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# U3A Online and the intelligent empowerment of older people as a model for bridging the grey digital divide

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## SUCCESSFUL AGEING

Faced with a burgeoning ageing population, governments in many countries are looking for creative ways for maximizing returns from relatively declining budgets and stretched social support services for the elderly. Inevitably the emphasis has swung from the expensive, later life medical heroics to an approach that places increasing onus on ageing individuals to take more responsibility for their own ageing. Preventative rather than remedial interventions have become the major goal for addressing myriad social and economic challenges that accompany population ageing.

Old machines wear out. However, with regular maintenance and timely expert mechanical intervention, old machines can continue reliably carrying out their designated functions for years. Something similar applies to older human machines. It seems that if people choose to adopt a few sensible lifestyle habits then they stand the best chance of maximizing their own longevity and independence. The key word in this is “choose”. By choosing to follow a regular self-maintenance program throughout its life, the ageing human machine is likely to carry on successfully to a ripe old age, with far less reliance on the expert and very expensive medical intervention needed to get it back on the road.

During the past two decades many studies have been undertaken in an attempt to determine why some people in their 80s, 90s and older continue to engage optimistically and independently with everyday life, whereas others who are younger have already lost their independence. Successful ageing, ageing well, productive ageing, active ageing, healthy ageing, and positive ageing are among a number of closely related, evidence-based models that differ from each other in emphasis rather than absolute content (Friedrich, 2003). Regardless of which model is emphasized, each is about a quite small number of choices that older people should follow if they are to maintain a sense of control over their environment while balancing the gains and losses in later life.

The MacArthur Foundation Study of Successful Aging (Rowe & Kahn, 1999) illustrates the substantial gains in understanding of ageing that can flow from a large, interdisciplinary research approach. The study, which was actually a coherent set of dozens of individual research projects led by 16 researchers from across the broad spectrum of gerontology, was the most extensive and comprehensive multidisciplinary study on ageing in America. The Successful Aging model which was an outcome of the collective findings, outlines three fundamental attributes of a successfully ageing individual, namely:

- low risk of disease and disease-related disability;
- high mental and physical function;
- active engagement with life;

Each of the three components of the model is important in itself. However they may be somewhat hierarchical in that the absence of disease and disability may make it easier to maintain mental and physical function, and this in turn may enable, but not guarantee, engagement with life.

### **Low risk of disease and disease-related disability**

Many people consider that the risk of disease is entirely down to the lottery of genetics; did we choose our parents wisely? The role of genetics in successful ageing is important but the influence has been considerably overstated. Family studies, population studies, adoption studies, and studies of twins, which were all components of the MacArthur Study, allowed the interplay between nature and nurture to be separated. For all but the most strongly determined genetic diseases, environment and lifestyle have a powerful impact on the likelihood of actually developing the disorder (Rowe and Kahn, 1999). Thus, decisions to cut out smoking, eat less fat and red meat, eat lots of fruit, vegetables and fish, reduce alcohol intake, lose weight, avoid over exposure to sunlight, and exercise regularly, are some of the well-publicised environmental and lifestyle modifications that directly lower the risk of disease and disability.

However, even after health problems occur, older people can successfully continue to engage with life if they adopt health control strategies like seeking help, devoting time and energy to addressing the challenges, and being committed to overcoming threats to physical health. For example, in a recent two-year follow-up study, Wrosch and Schulz (2008) found that elderly participants who were proactive and persistent in countering health problems showed greater physical and mental health benefits than those who were not. Their findings suggest that once disease strikes, active control strategies play an important role in the maintenance of older adults' physical health.

### **High mental and physical function**

Considerable evidence exists which demonstrates a link between cognitive stimulation and aspects of health and well being. Perhaps the most compelling recent summation came from The Foresight Project on Mental Capital and Wellbeing (Beddington et al, 2008) which took a whole-of-life approach in reaching its conclusion that countries must learn how to capitalize on their citizen's cognitive resources if they are to prosper. More than 450 experts and stakeholders from 16 countries were involved in the review of state-of-the-art scientific and other evidence to investigate the challenges and opportunities that lie ahead in the next 20 years. The recommendations regarding older learners are particularly noteworthy. The study recommended that "as people move into older age, learning should be encouraged and actively promoted, as this can protect against cognitive decline" (p. 1058).

The benefits of exercise have been known for many years. Numerous studies continue to show that exercise reduces the risk of cardiovascular disease and overall mortality risk, as well as promoting psychological well-being. However, physical activity also improves brain function

(Lautenschlager et al. 2008). Exactly why exercise has a positive effect on brain function is not yet known. One suggestion is that exercise helps to maintain the health of blood vessels in the brain, helping to ensure a steady supply of oxygen and nutrients to areas of the brain that are critical for thinking and memory. Physical activity may also help stimulate the release of factors critical for brain cell growth, increasing resistance to damage caused by dementia. Andel and colleagues (2008) studied exercise patterns in 50 year olds and followed up 30 years later. They found that exercise at midlife reduces the odds of dementia in older adulthood and concluded that exercise interventions should be explored as a potential strategy for delaying disease onset.

### **Active engagement with life**

In the Successful Aging model there are two separate elements to actively engaging with life namely; maintaining close social networks and doing interesting things.

The literature on social networks is extensive, and numerous research findings are linked with health outcomes (Bowling 1994). In fact, findings about the fundamental importance of social networks has been sufficiently robust that more than twenty years ago a review of social network research prompted House, Landis and Umberson (1988) to conclude that a lack of social relationships constituted a major health risk, akin to that of smoking. Recent findings continue to refine the specific benefits of social networks. For example, Ertel, Glymour and Berkman's (2008) nationally representative study provided evidence that social integration delays memory loss among elderly Americans.

