

# **A REPORT ON THE "SENIORS IN CYBERSPACE PROJECT"**

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There is no doubt that the senior population of North America has embraced the IT world. The success of organizations such as Senior Net of the US and SCIP of Canada and various other projects are evidence of the interest and abilities of the young senior in North America (Ellis, 1996).

This project however, is about the very old senior who may range in age from 80 to 100 and who has a range of physiological and perhaps psychological limitations that have made it necessary for them to reside in a Long Term Care Facility, commonly known as a Nursing Home.

Most Nursing Homes in Ontario house a population that has an average age of 85 and the mobility level and/or cognitive level of a high percentage of these very old frail seniors is low. Hence of the anticipated 3% of the total population of seniors for the Year 2030, we are focusing upon a very small percentage of the total senior population.

However, they are among the most vulnerable population of our society, rendered hidden, forgotten and sometimes abused because of stereotypical perceptions of the very frail elderly in long term care facilities. It is certain that our frail elderly are part of the growing number of "technology have nots" in our society. Unfortunately, the very frail elderly do not have the ammunition of youth and future social and economic issues on their side. Consequently, it behooves concerned professionals to begin to address access issues for this most vulnerable population.

We were uncertain about how the very frail elderly would react to a stranger encouraging them to observe and try out the computer and felt that they could benefit most from a relationship that would likely develop with a volunteer. Therefore, we developed our training based upon the premise that the relationship would be key to the learning process.

The design of the program was approached with a fairly open mind as to what the senior needed to ensure an enjoyable experience and what the volunteer needed in order to have a satisfactory experience.

However, the Nursing Home administration and the project coordinators agreed that residents must maintain control over such areas as their motivation to participate, areas of interest and pacing of their involvement in the project.

Our rationale for this approach is supported in the literature. For example, phenomena of control is the issue cited continually in literature reviews (McConatha, McConatha,

Deaner, Dermigna, 1995; Hendrix, 2000). As a person's abilities decline with old age, so does their opportunity to maintain control over their physical and mental activities. Hence it makes sense that the seniors would need to have a sense of control over the learning activities and the relationships they develop with the volunteer trainer. Through the relationship with the senior, the volunteer trainer would gather information that would determine the style of learning preferred by the senior, how the training sessions should be approached, the areas of Internet interest, and whether or not the senior would like to use email. Taking time to gather information about the senior's history, personality and approach to learning is very important in this process.

Research shows as well that the very old frail senior has many of the same interests as the younger senior such as email, surfing the Internet and playing computer games (Clarke, 2000; Hendrix, 2000). The major difference found in a literature review is in how the learning process is introduced and delivered to the very old senior (Ellis, 1996). As one author explained, it is "extra steps that will make technology work for the frail elder rather than against them " (Kaplan, 1997).

In some respects, it appears that we need to change how we view technology as well. As Jeffrey Finn states, we need to aggressively change our role from providing IT care services for the elderly to having a partnership with the frail elders. We must resist using technology only for and on them rather than making it available to be used by them (Finn, 2000).

Many authors argue that it is access that is an issue with any senior rather than ability (Clarke, 2000; Hendrix, 2000; Finn, 2000; Lustbader, 1997). Access becomes an even greater issue for the very old frail senior given that nursing home environments often do not have sufficient computers or volunteers to attend to the learning needs of the elderly. As well, the availability of training materials that provide step by step approaches to working with this population are scarce (Clark, 2000). This is now beginning to change.

Another access issue involves the adaptations that may be needed to enable the frail elderly to utilize the computer. These adaptations appear not to be extensive. Research shows that very basic adjustments such as screen size, font size, number of icons, amount of text, single mouse clicking, use of the down arrow as opposed to mouse scrolling where possible and wheelchair accommodation are the major areas to address (Clark, 2000).

The major growth in the future will likely be in software development. As programmers develop more ways to improve such items as screens, the mouse, voice recognition and touch recognition, the issue of environmental adaptations will be addressed (Morris, 1994).

