

## Older Adults Learning Computer Technology Recent Research

Author	Date	Title	Source	Methodology	Results
Baldi, R. A.	1997	Training older adults to use the computer: Issues related to the workplace, attitudes, and Training	Educational Gerontology	Literature Review	Attitudes improve with positive experience, need practice, time, Older adults are not afraid, just lack confidence.
Bankhead, D. R.	1996	Older Adults and Computer Courses: pre-adult, adult, and contemporary factors in participation	Dissertation Ed.d	Qualitative Interview	N=24 older adults reasons for participating or not in computer courses
Brandes, B. and Green, R.	1999	Off their rockers into service. Connecting the generations through service learning: Linking learning with life	Classroom teacher guides. National Dropout prevention center: Clemson Univ.	Informational Best Practices for teaching senior adults	Intergenerational learning/Service. Elders have experience, self-directed, motivated by need for self-esteem and confidence, need to participate in own learning
Barnett, C.	1998	All plugged in E. Bradley F. F. Coppola, M. Stewart and N. Gingrich	Modern Maturity	Informational	Older celebrities are on the inter
Colmer, R. S.	1999	The senior's guide to easy computing: P C basics, Internet, e-mail	Book	Informational/ How-to.	Great for Basic concepts
Cody, M. J. Dunn, D. Hoppin, S. Wendt, P.	1999	Silver Surfers: Training and evaluating Internet use among older adult learners	Communication education	Quantitative Training class Testing	292 seniors average 80 yrs old. Computer and Internet. Positive attitudes, higher levels of social support, connectivity. Efficacy, anxiety.
Depallo, M.	2000	AARP National survey on consumer preparedness and e-commerce: a survey of computer use age 45 and older	World Cat AARP research web site <a href="http://research.aarp.org">http://research.aarp.org</a>	Quantitative Survey	1,002 computer users 45+ 32% very confident 25% somewhat confident 23% never back up 51% Comp shop
DeGraves, D. J. & Denesiuk, R. J.	2000	The Seniors computer information program. A pioneer website for seniors	Ed. Gerontology	Historical/Informational	Online community older adults taught computer and internet skills on website

Appendix B

Experience of Learning

Online Technologies for Older Adults 190

LEGEND	
□	White Informational
■	Blue Qualitative Research
■	Yellow Quantitative Research
■	Green Both Quantitative and Qualitative Research
■	Gray Literature Reviews

DeOllos, I. Y. Morris, D. C.	1999	The Internet as an information resource for older adults	J. Educational Technology systems	Quan Survey Website analysis	More educated, younger, male own and use PC. Sites provide info. Limitations: overwhelming, cost, bad fonts, jargon. But can be changed. Cliff quote at end.
Ellis, R. D. & Kurniawan, S. H.	2000	Increasing the usability of online information for older users: A case study in participatory design	International journal of human-computer interaction (WOS)	Qual. Case Study, Phenom: Website	Specially developed website for older users. Improved site per users input
Echt, K. V. Morrell, R. W. Park, D. C.	1998	Effects of age and training formats on basic computer skill acquisition in older adults	Ed. Gerontology	Quantitative Experiment Young old (60-74) vs old old (75-89) compared ability to acquire and retain basic computer skills	Young old made fewer performance and motor control errors, required less assistance, took less time. Spatial and verbal working memory were significant predictors of skill acquisition. Same perf with CD (cvt) and manual Practice helps with Motor control
Finn, J.	1997	Aging and Information Technology: The promise and the challenge	Generations	Informational.	Replace TV and phone. Socialization vs isolation
Friend, J. R.	2001	Website usefulness for Third Agers: A case study of older adults and senior related websites	Doctoral Dissertation	Qual Nat. Inquiry Questionnaire, 6 women Initial training, 1 interview 2 focus groups.	Content not community Design for beginners on websites Content ideas for websites for seniors.
Fox, S.	2001	Wired Seniors: A fervent few, inspired by family ties	Pew Internet & American Life Project <a href="http://www.pewinternet.org">www.pewinternet.org</a>	Quan - survey 26,094 18 and older adults 4,335 65+	"Grey gap" 56% of all Americans go online 15% over 65 have Internet access 81% of people who say they will never go online are over 50. 56% over 65 "silver tsunami" 50-64 yr olds stay online after retire
Furlong, M. S.	1996	<a href="#">Young@heart</a> : computing for seniors	Book	How-to and Informational	e-mail and Internet how-to.
Fajou, S.	2000	Computer Anxiety	Computer ~Ed Electronic journal	Informational	Not about older adults Definition- 2 states of mind associated with anxiety p. 1
Gross, J.	1998	Wielding mouse and modem, elderly remain in the loop. Computer classes for the elderly	New York Times (late New York Edition)	Informational	SeniorNet AARP stats only 1% of 65+ surf the internet 1988 8% =50-64 yr olds

