



Experiences of women over 70 years of age learning computer skills
by Joan Walker Cook

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education
in Education

Montana State University

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Abstract:

Educators working with older adults need to understand how computer learning environments and selected teaching strategies are experienced by older women in order to design computer education programs that are most beneficial to them. The purpose of this grounded theory study was to explore, describe, and interpret the experiences of women, over 70 years of age, who participated in a six-week, non-credit computer course offered by the Education Department at Montana State University-Bozeman. A model was developed to guide computer course design and instructional practice for use with older women.

One group of 14 women participated in a series of six computer classes held on campus. Data was collected using five methods. Verification was established through nine means commonly used in the qualitative research paradigm.

Data analysis consisted of analyzing and coding supporting statements from focus group interviews, participant reflections, audiotaped class sessions, and instructor observations. Data in each category was compared to develop themes for each research question. The central phenomenon was synthesized, research questions were answered, and a model was developed.

The women were making connections socially, societally, and intellectually. They chose to take this computer course because it offered a unique opportunity to learn with women of similar age, learn relevant skills, and immersed them in a respectful learning environment that helped them succeed in spite of age-related difficulties. The instructor's role should be one of a guide and companion in learning who harmoniously fits the social classroom atmosphere.

Recommendations follow: allow learners to select course content, hold class in a location with easy access where one computer per participant is available, schedule a two-hour class once per week for six weeks, accept 6 to 10 women in each group. Teaching strategies include: "Demonstration-Do-Redo," verbal "share-pair," "shifting," mnemonics and rhythmic expressions, repetition, restating, reminding, providing a rationale for each procedure, encouraging learners to ask for help and share knowledge, and tying new learning to prior knowledge.

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MONTANA STATE UNIVERSITY
Bozeman, Montana

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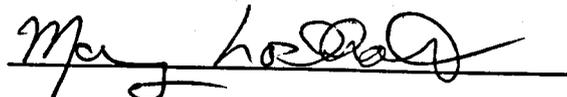
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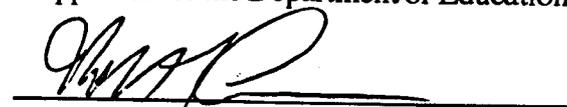
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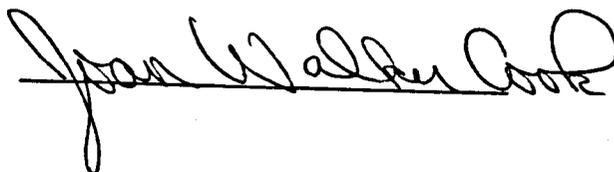

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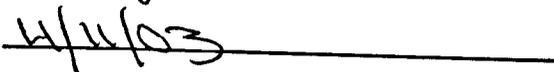
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This work is dedicated to my mother, Phyllis (1926-1997). Mom, you passed down two “pearls of wisdom” that have served me well in life. The most important has been, “If you start something, finish it.” You also impressed upon me the idea that I could accomplish anything that I set my mind to doing. These two notions have fueled the stamina and determination needed to complete my doctoral program. Thank you for sharing these perceptive “pearls of wisdom.”

VITA

Joan Walker Cook was born in Reno, Nevada, in 1952. Her parents are Heward and the late Phyllis Walker. She received a Bachelor of Science degree in Secondary Education in 1977 and a degree of Master of Education in 1990 from Montana State University-Bozeman. She has taught courses in Instructional Computing at Montana State University since 1987. Joan has been the Director of Instructional Computing/Media in the Department of Education at Montana State University-Bozeman, since 1991. She is married to Gary L. Cook, D.V.M., and has two sons, Jacy Lee Cook, D.V.M., and Jeff Walker Cook, helicopter pilot.

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ABSTRACT

Educators working with older adults need to understand how computer learning environments and selected teaching strategies are experienced by older women in order to design computer education programs that are most beneficial to them. The purpose of this grounded theory study was to explore, describe, and interpret the experiences of women, over 70 years of age, who participated in a six-week, non-credit computer course offered by the Education Department at Montana State University-Bozeman. A model was developed to guide computer course design and instructional practice for use with older women.