The most important access issue, however, appears to be that of the attitude of the frail elderly and the attitude of the trainer, or in our case, the volunteer or staff member (Hendrix, 2000; Temple, Gavillet, 1990; Lustbader, 1997). It has been identified that "techno fear" may affect which seniors accept training and which seniors do well during

training. Gavillet and Temple offer an interesting observation that lends credibility to our assumption that it is the attitude and relationship of the senior that ultimately determines how involved and how positive the learning experience will be. In fact, Fiona Clark, in her report, cautions that when approaching a project like this we need to emphasize that we are going to encourage the frail senior to see what the computer is all about rather than train them how to master or use the computer for correspondence, web search etc.

Other researchers have identified the techno fear phenomena and used a scale to measure pre and post lesson anxiety among seniors regarding the computer. Results seemed to indicate that practice and success related to the interests and need of the senior were the major indicators of decreasing techno fear and stress (Temple, Gavillet, 1990). Other researchers, however, maintain that the senior's fear and stress in this area is no greater or less than that of younger individuals and they argue that the very old senior is well equipped with tried and true coping skills related to change. They have after all endured revolutionary changes in their lives and survived (Ganz, 1997).

Keeping in mind documented research about anxiety and the need for computer learning to be relevant to the seniors needs and desires, we designed a very flexible program. Our goal was to explore what seemed to work best for the seniors and for the volunteers in a computer training program. The philosophy behind the program was that these adult learners could enjoy using technology if we kept in mind their psychological needs and educational needs. We planned to emphasize the relationship needs of the frail elder to the volunteer in the orientation and training program.

## **PROGRAM DESIGN AND DESCRIPTION**

### **PHASE ONE OF PROJECT**

In the fall of 1999, Seneca College was approached to assist private nursing home staff in the introduction of computer usage to their residents. A computer had been donated by a group of IBM staff to the residents' council. The nursing home recreation staff was anxious to have the computer set up and made available to the residents.

A committee was formed and tasks were delegated. IBM staff volunteered to set the computer up, the Nursing Home agreed to pay for the Internet service, and Seneca College faculty volunteered to train staff and volunteers in the introduction of computer activity to the residents.

Recreation staff approached the higher functioning residents and asked for volunteers. Five residents were chosen using the following criteria:

1. the ability to follow verbal instructions
2. hand and finger dexterity
3. visual ability
4. hearing ability
5. ability to read
6. social abilities
7. mild to intense desire to explore with a teacher what the computer could be used for

While there was not a formal measuring instrument used to determine who would be suitable to participate, attention was paid to some of the following variables:

Activities of Daily Living (mobility and hand and finger dexterity)

Cognitive abilities (concentration, memory)

Depression Symptoms (motivation)

Social needs (personality and desire to learn)

Research carried out by Fiona Clarke in the Connections project used the Mini Mental Status score (Clarke, 2000), and the Greet project of 1994 utilized successfully the ADL measurement and the Brink Geriatric Depression scale (Mcconatha, 1994).

### **Profile of Nursing Home Residents participating in Phase One**


### **Previous Occupations of the Residents**

Computer Sales person

Nurse

Homemaker

Homemaker

Homemaker

### **Profile of Volunteers**

#### **PHASE ONE (1-3 months)**

Volunteers were recruited from a community college Social Services Program. First semester students were informed of the project through the classroom and a flyer soliciting volunteers. First semester students were approached as it was felt they would value the experience more and it would allow them further exposure to the frail elderly before they made their first year field placement choice. Ten students volunteered initially but the numbers had dropped to three by the time they received training of three hours and a nursing home orientation. Two of the students ended up doing a field placement at the facility and the other student dropped out of the college program despite a very successful interaction with one of the higher functioning male participants.

#### **HASE TWO OF PROJECT (3- 6 months)**

After 3 months it was clear that there were certain obstacles inherent in using first semester students. It was decided to use staff and faculty for this phase as the two students remaining began to experience health problems. A plan was made to also begin to recruit second year graduating students who would have a vested interest in expanding their network of agency contacts for job search reasons and who would be interested in

adding this experience to their resume. Staff and a faculty member took over from the original volunteers as volunteer resources did not exist and we did not want to see the project falter. Success was evident as one of the participants became self sufficient on the computer and others were expressing an interest as were several family members. Eventually 3 more volunteers were recruited (2 female and 1 male) and they became participants in the third phase of the project.

