Digest (No. 166)*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 389 880)

Knowles, M. S. (1984). *Andragogy in action*. San Francisco: Jossey-Bass.

Knowles, M. S. (1988). *The modern practice of adult education: From pedagogy to andragogy* (Rev. ed.). New York: Cambridge Book Co.

Kohler, W. (1957). *The mentality of apes*. Middlesex, England: Penguin Books.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Kolb, D. (1991, November). [Keynote address]. Paper presented at the annual meeting of the CAEL International Assembly, San Diego, CA.

Kuh, G. (1993). What do we do now? Implications for educators of "how college affects students." *Review of Higher Education, 15*, 349-363.

Kvale, S. (1996). *InterViews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage.

Lindeman, E. C. (1926). *The meaning of adult education*. New York: Republic.

Lyons, N. (1999, May). *How portfolios can shape emerging practice*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mandell, A. (2000). Saving what is messy: PLA in a world of testing. *The Journal of Continuing Higher Education, 47*(1), 49-51.

Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York: Harper & Row.

Mayo, M., & Thompson, J. (Eds.). (1995). *Adult learning: Critical intelligence and social change*. Leicester, UK: National Institute of Adult and Continuing Education.

Merriam, S. B., & Brockett, R. G. (1997). *The profession and practice of adult education*. San Francisco: Jossey-Bass.

Merriam, S. B., & Caffarella, R. S. (1998). *Learning in adulthood*. (2nd ed.). San Francisco: Jossey-Bass.

Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly, 46*(3) 158-173.

Mezirow, J., & Associates (Eds.) (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco: Jossey-Bass.

Miller, D. A. (1991). No campus, no problem: Nontraditional degree granting programs. *Adult Learning, 3*(3), 17-19.

Pascarella, E., & Terenzini, P. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage.

Rogers, C. R. (1983). *Freedom to learn for the '80s*. Columbus, OH: Merrill.

Sorohan, E. G. (1993). We do, therefore, we learn. *Training and Development, 47*(10), 47-55.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Strauss, A., & Corbin, J. (Eds.). (1997). *Grounded theory in practice*. Thousand Oaks, CA: Sage.

Thomson, P. (1988). *The school of hard knocks: A study on the on the assessment of experiential learning*. Payneham, Australia: TAFE National Center for Research and Development. (ERIC Document Reproduction Service ED 295 033)

Tough, A. (1979). *The adult learning projects: A fresh approach to theory and practice in adult learning*. (2nd ed.). Toronto, Ontario, Canada: Ontario Institute for Studies in Education.

Travis, T. G. (1995). *Prior learning assessment: Loosening the grip of the course-equivalency model*. New York: St. Joseph's College.

Tucker, R. W., & Murphy, J. D. (1990, October). *Comprehensive assessment of learning outcomes and processes for working adults*. Paper presented at the meeting of the American Evaluation Association, Washington, DC.

Van Cleef, J. (2000). Report on a slice of the iceberg: A cross Canada study of prior learning assessment and recognition. *Council for Adult and Experiential Learning Forum, 23*(2) 24-26.

Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Weinberg, S. (1993). Overcoming criticism about 'writing across the curriculum.' *Chronicle of Higher Education, 40*(27) 54.

Wenzel, L. S., Briggs, K. L., & Puryear, B. L. (1998). Portfolio: Authentic assessment in the age of the curriculum revolution. *Journal of Nursing Education, 37*(5) 208-215.

West, L. (1992). Really useful research: Adults and the assessment of experiential learning. *Adults Learning Journal, 4*, 75-77.

Whitaker, U. (1989). *Assessing learning: Standards, principles & procedures*. Philadelphia: Council for Adult and Experiential Learning.

White, B. (1995). Prior learning assessment: Outcomes and characteristics. *Michigan Community College Journal: Research and Practice, 1*(2) 51-57.