The other element of actively engaging with life is doing interesting things. The domain of "interesting things" is subjective and open ended – in other words, what is interesting for one older person may hold no attraction at all for another. Consequently, attributing a specific health and well-being outcome to a particular "engaging" activity requires targeted research. Volunteering is an interesting activity for many older people and volunteering continues to be widely studied. It seems that everyone can be a winner from voluntarism; participants, recipients of the services, and the wider economy alike. For the volunteers themselves, those who regularly engage in their voluntary activities enjoy better health and live longer thanks to the stimulating environments and sense of purpose engendered by the activities. Zedlewski and Butrica (2007) summarized the outcomes of 10 studies published since 1999 which documented the significant positive associations between volunteer activity and decreased mortality and depression, improved health and strength, greater happiness, and enhanced cognitive ability. Volunteers are doing themselves a considerable service while helping the wider community.

### **SUCCESSFUL AGEING ORGANISATIONS**

The Rowe and Kahn model of successful ageing has been criticized for being overly narrow despite the emphasis being on a lot more than physical health. For example, many older people rate their subjective health highly even though they have quite severe health problems of a kind which would earn them a "poor health" rating from a narrow medical model perspective. In addition, a more complete successful ageing model must include recognition of existential aspects of life which are important to many older people, such as spirituality (not in the narrow doctrinal sense) (Glass, 2003). Despite criticism, however, the five elements which make up the three components of the successful aging model form a simple evidence-based checklist by which older people can monitor their choices.

Earlier, it was noted that societies must learn how to capitalize on their citizen's cognitive resources if they are to prosper. The Foresight Project singles out the need to encourage and actively promote learning in older age as this can protect against cognitive decline (Beddington et al., 2008). In many countries, the latter end of the lifelong learning spectrum has been poorly supported by governments and policy makers. For the most part, any financial support for later

life learning opportunities has focused on upgrading older workers' skills. For the very large and growing population of third agers who are no longer in the paid workforce, the benefits of later life learning have been largely ignored at the policy level. However, in spite of this lack of top-down support, a number of later life learning initiatives have prospered in many countries in answer to the grassroots groundswell of interest by many retired people in doing something meaningful with their minds.

One of the most notable adult education success stories of the past three decades has been the rise and rise of the self-help University of the Third Age (U3A) model. The self-help idea has prospered without formal support because it is based on the fact that experts of all kinds retire with high level skills intact, and these are the best people to manage, teach and run educational activities for older people, on a purely voluntary basis. Everyone's a winner with the self-help approach. The volunteer teachers and administrators are advantaged by having meaningful outlets through which to apply and hone their skills for the benefit of an appreciative group of learners. The learners are advantaged by having access to a very low cost potpourri of intellectually and physically stimulating activities. And all members are advantaged by regular contact with like-minded others who like to do new things, and the allied possibilities for forming new social networks. Wider society is advantaged by older people having a considerably increased choice of ways to engage in successful ageing activities which maximize their chances for independence, with little or no implications for the public purse. Moreover, there is no need to base these learning organisations within former bastions of exclusivity and privilege like universities. Effective learning and teaching programs can be carried out within the community in free or subsidised community facilities, even within members' own homes, at times and in formats which appeal to older learners. There are no entry requirements, no exams or awards, fees are very low because no one is paid, and learning takes place in an atmosphere and location that encourages participants to share their ideas. U3A is undoubtedly a smart idea for capitalizing on the mental wealth of older people.

There are many variations on the U3A approach worldwide which provide activities that encompass all or most of the five successful ageing elements. Some approaches such as Lifelong Learning Institutes (LLI) in North America, or the French U3A model, which is followed in many countries, are based at universities or colleges where the older learners have access to high level learning and teaching resources like libraries and computers. Nevertheless, the teaching and program administration is mainly or solely carried out by skilled retirees, and the formal university system has little or no influence over the educational content and process. In China, the Universities for the Aged use a combination of revered older teachers who are paid a stipend, and older and young unpaid volunteers, to teach a curriculum which covers compulsory subjects like health and exercise plus a wide range of academic and leisure courses. In other countries different combinations of second and third age expertise provide popular programs for older people which encompass most or all of the successful ageing model. Regardless of approach, the common-sense basis of adult education programs that empower older people irrespective of their prior educational backgrounds, has translated into very wide acceptance around the world (Swindell and Thompson 1995).

It seems reasonable to describe these later life learning organizations as successful ageing organizations. Unlike almost any other large, leisure time organization for older people, which may have its major focus on social or hobby activities, later life learning organizations embody all, or at least four of the five elements of Successful Ageing. Classes typically include a panorama of intellectually, physically and socially stimulating options all prepared and run by retired people who are expert in their subject areas.

## **OLDER PEOPLE AND NOVEL COMMUNICATIONS TECHNOLOGIES**

Frequently, older people are isolated from their mainstream communities by a daunting array of constraints that make it difficult for them to continue to engage with life. Even in large, well resourced cities which offer many opportunities for older people to engage with life, abrupt changes to circumstance such as illness, incapacity, becoming a caregiver, giving up driving and so forth, leave many older people with few compensatory options to choose from.

Communications technologies have considerable potential for motivating isolated older people to engage with life in entirely new ways. In the early 1990s a series of studies were undertaken to investigate the possibility of setting up a virtual U3A for frail elderly people with sound minds. The studies showed that older volunteer teachers and learners alike are not averse to using novel technology to learn new things (Swindell and Mayhew, 1996; Swindell, Singer and Singer, 1994; Swindell, James and Mann 1992). In one of the studies, 18 frail elderly people aged from 58 to 92, who were confined to their homes by illness or incapacity, showed measurable improvements in their quality of life over the course of an eight week educational program delivered by teleconference, by volunteer U3A tutors. A trained nurse interacted with the participants throughout the study to monitor basic health data and record observations. The well-being of participants improved over the course of the study and several developed new social networks as a result of interacting with like-minded others within their virtual groups. They stated that the educational program was the catalyst that induced them to experiment with a novel method of communicating and exploring beyond their physically and socially constrained horizons (Swindell and Mayhew, 1996).