Holba Puacz, J.	2000	Surf's up for Seniors!	Computers in Libraries	Informational	Ideas for helping seniors get online in libraries
Hollis-Sawyer, L. A. & Sterns, H. L.	1999	A novel goal-oriented approach for training older adult computer novices: beyond the effects of individual-differences factors	Educational Gerontology	Quan. Experiment N=106 50-89 yrs old 2 day training Excel	Goal setting helps Random assign to 2 groups for 2 days of spreadsheet training. Attitude and efficacy higher, Anxiety lower for both groups.
Hutchinson, D. Eastman, C. Tirrito, T.	1997	Designing user interfaces for older adults	Educational Gerontology	Quan Survey 50+ n=122 n=45 computer users	Find tech awkward and confusing. Text too small, mouse difficult, pull-down menus difficult.
Jakobi, P.	1999	Using the www as a teaching tool: analyzing images of aging and the visual needs of an aging society	Educational Gerontology	75+ Quantitative Descriptive	Searched sites on Internet for older images/Bad site design using 4 search engines Analyzed the sites. Negative images of elderly
Jay, G. M.	1989	The influence of direct computer experience on older adults' computer attitudes, skills, and continued use	Ph.D. dissertation Penn State University Dissertation.	Quantitative Pretest-treatment-posttest, nonequivalent control group design 57-87 yrs old 2 week training/print shop (cards) 2 weeks of on own. Tested for maintenance Tests run.	Positively change attitudes, knowledge and skill.  Locus of control and cognitive abilities
Kelley, C. L. Morrell, R. W. Park, D.C. Mayhorn, C. B.	1999	Predictors of electronic bulletin board system use in older adults	Educational Gerontology	Quantitative=39 2 groups compare Descriptive stats Neugarten life satisfaction index Mental health inventory anxiety scale	More positive attitude after training and use. Good initial training experience leads to continued use and better attitude.

Kelley, C. L Charness, N.	1995	Issues in training older adults to use computers	Behaviour & Information technology	Lit Review-Good tables: Interaction of age w/ tutorial method Anxiety or neg attitudes Correlation bet comp. attitudes or anxiety/age. Effects of age on comp. Performance time taken and help requests.	Older adults experience greater difficulty learning computers because of neg. attitudes not anxiety. Special needs of older adults must be addressed. Reductions in cognitive abilities (spatial ability) may play a role in difficulty learning.
Knowles, M. S.	1983	Memorandum* To the personal computer industry Some suggestions for serving personal and professional owners	Training and Development Journal and book appendix, The adult learner	Informational	He tells them a little about adult learning
Knight, K.	1999	Older adults and technology: A critical incident inquiry into learning experiences	Ed. D.	Quantitative. Critical Incident Survey N=130 50 males 74 females 50 - 70+	Education differences - previous/positive education indication of success Self-directed learning is good Reinforcement good/ negative feedback bad. Seniors need time Unhurried, design
Lawhon, T., Ennis, D. & Lawhon, D. C.	1996	Senior adults and computers in the 1990s	Educational Gerontology	Informative Small literature review	What elders do with computers, e- mail, I-net. Assistance for disabled seniors. Resources/manuals
Lawson, I. A.	1997	Perceptions and experiences of older adults learning technology	M. ED. University of Alberta, Canada	Qual Focus groups and interviews	Learning pre-disposition and influences
Leslie, J.	1998	What computer can do for you	Modern Maturity	Informational	About telephone and technological predecessors
Lowenstein, A. C.	2000	For grandmas who do windows	Book	Informative How-to Manual	e-mail, Internet and Web
Leavengood, L.B.	2001	Older people and Internet use	Generations (San Francisco, CA).	Informative	Some survey results Microsoft.