One group of 14 women participated in a series of six computer classes held on campus. Data was collected using five methods. Verification was established through nine means commonly used in the qualitative research paradigm.

Data analysis consisted of analyzing and coding supporting statements from focus group interviews, participant reflections, audiotaped class sessions, and instructor observations. Data in each category was compared to develop themes for each research question. The central phenomenon was synthesized, research questions were answered, and a model was developed.

The women were making connections socially, societally, and intellectually. They chose to take this computer course because it offered a unique opportunity to learn with women of similar age, learn relevant skills, and immersed them in a respectful learning environment that helped them succeed in spite of age-related difficulties. The instructor's role should be one of a guide and companion in learning who harmoniously fits the social classroom atmosphere.

Recommendations follow: allow learners to select course content, hold class in a location with easy access where one computer per participant is available, schedule a two-hour class once per week for six weeks, accept 6 to 10 women in each group. Teaching strategies include: "Demonstration-Do-Redo," verbal "share-pair," "shifting," mnemonics and rhythmic expressions, repetition, restating, reminding, providing a rationale for each procedure, encouraging learners to ask for help and share knowledge, and tying new learning to prior knowledge.

CHAPTER 1

INTRODUCTION

Overview

One of the greatest challenges in the new century will be how families, business, and government will respond to the needs, preferences, and lifestyles of the growing number of older adults. In so many ways, technology has made longer life possible. Policymakers must now go beyond discussions of health and economic security to anticipate the aging boom and the role of technology in responding to the needs of an aging society....One of the greatest risks in aging is not necessarily poor health but isolation....Advances in information technologies make it possible and affordable for older adults to remain connected to the world around them (Coughlin, 1999, p. 1).

Two dynamic trends in American society have created a need for education for older women in the use of personal computers and the Internet. The two trends are the growing number of older women in our population (Administration on Aging, 2001a, US Census Bureau, 2001) and the greater reliance on personal computers and the Internet by society (Bell & Guenette, 2000; Coughlin, 1999; Microsoft, 1999; Norton & Wiburn, 1998; Newburger, 2001; SeniorNet, 2002).

Older women need training in these new technologies because most were not exposed to these technologies when they were in the workforce and many find it difficult to find computer courses designed to meet their learning needs (Granick, 2001; Kasworm & Londoner, 2000). Numerous researchers argue that the main factors in teaching older people to use computers are the selection of teaching strategies and course design (Cahoon, 1998; Bell & Guenette, 2000; White & Weatherall, 2000).

Technology in the form of MRIs and CAT scans has also affected the field of education by illuminating how the brain works (Caine & Caine, 1991; Clark, 1997; Sylwester, 1997). More has been learned about how the brain functions in the past 10 years than has been learned in the previous 90 because of the convergence of

cognitive-psychology, neuroscience, and technology (Reardon, 1999). Educational researchers have used new discoveries to develop teaching methods that enhance learning. Active learning methods, concept mapping, multiple intelligence based activities, and learning styles awareness, are examples of educational procedures that are reported to improve student learning (Caine & Caine, 1991; Clark, 1997; Sylwester, 1997; Wilson & Spears, 2001).

Research in gerontology and lifespan development has revealed that cognitive difficulties are results of normal aging (Hainsworth, 2002; Park, 2002). Teaching strategies must take into consideration that reaction times are slower in the older adult brain, short-term memory difficulties are to be expected, and that the ability to filter out extraneous details is diminished (Bragdon & Gamon, 1999; Hainsworth, 2002; Hertzog & Hultsch, 2000). Research also supports the importance of providing activities for the elderly to improve their quality of life through connections with others and increased fellowship as preventative services that keep the elderly healthier and happier (Binstock & George, 2001; Litwin, 1999; Wilson, 2000). Researchers have found that use of the Internet can provide an important form of communication and connection for the elderly (Baltes & Staudinger, 1996; Berger, 2002; Coughlin, 1999; Ito, Adler, Linde, Mynatt & O'Day, 1998; SeniorNet, 2002; Wilson, 2000; White & Weatherall, 2000).