### **PHASE THREE OF PROJECT (6-9 months)**

By the end of six months it was clear that this project had a great deal of potential for success. The administrators of the community college were persuaded to donate a computer for use in a second nursing home. Faculty time release was allowed for computer set up and for volunteer and staff training. As noted above fourth semester students had been recruited and they committed to a 3 month time frame. They received less orientation than the first semester students, but they did receive more orientation on instructional strategies due to the fact that we were beginning to gather information about the learning needs of the few elders we have involved in the project.

#### **Resident Profile of Third Phase**

As with the first and second phase, the Resident Program Manager in the home met with staff and family and was responsible for recruiting new participants to the program. This home was familiar with the program's progress at a sister home and was keen to become involved. Residents were assessed for the same abilities as in Phase One and Two and three were chosen. The numbers remained small due to the insufficient volunteers, lack of staff time, and the residents' general inability to use the computer.

### **PHASE FOUR (ONE YEAR)**

In both Phase One and Phase Three, media attention was received and this brought the project to the attention of the Ministry of Citizenship, Culture and Recreation. The Volunteerism Department in particular was extremely interested in the project. With the encouragement from the Ministry consultants, the community college has taken the lead and is currently working with a number of public agencies to submit a proposal to continue the project. The goal will be to involve Intergenerational Programs, local high school students, more nursing homes and more organizations willing to donate computers, time and technical expertise.

The long range plan is to continue to gather information about resident and volunteer needs and to develop a volunteer guideline that will be published online. This will be accessible to all people interested in intergenerational programming for the very frail older senior.

### **PROJECT RESULTS**

Of the 5 Phase One residents, 3 remain involved with staff members on the computer. One resident became ill and although his learning was a major success and he became self reliant on the Internet, his illness interferes with his continuation in the project. One activity staff in the first nursing home regularly schedules time with two of the original residents (one male and one female), and they continue to enjoy their experience. These

residents will always need some one to assist them with getting on line and dealing with menu choices and email steps. This finding is similar to an observation in the Connections project undertaken by McGill University (Clarke, 2000). These residents have English as a second language and the plan of the activity worker is to eventually have a small group who will visit web sites in their original language.

Another resident had mild/moderate cognitive impairment and she showed high initial interest. However, the student volunteer became disillusioned when the resident was primarily interested in the pretty colours on the screen rather than the text or content of the picture. The student's expectations were not being met and she requested to be assigned to another resident. The resident was very happy and fixated on the colours and the attention, but the student was not able to connect to the idea that the stimulation that the resident was receiving from the activity was appropriate use of her and the resident's time. This finding is supported in part by the Connections study, which noted that such undertakings should be careful to ensure that the resident's hopes are not raised too high. We discovered that this was true for the volunteer as well.

We were unable to find another volunteer for this resident and we cannot tell if she would progress to wanting to use the keyboard herself. This resident on good days was quite capable of navigating and understanding web site content.

### **INDIVIDUAL DESCRIPTION OF VOLUNTEER EXPERIENCE (sample)**

The fifth resident was a ninety year-old mother of two with enthusiasm, social skills and a fluctuating cognitive level. Eyesight, hearing and manual dexterity would be considered as normal level for her age. Her son was a regular visitor and eventually became involved with his mother on the computer.

The volunteer faculty, (Phase Two) met two times weekly for the first month and one time a week for the next two months. The first two meeting were spent getting to know the resident with the volunteer paying particular attention to the previous interests, and the level of interest and ability that the resident might show when seated at the computer. The resident never learned the name of the volunteer but recognized her as the computer lady. The resident was very appreciative of not having to go to the computer if she did not feel like it and was told a staff member how understanding the computer lady was.

#### **Typical Volunteer / Resident Schedule:**

1. Two weeks chatting for 30 to 50 minutes about the resident's life. ( 2 x week = 4 meetings ) Having identified quilting as an interest and past hobby, the Volunteer found quilting sites on internet and brought addresses to next meeting.
2. Week Two - resident invited to come to the computer area to see where the computer is located. The resident came along cheerfully.
3. Week Two - resident invited to come to see computer again and to see what the volunteer had discovered on the computer about quilting.
4. Week Three - resident invited soon after volunteer's arrival to come to computer and discover more about quilting. Resident eager and joking about how she might learn how to turn it on today. Resident introduced to the mouse as the "steering wheel". This phrase chosen based upon volunteer's observation of resident wanting to learn how to "drive" the machine.