Lenhart, A.	2000	Who's not online: 57% of those without Internet access say they do not plan to log on	Pew Internet & American Life Project <a href="http://www.Pewinternet.org">www.Pewinternet.org</a>	Quantitative, Survey 2,503 interviewed 12,751 total interviewed Phone and Web  Good charts and tables	"grey gap" great stats 87% of those 65+ do not have Internet access 74% over 50 do not plan to get access Why? Fretful, dangerous web, no benefits, expensive, confusing.
Morris, J. M.	1994	Computer training needs of older adults	Educational Gerontology	Quantitative & qual Raub's attitude survey Case studies, diary 34 students 28 completed course 3 sessions some lit review	Intro computer course given tested for attitudes - positive attitudes after course Older adults have special needs
Morrell, R. W. Mayhorn, C. B. Bennett, J.	2000	A survey of World Wide Web use in middle-aged and older adults	Human Factors	Quantitative, Survey Middle 40-59 Young old 60-74 Old-old 75-92 N=550 40+ 71% response rate	Old-old have least interest in Web. Age differences 2 predictors for not using Web are lack of access and knowledge about www. e-mail, health, travel main interests for older adults on www.
McMellon, C. A.	1997	Mature consumers: Their allocation and consumption of time on-line (Internet, consumers, time allocation)	Ph.D. Dissertation City University of New York	Survey/ Questionnaire Locus of control, need for cognition, future orientation, attitudes AOL, AARP, Retire+ SeniorNet N=560 (approx)	Great description of senior net p. 90 Surf, e-mail top. Tech users were Tech lovers Richer Increase quality of life
McConatha, J. T. McConatha, D. Deaner, S. L. Dermigny, R.	1995	A computer-based intervention for the education and therapy of institutionalized older adults	Educational Gerontology	Quantitative, Experiment and Control groups 1 learned prodigy other did not. Activities daily living scale- Geriatric Depression scale Mini mental state exam	After 6month post-test. Comp training group reported satisfaction with environ., feeling of control, sense of being in touch with outside community. Alleviated depression and improved cognitive functioning. NOTE: Hawthorne effect??
Moore, D. & Zabrocky, K.	1995	Adult age differences in comprehension and memory for computer-displayed and printed text	Educational Gerontology	Quantitative. Younger vs older adults reading online and printed texts 40 younger 19-34 40 older 60-84	No age differences. Both groups spent more time reading online. Some online-methods result in improved comprehension and memory.

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Mead, S. E. Batsakes, P. Fisk, A. D. Mykityshyn, A.	1999	Application of cognitive theory to training and design solutions for age-related computer use	The International Journal of Behavioral Development	Quantitative 10 older 63 - 76 10 younger 18-25 1. www site .navigation 2. never searched online database 3. ATM navigation	Older adults took a longer time to navigate/ more jumps. More difficulty recalling actions using (hypertext links) "Theory can help us predict age differences". P. 569 Need better design of web pages
Opalinski, L. A.	2000	The impact of computers and the Internet in increasing perceptions of personal control and overall satisfaction in the lives of older adults	Thesis- Master of social work	Quantitative & qual Self Designed Questionnaire n=110 60 to 90 years old open and closed qs	Family sharing, hobbies, share tragedy, grief and loss. Isolation reduced. Education, health issues
Ogozalek, V. Bush, C. Hayeck, E. Lockwood, J.	1994	Introducing Elderly college students to multimedia: An intergenerational approach	Proceedings of the Annual National Educational computing conference	Research report Questionnaire N=35 avg. age 70 Mult media workshop then survey	Positive responses, older students feel unsure about technical abilities and still need help.
Perry, J.	2000	Retirees stay wired to kids--and to one another	U.S. News and World Report	Informational	Popularity of Internet for seniors e-mail too.
Post, J. A.	1996	Internet Resources on Aging: Parts of the Internet	Gerontologist	Informational	Resources for elderly on www
Perkins, J.	1998	Technology: Our link to the Past--and future	Modern Maturity	Informational	AARP offers web classes MS Microsoft (teamed up)
Rainie, L. Packel, D.	2001	More online, doing more	The Pew Internet & American Life Project	Survey	"75% of 18-29 years old have Internet access compared to 15% 65+"
Ralls, R. S.	1997	Age and computer training performance: A test of training enhancement through cognitive practice	Dissertation Ph.D.	Quantitative & qual Questionnaire/ Survey Pre/post test Training class 2 groups/control group N=60 52-87 years old Structured interview / Focus group	Motivation & Practice Cognitive ability had no effect on age and computer performance Pre - No difference between groups in paper folding a cognitive task. Previous computer experience helped. More interested in computers after the training. Good for isolation/social contact Goal setting not significant Perceived younger have easier time
Redding, T. R. Eisenman, G. Rugolo, J.	1998	Training in Technology for Late Adopters: learning in retirement, computers for seniors	U. S. Florida	Informational Some lit review Instructional strategies for elders	"The notion that everyone is computer literate, or has used a computer is simply not true!" p. 19 LIR, background