The Internet would have been a more flexible and cost-effective medium than teleconferencing for carrying out the above virtual U3A trials. However, in the early nineties, computers and the Internet were unknown quantities to the very large majority of older people. None of the participants in the teleconference studies had computers; therefore an Internet-based trial was not a possibility at that time.

The situation is quite different today. Although a large disparity still exists between the numbers of older and younger Internet users, older people comprise the fastest growing group on the Internet in many countries, albeit from a very low user base. The extent of this grey digital divide seems to depend on efforts made within various countries to provide older people with motivation, and assistance to learn to use the Internet. The World Internet Project (Pierce, 2008) reported that in New Zealand, Canada, Sweden and the United States at least 38 percent of the population aged 65 and older said they go online. In Australia, the number is substantially lower with 29 percent of the population aged 65 and older reporting that they go online. However, the Australian figure should show a marked increase from 2009 after the Australian Government Broadband for Seniors project begins a three year program of providing free Internet kiosks and tutoring by older volunteers, throughout the entire country (see <http://www.necseniors.net.au/> for details). In contrast with the above “high” usage, other countries participating in the World Internet project like Macao, Hungary and the Czech Republic, reported 10 percent or less of the over 65 population using the Internet. Even the “high” percentages listed above for the over 65 year group are disproportionately low when compared with total online usage within their respective countries.

Although a grey digital divide seems likely to persist for many years, perhaps until successive Internet-savvy cohorts have moved through the third age, the foregoing shows that many older people really are happy to come to grips with technology that played little or no part in their earlier lives. The potential benefits of the Internet for all older people but particularly for isolated older people to engage with a virtual life seem limitless. Free Web 2.0 applications such as wikis, Skype and social networking sites, have considerable potential for widening the range of socially and intellectually enriching activities in the daily lives of older people, allowing them to communicate with like-minded others when and if they want to. However, using the Internet may

have previously unrecognized direct health benefits for older “surfers” because the process may help to exercise and improve brain function. Recent research of older people who surf the Internet shows that they trigger key centres in the brain involved in decision-making and complex reasoning when they make decisions about what to click on in order to pursue more information. This preliminary study, which used Magnetic Resonance Imaging to study brain activity in real time, showed that Internet searching engages a much greater extent of neural circuitry than reading does (Small et al, 2009).

### **U3A Online**

U3A and similar empowering adult education programs for older adults are widely available in many countries. As discussed above however, the realities of later life are such that large numbers of older people are unable to engage with life within their wider communities. Circumstances such as being a caregiver, illness, disability and so forth, isolate them from their social networks and opportunities for intellectual stimulation. As a consequence, their health suffers.

By 1997 the Internet had become less of a novelty to growing numbers of retired people and the idea of using the Internet to deliver U3A services to isolated older people was discussed on an email list by a group of U3A enthusiasts from Australia, New Zealand and the UK. Their idea was to develop an electronic U3A without walls in which U3A colleagues from any country could share resources with each other and provide intellectually challenging activities to older people wherever they lived, particularly for those who are isolated. In 1998, as part of the International Year of Older Persons celebrations, the Australian government provided funding that led to the development of the first practicable, low cost, virtual U3A called U3A Online. From the outset the major objective of U3A Online was to develop and provide cognitively challenging activities which would be available through the Internet to all older people, with isolated older people having first preference. An additional objective was to develop free resources to assist face-to-face U3As in Australia and NZ to achieve their educational objectives.

Just like any self-help U3A, all the administration and teaching within the world-first virtual U3A is carried out by retired volunteers. No one is paid. Governance and administration takes place through regular online meetings. Discussion and voting takes place by electronic forum, email and Skype. The annual general meetings, at which office bearers are elected, are also held online. In fact, it is not uncommon for volunteers to work closely together for many years, but never physically meet.

All courses are written and taught by retired experts with the assistance of volunteer online editors. At the time of writing this chapter in early 2009, 36 courses were available with another 18 in various stages of completion. Each course runs for eight or nine weeks and is offered a few times a year, when the volunteer course leader is available. Participants interact with the leader and with others in the course by forum. Live chat is not a mainstream communication mode for practical reasons. Because participants can come from any country it makes little sense to remove flexibility by scheduling live chat meetings at times that suit the tutors but few others. Another barrier to “chat” is that many older people are not skilled typists or have problems like arthritis which make keyboarding a burden. Attempts at keyboard chat have resulted in expressions of frustration by those who are left behind. Free voip applications like Skype have considerable potential as an option, but because many older people with limited incomes use old hand-me-down computers and dialup modems which cannot run Skype, course communications must remain quite basic. An alternative mode of learning entailing self-paced study 365 days a year is more popular than the course led option. This appears to be because many older people have numerous activities in retirement and find it inconvenient to commit to an eight consecutive week learning block. Others drop in and out of periods of ill health.

Griffith University in Brisbane hosts the entire operation free of charge on university servers, as part of its service to the wider community. The courses are delivered via the University online course delivery platform, also free of charge. The net result of running a learning organization in which overheads are negligible and no one is paid, is that costs are kept at bargain basement level. For example, in 2009 the annual membership fee was A\$25 which entitled members to free access to all courses, in self-study mode. Members pay an additional A\$5 to take part in each course run by a course leader. (For comparison in 2009, a movie ticket cost about A\$13.)

## **SUCCESSFUL AGEING CHARACTERISTICS OF OLDER INTERNET USERS**

Little is known about older persons' learning via the Internet. Certainly, there are numerous examples of interesting and innovative computer courses for older people that are run in many countries, but almost all of these involve how to teach older people to use the Internet. What are the implications once this important but comparatively routine skill has been acquired?