In addition, studies have shown that there is increased need for computer training for older adults (Bell & Guenette, 2000; Brown, 2001; Coughlin, 1999; Microsoft, 1999; SeniorNet, 2002; White & Weatherall, 2000).

Statement of the Problem

Educators working with older adults need to understand how computer learning environments and selected teaching strategies are experienced by older women in order to design computer education programs that are most beneficial to them.

Purpose of the Study

The purpose of this grounded theory study was to explore, describe, and interpret the experiences of women, over 70 years of age, who participated in a six-week, non-credit computer course offered by the Education Department at Montana State University-Bozeman.

The results of this study may be used to guide computer course design and instructional practice for use with older women. Those managing adult living facilities and adult activity centers may use these results by offering computer courses to expand social activities. As a new and interesting activity, participation in a computer course may provide an avenue to enhance mental acuity and social involvement. Results of this study may also be helpful in developing computer courses for older adults at libraries, museums, institutions of higher education, and extended education programs.

Research Questions

The following questions were used to structure the inquiry and guide development of methodologies.

- I. What experiences do older women describe as they participate in a computer course on the campus of Montana State University-Bozeman as related to:

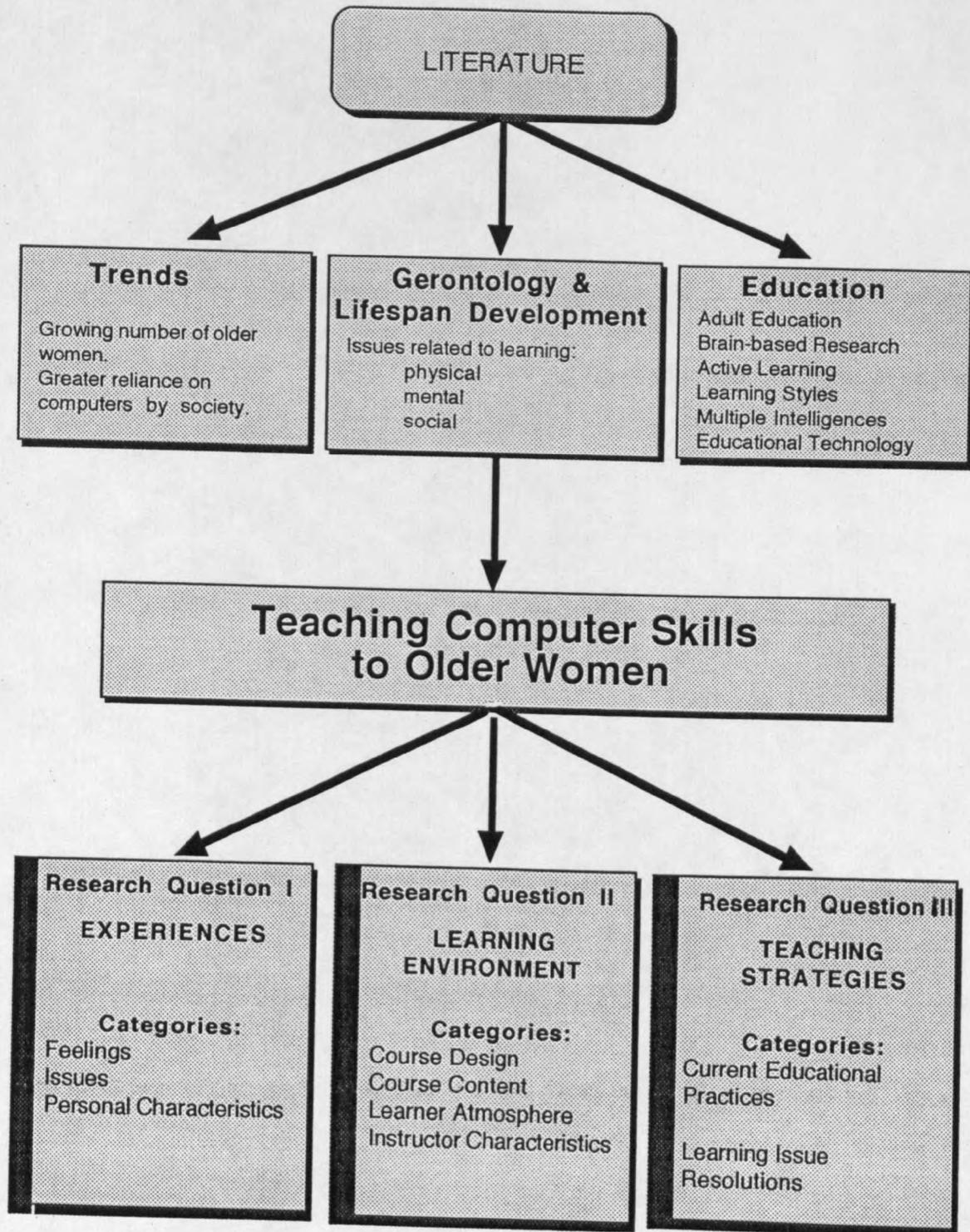
1. Feelings.
 2. Issues.
 3. Personal Characteristics.
- II. What recommendations do older women express when considering the most fulfilling environment for learning as related to:
1. Course Design.
 2. Course Content.
 3. Classroom Atmosphere.
 4. Instructor Characteristics?
- III. What teaching strategies do older women believe are most conducive to their learning as related to:
1. Current Educational Practices.
 2. Learning Issue Resolutions?