Russell, M.	1999	Online learning communities: implications for adult learning	Adult learning	Informational	SeniorNet
Rich, G. E.	1993	An examination of the processes of older adults use to learn word processing software	Ph.D. University of Wisconsin-Madison	Qual Case Study Over 55 N=7 Comp training class 8 hrs. Word perfect Observed and vid. Taped	Pedagogical learning methods appropriate - needed teacher direction, As the older adult gained confidence more andragogical approaches needed. Neg. transfer of learning, no neg attitudes.
Timmerman, S.	1998	The role of information technology in older adult learning	New Directions for Adult and continuing Education	Informational	Profile of older computer users Barriers to learning Edu programs Future trends, challenges
Valasek, D. L.	1989	Young/Old differences in training and self-efficacy on computer skills and computer attitude	Ph.D. University of Akron	Quantitative Used own model of training for 50-65 older 25-39 younger discussion, measurement	Self-efficacy and attitude , fears, Older adults took more time, Poorer in training. All groups had pos. attitude, self eff enhanced by all. "Older adults can learn, however more errors were made and more time was needed for training"
Wendt, P. F. Cody, M. J. Seymour, R. Merrell, T.	1996	Older Adults on the Internet	The Ethel Percy Andrus Gerontology Center: Online	Informational Survey 55+ N=500+	Internet is similar to TV. Computer users and Internet users are different.
White, H. McConnell, E. Clipp, E. Bynum, L. Teague, C. Navas, L. Craven, S. Halbrecht, H.	1999	Surfing the net in later life: A review of the literature and pilot study of computer use and quality of life	Journal of applied Gerontology	Pilot study Quantitative & Qual N=15 Compare groups Internet and e-mail access to retirement community. Affect Balance scale, UCLA loneliness scale, depression scale Duke social support index	Potential of improving psychosocial well-being among older adults "teaching frail older adults to use the computers to access Internet and e-mail is feasible". p. 372. Trend toward decreased, loneliness. Older adults are willing and interested to learn comps. Limitations: small sample, 1 place. Lots of social interaction with helpers and others learning. Enhance quality of life.

White, J. & Weatherall, A.	2000	A grounded theory analysis of older adults and information technology	Educational Gerontology	Quantitative Grounded theory to investigate computer using older adults' accounts of their use of IT. N=6 Interviewed	Senior Net Involvement with Inet promotes more involvement 5 themes: Used for hobbies, genealogy, mental and social stimulation (communication), cost had an impact, viewed as a tool, communication with family esp. grandchildren very important. Show a process model p. 378. Very simple. Pos attitude change. Computer connects to life.
White, H. McConnell, E. Clipp, E. C. Navas, L. Bynum, L. Edwards, J.	1996	The impact of Internet and e-mail access on the quality of life of older adults	Journal of the American Geriatrics Society	Qual and Quantitative N=19 77 + or - 7 Control group vs trained group Wilcoxon signed rank test	UCLA Loninessness Ces-Depression Duke social support, affect balance _ same results as above
Westerman, S. J. & Davies, D. R.	2000	Acquisition and application of new technology skills: The influence of age	Occupational Medicine-Oxford	Lit review	Older adults perform more slowly, less accurate. Older can match younger if given more time (additional practice)
Williamson, A.	2000	Gender issues in older adults' participation in learning: Viewpoints and experiences of learners in the University of the third age (U3A)	Educational Gerontology	Quantitative and Qual Survey, Interviews 56 interviewed 41 = Female, 15 male Conversational interview about opinions about U3A	Men Sit and women do things that were denied previously p 55 This is NOT computer related although they do have computer classes at U3A.
Zandri, E. & Charness, N.	1989	Training older and younger adults to use software	Educational Gerontology	1/2 given jargon sheet before Training in pairs Tests Individual vs group training/ Attitudes 46 people 22 = (20-39) rest (58 - 84)	Learning in small groups (2) seems to be more effective because of "problem-solving and social reinforcement."p.627 More positive attitude led to better training experience, whereas, negative attitudes led to more time and help required.