U3A Online has been providing new very low cost learning opportunities for older people for ten years and considerable anecdotal evidence shows that the process is making a considerable improvement to the quality of life of individual participants. For example:

*I'll go as far as to say that being totally absorbed in my most recent online course has saved my sanity this year.*

*I care for my wife who has Alzheimers. Have done so for the last 8 years.*

*I am deaf – communicating online is wonderful for me. I am sure that is true for other people with disabilities of many kinds.*

In light of the fact that the Internet is an integral part of the lives of most young retirees and is therefore destined to play an increasing role in the lives of growing numbers of older people it is timely to seek answers to some basic questions about the characteristics and aspirations of older people who choose to learn via the Internet. For example, is it possible to isolate some of the antecedents that might predict whether an older person chooses whether or not to take part in on-line learning? What modifications to personal learning styles might older learners need to adopt in order to compensate for ageing-related decrements such as failing eyesight, declining short-term memory, and problems with mobility or health? How do older adults rate learning on screen versus the familiarity of the printed word? Can new, high quality social networks develop between older learners from distant places and different cultures, who can only ever meet in cyberspace? Do courses meet participants' needs and expectations or do they tend to sample and move to some other activity? What successful ageing characteristics are exhibited by participants? Might the Internet be an effective medium for intergenerational cooperation between young people who are prepared to undertake short term voluntary projects and older learners? These and many other questions await answers in the comparatively new domain of cyberspace teaching and learning by and for older people.

### **Study 1**

To begin the process of revealing some of the characteristics of older people who are attracted to online learning we initially considered sending an online questionnaire to a random sample of course participants. However we could find no prior studies of older persons' Internet learning to guide the framing of specific questions. Rather than inflict our agenda on the process we instead decided to attempt a virtual equivalent of a focus group in the belief that this approach could provide a grounded understanding of older online learners and their backgrounds. For our study, participants would be asked to respond in a stream of consciousness style by email to a sequence of open questions, each question to be structured on the basis of information gleaned from its

predecessors, thereby building up a broad brush picture of participants' characteristics and aspirations, and engagement with life and online learning.

The task of finding suitable and willing participants who might take part in an email inquiry was considerably helped by having access to a pool of older learners who had already experimented with Internet learning via their U3A Online courses. In the last unit of every course, all participants are asked to voluntarily complete an online written evaluation form in which some of the questions ask for reflective or critical comment. The majority of participants ignore the request for detailed information but a few take the opportunity to provide thoughtful insights. The writers of these detailed evaluations were invited to take part in the online focus group in the belief that they would be more likely to be interested than those who had ignored earlier opportunities to give their opinions.

This initial screening identified a group of ten and all agreed to take part. Seven were females three were males. Seven lived in Australia, two in New Zealand and one in the UK. There had been no interaction between any members of the group prior to the study. Apart from that nothing was known about them or their backgrounds. To make it clear from the outset that participants understood that they were volunteering to do something that entailed reflective thought and writing, we suggested a guideline of three paragraphs as a minimum length for each email response from each of the ten.

Participants were asked to respond to a series of questions/statements that were presented to them one at a time. This stepwise process was integral to our chosen method, which relied on analysis of preceding responses to inform the process of framing the next question. Replies to these were sent only to us. After we received all replies, we removed the names and email addresses and replaced them with participants' nicknames. All ten responses bearing only the nicknames as an identifier were then consolidated into one lengthy email, often of six pages or more, and sent to each of the participants, with an invitation to make additional comment on the replies of others or add more to their own reply, if they wished. Any additional comments and responses were similarly emailed to all, and further comment invited. The composite responses and additional replies were then used to help structure a new question and the process repeated for a total of six questions.

Although grounded theory implies a clean mental slate to begin with, we came to this study with a certain mind set regarding the underlying constructs that might be elicited via this process of email inquiry. Bronfenbrenner's circles of influence model illustrate this mind set. Bronfenbrenner (1979) distinguished between immediate (personal) and increasingly remote (impersonal) spheres of influence, with the relationship between spheres depicted in the form of ever larger concentric circles arranged around a common central axis. Commensurate with Bronfenbrenner's taxonomy, we theorised that the content of participants' responses would move between immediate and personal versus remote and impersonal influences in such a way as to gradually reveal more about the person answering the questions. A further aim of the research then was to utilise the email messages generated by participants to chart and reveal the interplay of personal and impersonal circles of influence. If successful the approach would provide a method for systematically depicting the effects of the individual (personal) interacting with computers (an impersonal tool), the Internet (an empowering and possibly personal or impersonal medium), and the online courses (an outcome of Internet empowerment).

We avoided direct questions about age, personal circumstances, education, health, isolation and so forth because the intent was to build up a virtual group dynamic in which each individual would feel sufficiently comfortable that personal details would be revealed if appropriate, within the general course of email discussion. Our intended approach was to make the first questions as open as possible then to use participant responses to ask increasingly detailed and perhaps more



personal questions that focused on the role of the computer and the Internet in participants' lives. Thus, the first discussion starter was "Tell us something about yourself and how you came to the Internet". This was intended to be a "comfortable" question, something like an icebreaker in a face-to-face focus group. The dual aim was to encourage participants to write freely about something that they were totally familiar with, namely themselves and their lives. As well, their initial responses would begin the process of the group getting to know each other. We hoped that throughout the study, participants would become increasingly comfortable with the idea of self-disclosure and feedback to a virtual group of complete strangers.

The inclusion of feedback was based on transformative learning principles derived from environmental education. That is, it was expected that in the process of responding to questions and then commenting on group feedback, individuals would be likely to become aware of, and perhaps comment on, the extent to which deeper-seated attitudes had undergone shifts occasioned by contact with a range of computer based communications systems. For instance, it seemed reasonable to expect that the need to allocate time to study on-line might have effects on the participants' social lives and that comments to this effect might colour individual answers to questions and comments on group feedback, if not initially then later in the study.