5. Week Three - second visit - volunteer demonstrated the mouse and put resident's hand on the mouse, encouraging her to "drive". The volunteer provided the information that one cannot hurt the computer, talked about the screen, the Internet icon as the doorway, keyboard and typing, and how to type directions.
6. Week Four - directions repeated, visited another quilting site. Volunteer let the resident navigate the mouse, the down arrow and encouraged her to choose a site from the menu. Several quilt sites were printed and resident took them to her room.
7. Week Five - resident was not feeling well - volunteer did a brief visit.
8. Week Six - resident was sleeping and volunteer did not awaken.
9. Week Seven - resident eagerly came with volunteer. A review of getting on and playing with the mouse was done. Resident was a bit disoriented and didn't seem to be aware that several weeks have been missed.
10. Week Eight - son was present when volunteer arrived, son came and watched mother's lesson.
11. Week Nine - resident eagerly came with volunteer to computer, repeated review of
  - point and click on internet icon with mouse
  - moving mouse arrow to menu typing white space
  - scrolling down with down arrow on key board
  - picking a topic ( roses, Ontario Museum) and visiting the site

Visits continued for 5 more weeks resulting in the resident being able to click on the internet icon, choose using the mouse from the menu, scroll down to find a topic of her choice, go back (needed reminding each time) and close down the internet (needed reminding each time).

The resident thoroughly enjoyed her experience and slowly overcame her anxiety about not being able to do it. She admitted her fears about halfway through the lessons and she needed constant reinforcement that she was really making progress. The volunteer noted that the resident was a hands-on, action oriented individual and therefore did not mind the challenge of gaining control of the " skittish mouse ". She delighted in being able to choose from a wide choice of topics and the pictures always delighted her. She was thrilled and amazed at the wide range of information that could be accessed. Email was not tried, as neither of her sons had a computer at home. Eventually, the volunteer did email the resident when a staff member took over from the volunteer and set up a Hot mail address.

## **TRECOMMENDATIONS FOR STARTING A PROJECT**

These recommendations draw heavily from and support the previous observations of the Greet project (McConatha, 1994) and the Connections project of McGill University (Clarke, 2000). We have added our observations based upon feedback from administration, staff, volunteers and the residents.

The format used in these recommendations reflects the chart that was developed in the Greet project. The underlying theme in these recommendations is that program coordinators must pay special attention to the relationship issues both within the home's systems and among key players within the program.

## **ESTABLISHING A SENIORS IN CYBERSPACE PROGRAM**

1. Gain commitment from administration of the facility. They will need to buy a computer or raise funds, or seek a donation from another organization. Technical and Internet setup costs must be addressed. Use the residents' Charter of Rights that are usually displayed in each home as support for your rationale that the availability of the computer and training will provide rehabilitative and social /cognitive stimulation for the residents. Plan on spending several months on negotiations and research in this area.
2. Find a suitable location for the computer. Analyze staff and resident traffic patterns and available hookup. Consider appropriate computer desks in light of resident needs.
3. Purchase computer or embark on a Fund raising or donation campaign. Approach organizations such as Service Clubs, Businesses or Public agencies. You can take advantage of upgrading in many of these organizations.
4. Announce the project and involve all levels of staff. Include family and residents in the discussions. Get the input of staff and present volunteers and family. Use newsletters, bulletin boards and word of mouth to gain momentum. Always be scanning for new recruits, donations and ideas.
5. Organize a committee of staff and program coordinators who will be responsible for program setup, monitoring and evaluation. Initially, this usually involves the administrator, head of nursing, the resident program manager and the coordinator of volunteers. Establish tasks, scheduling needs, documentation needs, the supervision and monitoring roles, and the protocol expected of the volunteers.
6. Ensure that the Activity and Volunteer Coordinators receive some sort of training and orientation to this type of program. Provide opportunities for identification and discussion of issues that will arise when volunteers work with the frail elderly on the computer. Arrange for workshops and guest speakers who have experience to share their results. Have a volunteer manual available for reference noting specific learning needs of the frail elder and strategies for introducing new information.
7. Activity Workers and Recreation staff must have hands-on experience. Assign yourself a resident and begin to introduce them to the computer. Keep a log of your experience and note what adaptations have to be made within the home system and within the volunteer's approach.
8. Once the Resident Program Manager or Activity coordinator understands the needs of the project, a meeting can be scheduled with involved staff to establish the criteria for involving the resident in the program. It is suggested that the following factors be considered:
  - motivation level of resident
  - vision and hearing ability
  - concentration ability
  - memory ability ( although with assisted use - this is not as much an issue )
  - ability to respond to visual and mental stimulation
  - arm, hand and finger dexterity
9. Starting of classes can be announced to residents' activity groups so that interested residents can be recruited from the volunteer residents. Create a wait list if volunteers are limited.