For the purposes of this study, feelings were defined as any state of mind expressed by the participants. Issues were topics the participants voiced in which they had a concern. The following conceptual framework (Figure 1) illustrates the scope of this study. The literature review included three areas: trends, gerontology, and education. These were linked to the research questions which dealt with the experience, learning environment, and teaching strategies.

Significance of the Study

Older adults are the fastest growing segment of the population in the United States. It is predicted that, in the United States, there will be 53 million people over the age of 65

Figure 1. Conceptual framework consisting of literature review topics and research categories examined during the grounded theory study.



by the year 2020, as compared to 35 million in 2001 (Administration on Aging, 2001a; US Census Bureau, 2001). In 2000, there were 20.6 million American women over 65 years of age. In the United States, one in every 10 people is a woman, who is at least 60 years old (Administration on Aging, 2001c; US Census Bureau, 2001). Women comprise 54% of people in the 65-69 year age group, while women make up 71% of the 85 and over age group in the United States population (Administration on Aging, 2001a).

Social interaction is vital to optimal health and morale of older women, computers can be a lifeline through communication using the Internet (Baltes & Staudinger, 1996; Berger, 2002; Ito, Adler, Linde, Mynatt & O'Day, 1998; Litwin, 1999; Wilson, 2000; White & Weatherall, 2000).

Our society is experiencing a phenomenal drive to use digital technology. Media, business, health institutions, caregivers, and financial institutions, request that people visit their Internet sites to perform a range of activities including voting for proxies, finding the latest investment data, and tracking health related information. In addition, people increasingly use e-mail and the World Wide Web to maintain close communication with friends, relatives, doctors, and other caregivers (Berger, 2002; Coughlin, 1999; Kasworm & Londoner, 2000; Newburger, 2001; Norton & Wiburn, 1998).

A result of the boom in digital technology has been the increased purchase of personal computers by older adults. In 2001, 5.3 million households, where the householder was 65 or older, had a computer (Administration on Aging, 2001a; US Census Bureau, 2001). Internet access was also present in 3.9 million of these elderly households (Administration on Aging, 2001b, US Census Bureau, 2001). Women account for 52% of home Internet users, which represents 55 million women surfing the

Internet (Berger, 2002). Through the Internet, women can share their life experiences and feelings in online communities (Berger, 2002).