The six questions (discussion starters) were:

- Tell us something about yourself and how you came to the Internet.
- What are the strengths and weaknesses of online learning? It would be helpful if you specifically focus at least some of your comments on U3aOnline, including the all-important personal element.
- Personal history: What life events or personal qualities might have led you to take up computing and the Internet? (Note we are interested in your perception of self. We are not talking about technology and machines.)
- What changes have ageing made to the way you work with information and ideas compared with how you used to work with information and ideas?
- What effect is the Internet in general having on you with respect to the following:
  - Time management
  - Daily routine
  - Personal life
  - Character
  - Social (how has this affected your relationship with other people? Has your circle of real friends changed?)
- What are you becoming with your interest in learning via the Internet? Where are you going with all this?

## **Study 1 Initial findings**

From the outset it was made clear to participants that they were being asked to take part in a lengthy process that involved their doing a lot of thinking and writing. It was assumed that about half of the initial ten participants would pull out part way through the lengthy process. However, the only withdrawal was a male after the first question. The remaining nine replied to all six questions.

In conventional focus groups a skilled moderator can pick up on comments made by individuals, and guide the group into discussion of specific points of interest, thereby yielding personal insights that might otherwise not surface. Initially our study attempted to introduce a similar

element of group discussion by inviting participants to comment on responses from others, or by adding further to their own, but this idea proved to be impracticable. For various reasons including reflection on difficult questions, poor health, other commitments and computer problems the time between sending a question and receiving responses was sometimes as long as three weeks and the envisioned six-week data collection time actually took 15 weeks. Therefore we chose not to press the idea of group discussion in the belief that the study might be jeopardised by participants becoming bored with the process and dropping out.

The richness, depth and variety of responses were surprising. As anticipated a few replies to the first question focused mainly on the safe technology-related issues. However, from the outset, other participants were unconstrained by the question or the process and wrote quite freely about themselves and their lives. Once the first composite responses had been sent to everyone, participants began to interpret the questions as though there were few boundaries on the kind of answer that was expected. In effect they began to respond in an open rather than technologically constrained way.

One of the major objectives of U3A Online is to encourage course participants to communicate with each other in the belief that isolated older people will benefit from social interaction with like-minded strangers. We were encouraged to find that the nine strangers in this study began to “bond” immediately after the first composite answer was circulated. A number of the participants asked for email addresses so they could correspond directly with some of the others. Another suggested exchanging photographs. We asked everyone who was comfortable with the idea to send us their photographs and to give us permission to send the photographs and email addresses to group members who asked for them. Six participants provided photographs and all gave permission for email addresses to be provided. We made no attempt subsequently to determine which members of the group contacted others.

At differing stages throughout the process, individuals outlined personal histories that helped the group to develop an understanding of the real people represented by the email nicknames. Responses of two or more pages were common and one response ran for more than three A4 pages. A number of participants indicated that they had difficulty in answering some of the questions and chose to set the question aside for a few days while they reflected on how they intended to answer. Nonetheless, they persevered with their interpretations of the questions and did not seek clarification. The imprecise nature of our questions and not wanting to place boundaries on responses was rewarded in terms of the patient, lengthy and insightful responses from all nine participants.

The questions revealed a lot about the participants. Some but not all revealed their ages. These ranged from mid fifty to the late seventies. Most appeared to be in their late sixties or early seventies. Two were profoundly deaf, three were managing serious health difficulties and four did not comment directly on their health. Illness prevented some from leaving their homes as often as they wished. All were happy to develop new social contacts via the Internet during the course of their browsing activities. All seemed optimistic about life despite their health-related problems and disabilities, and all had a wide range of regular leisure activities outside and/or inside the home. All had pursued a range of learning opportunities throughout life and considered learning via the Internet to be an absorbing continuation of a lifetime pattern of learning new things.

Our concerns about the process expanding from the envisioned 6 weeks to more than 15 weeks leading to participant fatigue and early withdrawal proved groundless. Participants remained supportive and interested throughout as typified in the following comments.

*I understand this question is to be the last. How sad it is.*

*I have learnt something about myself through having to answer it. Thank you I'll be looking forward to the next challenge.*

*The series of six questions have been very stimulating. It has enabled me to be more focused and mentally alert.*

*I have really enjoyed being part of this survey and have not resented any of the time it has taken to answer each question, it has made me think a lot about myself and it has been most fascinating to read the other responses and to find out that others feel as I do on certain things. I have at times been a bit worried about putting my answers up, thinking that a particular thought might seem silly to others and then blow me down some one else has the same thoughts.*

*The process is interesting and useful as a means of self-discovery as well as providing interesting reading about the lives of fellow travellers.*

## **Study 2**

None of the initial questions specifically addressed the Successful Ageing model. However, preliminary text analysis of the composite responses indicated that participants indeed exhibited most of the successful ageing elements. Encouraged by the positive response to the first six questions we asked the nine participants whether they would take part in an extension to the study. All agreed.

In stage 2 of the study participants were asked a further series of five open questions that invited wide reflection. Most of the questions arose directly from the Rowe and Kahn model for successful ageing. Our preliminary analysis suggested that they would amongst other things stress the importance of taking steps to maintain their health, developing new social networks, pursuing a range of hobbies, and enjoying doing new things.