10. Recruit Volunteers once a computer has been purchased. Intergenerational programs with high school students are an option. Family members, church groups, service clubs, and corporations are considerations. Emphasize the need for at least a three month commitment. Be clear about relationship needs of the resident and the best way to schedule visits in early stage of recruitment (e.g. 2 x week at first of about 30 minutes). Volunteers will also need to have some flexibility in their schedule in order to meet resident and nursing home scheduling needs. Volunteers must receive orientation to the home and they must attend several training sessions regarding learning needs of the frail elderly.
11. Match available volunteers to interested residents. Consider ethnic backgrounds, areas of interest and patience level of volunteer, goal of the volunteer, time availability of volunteer, level of independence of the volunteer.
12. Introduce the volunteer to the resident. Remind volunteer of relationship value and to go at the pace of the resident. Meeting the resident in their room is the best environment for the resident until they gain trust in the volunteer. One-to-one matching is best in the early stages of the program and in the early stages of the resident's lessons.
13. Ensure that the volunteer is aware that once the resident has mastered a few skills, such as being able to manage the mouse, or being able to use the down arrow, - it is good to invite a staff member or a family member to observe the residents new activity if the resident is agreeable to it. This reinforces the worth of the program and reinforces the positive progress that the resident is making.
14. Ensure that the volunteers receive at least monthly supervision in the initial stages of the program (first 6 months.) As a volunteer gains more experience - this may be lessened. It is good to have an open door policy so that volunteers can bring their concerns on an ad hoc basis to you. It is also suggested that the supervisor consider establishing a forum or bulletin board site that volunteers can post their concerns or progress on. Having an email address that volunteers can use to get in touch with the supervisor is very important. As well a chat line would be an option for maintaining support for the volunteers. This is also a good way to receive ideas from volunteers for improving the program. This idea could also be considered for family members who may want to start their own facility support group on line.
15. As the numbers of residents increase in this program, consider introducing them to each other and facilitating opportunities for them to discuss this experience. This can be in the presence of an activity worker or volunteer, or it could be on an ad hoc basis e.g. seating them together at an another activity. You may begin to develop a computer class as a small group of residents is identified. However, keep in mind that the frail elder, in most cases will always require some assistance.
16. Be creative in finding ways to involve the community. Invite the media to a session or an interview with a resident. Have a ceremony for the first few graduates. Actively promote an Intergenerational program that may have several levels to it. For example, a computer program of public school children with the higher functioning residents and a computer program of high school and college students for the lower functioning residents. Begin correspondence with other facilities and coordinators who are attempting their own program. Share your experiences, write about them and brag about them. Help the community catch the spirit of the program.

## **DISCUSSION**

There is sufficient evidence from the few research areas that have been started to convince everyone that computer programs for the very frail older person are productive. There is, however, a need for further clarification on the best method for "teaching" the frail elder. Buddy programs work well for the young seniors, for example, but there are complications with the frail elder with this approach. Which software programs are best suited for the elder and when are we going to develop software programs that address all the physical access issues for the frail elder? How do we incorporate individual needs into a reasonably paced learning schedule for the frail elder in a very busy nursing home environment? What specific value might exposure to computer programs have for a person suffering from Alzheimer disease? The list of questions continues to grow.

The right of the frail elderly to be able to use and or enjoy the benefits of the computer whether it is an email effort or surfing the net is not to be questioned. It is as much a right as having a television available for them to enjoy. The challenge is "how we ensure they get the opportunity"

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