As computers and related technologies become more relevant and necessary, adult educators need to develop new models, strategies, and understandings of computer mediated learning systems and teaching computer skills. Researchers argue that there needs to be collaboration between adult educators and the technologist. At present, technology and technologists are driving the teaching of technology in adult education without knowledge of adult learning (Kasworm & Londoner, 2000). People studying instructional technology should also study adult education in order to have a better understanding of characteristics of adult learners and the underlying principles of program planning and instruction (Kasworm & Londoner, 2000; Merriam & Caffarella, 1999, SeniorNet, 2002).

“To date, researchers with expertise in education or communications technologies have done little work in the aging field, and as a result, teaching methods now used for the elderly are often extrapolated from adolescent or vocational education” (Brown, 2001, p. 1). Studies on computer training for older adults are limited; even fewer studies have been done to understand older women and their involvement in computer learning activities (Bell & Guenette, 2000; Lockhart & Cook, 2000; White & Weatherall, 2000). Computer use appears to be very important to many older adults in order to communicate with important others, to keep up with society’s extraordinary use of the Internet, and to keep the mind active (Cook, 2002; Microsoft, 1999; SeniorNet, 2002).

Educational methods emphasizing social aspects of learning, active learning, concept mapping, multiple intelligence integration, authentic learning, and metacognition are reported being more effective than straight lecture, simple demonstration of techniques,

and other non-active methods (Friedrich, 2001; Gardner, 1998; Glatthorn, 1999; Hartman, 1995; Jonassen, Beissner, & Yacci, 1993; Mathews, 1996; Merriam & Caffarella, 1999; Novak & Gowin, 1994; Silver, Strong & Perini, 2000; Svinicki, Hagen & Meyer, 1996; Visser, 1996). These strategies were utilized by the researcher and explored for effectiveness by the participants in this study.

Research in adult education has shown that adults learn better through use of relevant projects, social learning activities, self-direction, and when learning in a respectful learning environment (Merriam & Caffarella, 1999; Morgan, Ponticell & Gordon, 1998). Researchers argue that society must develop activities targeted specifically for older men and women because they have different concerns and needs than younger adults (Binstock & George, 2001; Friedrich, 2001; Wilson, 2000).

Research in gerontology and lifespan development contribute to development of a sense of age-related changes that must be considered when working with older adults. *Being old* appears to be a different experience for men and women. These differences should be taken into account when planning services for older adults; especially women, since they are the majority of older population (Binstock and George, 2001; Gilleard & Higgs, 2000; Paoletti, 1998). Several studies reported that women choose activities for their social atmosphere more so than men, and women prefer to participate in activities with only women (Bell & Guenette, 2000; Paoletti, 1998).

Numerous researchers explain how older women find fewer opportunities to engage in activities that provide them with social rewards and feelings of competence and achievement which are both vital components of a happy and healthy life for older women. Older women select and continue to attend activities in which they receive positive

reinforcement and see achievement in their efforts (Binstock and George, 2001; Gilleard & Higgs, 2000; O'Beirne, 1999; Paoletti, 1998; Wilson, 2000).

Many older women may enjoy a new sense of liberation as they choose to become involved in what interests them rather than spend all of their time and energy taking care of family (Gilleard & Higgs, 2000; Paoletti, 1998). Friedrich (2001) reported that using a computer can become a psychological intervention activity while taking a computer class can become a social intervention activity.

Learning from the participants' perspectives and developing a model to guide computer course design and instructional practice will help educators understand characteristics of the learning environment that create a satisfying and motivating computer learning experience. Those managing adult living facilities and adult activity centers may use these results by offering computer courses to expand social activities. Results of this study may also be helpful in developing computer courses for older adults at libraries, museums, institutions of higher education, and extended education programs.

Pilot Study

The researcher conducted a pilot study in the Spring of 2002 which reinforced the need for a model to guide computer learning experiences for older women (Cook, 2002). The study explored the experiences of eight women over 75 years of age who attended two-hour computer classes, once a week for eight weeks, on the campus of Montana State University-Bozeman. The results suggested that older women *do* want to learn to use a computer; yet, they have difficulty finding a computer course that is designed to meet their particular learning needs.