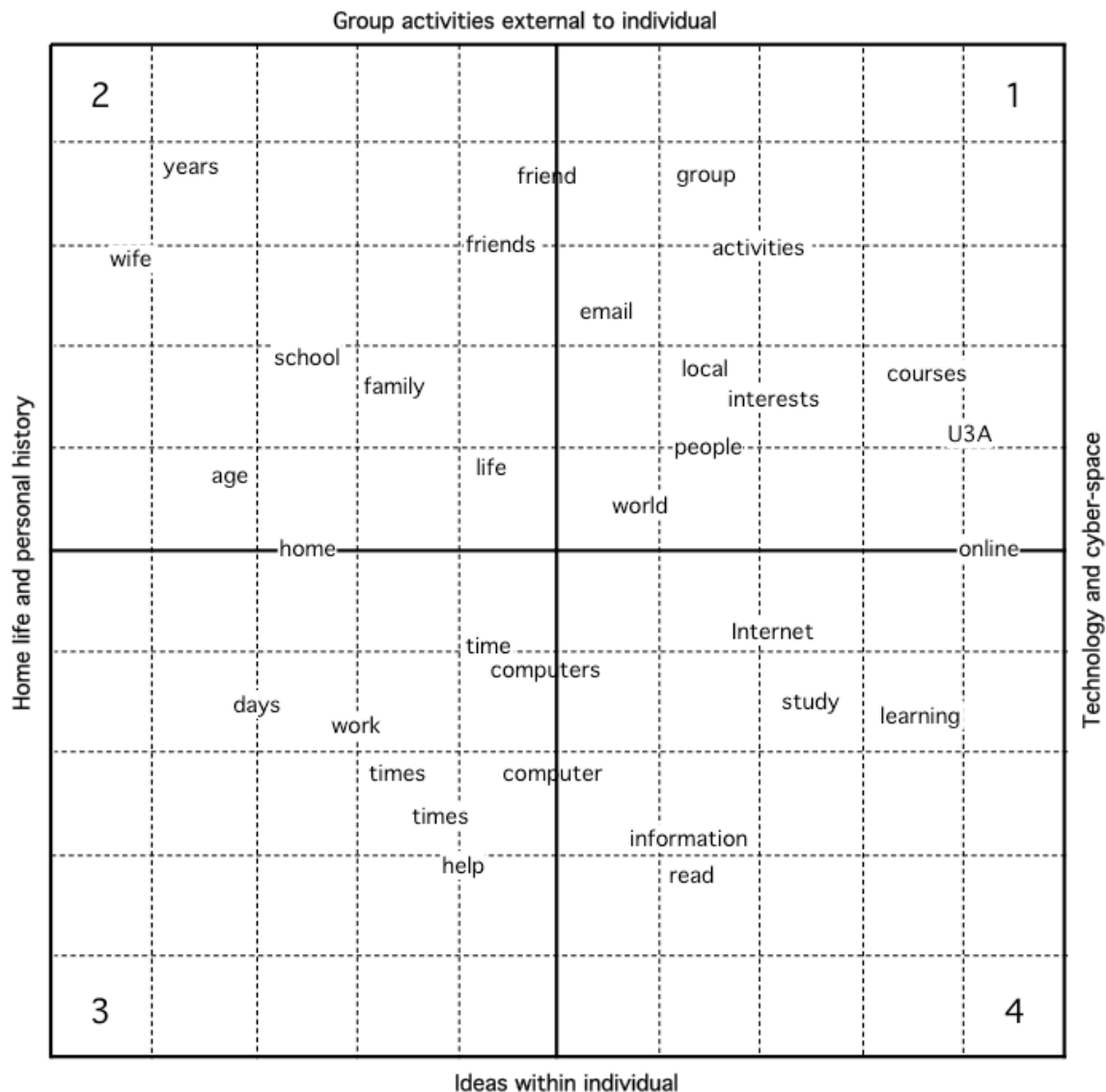
With this in mind, all nine participants were asked the following five additional questions.

- We notice that some members of the group appear to be in good physical health while others are managing various diseases/disabilities. What are you doing to manage your health (whether it is good or otherwise) and how have you attempted to maximise good health in the past and in the present?
- We notice that people are differently situated with respect to their group of close friends and acquaintances. Could we ask you to comment on your current network of friends, whether they are online or otherwise.
- Has participation in email and other Internet activities reduced any feelings of isolation or loneliness you may have experienced? If so can you tell me how?
- Can you please list your hobbies and interests, and tell me whether or not they influenced the courses you took.
- We think it likely that older people who ventured into learning in cyberspace before the medium was well known by the wider ageing population, must have an innate sense of curiosity and/or sense of adventure and/or are "risk takers". Please think about your entire life and describe what family or environmental circumstances may have shaped your willingness to venture into cyberspace.

Participant responses to the additional five questions were prepared for text analysis by collating these responses with responses to the first six questions to produce nine transcripts with responses to all eleven questions. The software package, Leximancer ([www.leximancer.com](http://www.leximancer.com)) was used for

initial screening for major themes. While Leximancer does not replace other text analysis tools such as NVivo ([www.qsrinternational.com/](http://www.qsrinternational.com/)), Leximancer’s non-selective exploration of any given sample of text is in stark contrast to, “more literary forms of textual analysis” that “select particular areas of the message for special study while ignoring others (p.137, Fiske, 1990), and thus provides a more secure basis for more literary text analyses.

Leximancer computes the frequency with which each term is used, after discarding text items of no research relevance (such as “a” or “the”), and then computes the distance between each of the terms via computations equivalent to nonparametric factor analytic or cluster analytic procedures. As with other factor analytic procedures, there is no single solution and the quality of particular solutions is best judged in terms of interpretability.



The result of this computation is displayed in a two-dimensional spatial representation, illustrated above. The user can set the percentage of terms on display; rotate the display to optimise the arrangement of terms, require that the software “learn”, that is, recompute the distances between

terms based on the outcomes of previous computations, and explore the family of associations with any one term, including their sources in the source text.

The illustration displays the most frequently occurring terms retained in this analysis. The terms have been rotated so that the terms *home* and *online* align with the horizontal (x-) axis, and *computer* and *friend* align with the vertical (y-) axis. The intersecting axes partition the responses into four quadrants, which can help with identifying major themes that are common to participants' responses.

One way to interpreting the above analysis is to consider the major partitions in which Leximancer has clustered participants' talk. To the right of the vertical axis the focus is on the technology and advantages of cyberspace. To the left the focus is on the other major domain of participants' interest, namely home life and personal history. Above the horizontal axis the focus seems to be on group activities "external to" the individual, whereas below the axis, the focus is largely on ideas "within" the individual. More specifically, in Quadrant 1 the analysis shows how the Internet has engaged participants with new ideas and activities involving other people (*group*, *USA* [Online], *activities*, *email*, *world* etc). Below that, in Quadrant 4 the focus seems more on how the Internet engages the participants personally (*learning*, *study*, *read*, *information*). In Quadrant 2 the group focus is on social networks associated with home and personal history (*wife*, *school*, *family*, *friends*). The cluster in Quadrant 3 is the most difficult to interpret but responses appear to focus on a rejuvenated world of work in retirement, including creating a "going to work" environment via frequent, usually daily, visits to cyberspace.

In summary, the four quadrants of terms can be understood in terms of an aggregate discourse in which the term *home* serves to contrast the world of family and friends with the world of daily work, and the term *online* serves to contrast the world of new social networks with independent learning and ideas.

### **Text analysis**

In addition to the Leximancer screening the responses were analysed using conventional text analysis techniques. We are indebted to Jan Heffernan for her work in this aspect of the study. The ninety-nine responses gave rise to a number of discrete themes as discussed below.

### **Catalyst for involvement with computers**

The respondents describe a range of personal, work related and educational events and characteristics that acted as catalysts for learning to use computers. With the exception of one, all had early contact (1980s back to 1960s). Most saw the potential for work or personal use and actively set out to learn more about computers. Several mentioned that their children's interest in computers gave them an interest. Those who bought computers in the early 80s comment that they needed to persevere with unsophisticated programs and frequent changes in technology necessitating frequent upgrades.

One was required to learn computing as part of her job while others saw a role for computers in their work, personal lives and study. Most described two moves – firstly into computing and later into the Internet, email and online learning.

The transition from using a PC only to going online was prompted by a variety of circumstances: encouragement from others, work requirements, attraction of having vast amounts of information

at hand, desire to preserve intellectual health and memory, potential for keeping contact with friends and relatives, the need to be current, and chance.

## **Major theme: Personal**

### **Health: Physical and Psychosocial**

Three of the nine had serious physical health problems which were described in some detail, and another became seriously ill during the study. There was a very clear link between the importance placed on electronic communication, online learning, and use of the Internet by the respondents who have conditions which keep them at home for long periods.

One participant who described experiencing difficulties and some near breakdowns found that online learning is one coping mechanism that she used to keep busy. This helped keep her mentally well. Two participants with profound hearing loss found email and online discussion very enjoyable as they can communicate in ways to which hearing is not important.

Three participants saw computing and Internet use as pleasurable experiences which provided fun, escape and relaxation.

### **Relationships/Friendships**

Three respondents expressed concern that their time spent online and their interest in computing could impact on time spent with their partners. Each said that they took steps to minimise this.

Email was particularly important for the three who spend a lot of time at home because of health or limited budgets and for the two who have profound hearing loss.

A strong theme was the value of email to maintaining friendships and contact with relatives who lived at a distance, particularly in other countries. Most participants had travelled extensively or worked in other countries and several mentioned the ease of email compared to the trials of third world postal and telephone systems. Several mentioned that email allowed friendships to develop where distance would not have allowed this, while other friendships had endured that once would have faded.

### **Friendships on line**

Attitudes to making friends online fall into definitely yes and definitely no. However it is interesting to note that the three who are most housebound through illness are the three who value online friendships the most.

## **Major theme: Self Image**

Comments within this major theme could be categorised as the role of computing and electronic communication in emotional health. Most commented that computing had not changed their character; rather, their personality affected their approach. Two found that they could use the anonymity of online communication to experiment with different personas – to be bolder. Several noted that learning online and learning to master the new technologies revealed strengths they were unaware of.

### **Self esteem specific to ageing**

There was a very strong theme of ‘keeping up with the times’ and ‘not getting left behind’. Two respondents noted that the anonymity of online communication was empowering in that those

they communicated with didn't necessarily know that they were older people. They could avoid the stereotyping of ageing.

### **Personal characteristics which contributed to mastering computing**

Caution should be employed extrapolating findings to the general ageing population though responses provide a fascinating picture of what gave these participants the original interest in computing. Our respondents had extensive tertiary education and strong links with learning institutions (anthropologist, teacher, librarian (2), school guidance officer, university admin officer with double degree, a member of the clergy with extensive qualifications). The exception (Ginger) had a long-term wish to complete a degree, which ill health had thwarted several times. Thus there were strong links with learning as a formal, institutional activity.

Our respondents all seemed to have qualities that led them to computing and gave them the persistence to pursue it despite technical difficulties and the number of new skills required. They reported that they are curious people who are careful risk takers. They are widely travelled (two as 'alternative' tourists who travel 'off the beaten track'), they have lived in a number of different places, and migrated. Most had ample time for online activities with several mentioning that family do not live close by and they are not required to care for grandchildren.

Three identified having 'something to prove' (to a mother [deceased], a father [deceased], and an ex-partner) as a strong impetus for mastering new technology.

### **Ongoing role for electronic communication and use of the Internet**

All participants made predictions that computers, online learning and the Internet will continue to play an important personal role.

## **Major theme: Approaches to learning and information**

### **Approaches to learning**

Respondents showed a deliberate or overt approach to learning as well as an understanding that learning can be incidental. All but one had tertiary qualifications including two with doctorates and several with double degrees. The respondent without a degree had several attempts at gaining qualifications interrupted by ill health. Several mentioned that online learning by its nature encourages further learning because of the links provided and awareness of other courses as well as the actual act of learning how to keep up with computer technology and master new software.

### **Approaches to information**

Most respondents mentioned the scope of information available online. Several mentioned the need to be selective about how it is used as there is little quality control over content posted on Web. Two mentioned that the amount of information can be overwhelming.

Two preferred print-based information and they download and print extensively. For one, this is because he experiences eyestrain, for the other the cost of the Internet connection time has to be monitored carefully.

## **Major theme: Role of computing in daily routine and time management**

As well as participating in U3A Online courses, respondents described a range of practical uses for computers and the Internet which included sourcing information, for communicating, and

storing data. Computers played an important role in day-to-day life such as shopping, banking, planning travel, research, email, and correspondence.

Three respondents usually had their computer turned on and connected from early morning until late in the evening while two worked mostly offline and connected for as little time as possible in order to save money and to keep the phone line free.

Three noted that finding information on medical conditions and medications is an important use.

The Internet was also seen as a very handy and important source of information to enhance enjoyment of hobbies and interests.

## **Sub themes**

### **Changing technology/dealing with technology as a difficulty**

A consistent theme throughout the responses dealt with the skills required to use computers and the Internet and the speed of technological change. Comments indicated that equipment, skills, and even vocabularies needed constant updating. Respondents showed wide resourcefulness in doing this (using more computer literate friends and family members, computing firms, online help, dogged persistence and experimentation). Only one (MM) indicated that technical difficulties hampered her use. Painter noted that there is a looming equity issue with all this.

### **Role of computers and relationships with others**

Respondents encouraged friends and other acquaintances to become computer literate, expressing frustration at times, but overall arguing that computer literacy is very important for full functioning in society.

### **Anonymity of online communication**

Six respondents commented on anonymity of online communication and identified advantages and disadvantages.

### **Computing and isolation**

Five respondents described a reduction in feelings of isolation. Computing reduced geographical isolation (2) and social isolation caused by ill health (3). There was quite a clear distinction shown in responses between those who described themselves as in good health and with no physical limitations and those who were housebound or geographically isolated. There seemed to be a very strong evidence for the people in this study that electronic communication can reduce feelings of isolation.

## **CONCLUSION**

We began by observing that governments everywhere are seeking inexpensive solutions to challenges associated with population aging. Preventative approaches which encourage the population at large to adopt lifestyle choices which may delay or even prevent widespread reliance on expensive health and social support services in later life are both socially and financially sound ideas. The recent recommendation that “as people move into older age, learning should be encouraged and actively promoted, as this can protect against cognitive decline” (Beddington et al., 2008, p. 1058), further reinforces the “preventative” message.

U3A is a prime example of how the preventative approach might be effectively deployed on a much wider scale. For many years the very low cost, self-help U3A model has utilized the talents of retired volunteers to benefit the wider aging population. The approach has been a relatively



long lived success because many of the rapidly growing population of retirees have the interest, expertise and time to volunteer for meaningful tasks. The do-it-yourself approach has rendered U3As immune to the vagaries of government funding and economic cycles. Experts of all kinds retire and research shows that if they are recruited into meaningful voluntary activities the volunteers, recipients of their services, and the wider economy alike, will benefit (Zedlewski & Butrica 2007).

More recently, U3A Online has also harnessed the talents of retired volunteers, but because the Internet has no boundaries the volunteers and participants alike can come from any country. All participants in our research shared an interest in lifelong learning and they believed their virtual activities in later life enriched their lives in many ways. As access by older people to the Internet continues to grow, the lives of increasing numbers of third agers are likely to be improved through participation in virtual learning communities which open new horizons for personal development and social networking. Information technology can expand the range of choices available to isolated older people in particular and compensate for some age related physical and social losses.

Our research points to the need for caution in placing too great an emphasis on the “low risk of disease and disease-related disability” attribute of Rowe and Kahn’s (1999) successful aging model. Four of the participants in the online focus group would have failed the successful aging test in terms of a narrow clinical focus on disease. They were managing serious disease and one died during the last stages of the study. Another died several months later. However, as far as they were concerned they were aging successfully. They enthusiastically engaged with life, even if their outside lives were largely constrained to the Internet; they were adventurous in the way they leaped at new learning opportunities (such as taking part in, and persevering with the above study); they were quick to form virtual friendships (as demonstrated by the group bonding which happened after question one, and other outgoing virtual activities they were engaged in) and they were optimistic and cheerful throughout the lengthy course of the study. It would seem that the evidence-based models of aging may need to take account of subtle get-up-and-go characteristics of the aging individual as well as the more easily measurable characteristics.

U3A Online is a smart application of Internet technology for helping to bridge the grey digital divide and provide volunteers and participants, particularly those isolated from their mainstream communities, with meaningful activities which can improve their quality of life. The U3A approach, coupled with the considerable, low cost communication potential of the Internet, appears to offer considerable scope for policy makers to make much better use of the mental capital of its retired citizens than it has done to date.

## REFERENCES

- Andel, R., Crowe, M., Pedersen, N.L., Fratiglioni, L., Johansson, B., & Gatz, M. (2008). Physical exercise at midlife and risk of dementia three decades later: a population-based study of Swedish twins. *Journals of Gerontology Series A-Biological Sciences & Medical Sciences*, 63(1):62-66.
- Beddington, J., Cooper, C., Field, J., Goswami, U., Huppert, F., Jenkins, R., Jones, H., Kirkwood, T., Sahakian, B., & Thomas, S. (2008). The mental wealth of nations. *Nature*, 455, 1057-1060.
- Bowling, A. (1994). Social networks and social support among older people and implications for emotional well-being and psychiatric morbidity. *International Review of Psychiatry* 6:41-58.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. London: Harvard University Press.
- Ertel, K., Glymour, M., & Berkman, L. (2008) Effects of Social Integration on Preserving Memory Function in a Nationally Representative U.S. Elderly Population. *American Journal of Public Health*, July 2008, Vol. 98, No. 7.
- Ewing, S., Thomas, J., & Schiessl, J. (2008). *CCi Digital Futures Report: The Internet in Australia*. <http://cci.edu.au/sites/default/files/pbrowne/AuDigitalFutures2008.pdf>
- Fiske, J. (1990). *Introduction to communication studies*. London, Routledge.
- Friedrich, D. 2003. Personal and societal intervention strategies for successful ageing. *Ageing International* 28(1) 3-36.
- Glass, Thomas A. (2003). *Successful Aging*. In Brocklehurst's *Textbook of Geriatric Medicine and Gerontology*. Talli, Raymond, Fillit, Howard & Brocklehurst eds 6<sup>th</sup> ed. (2003) London: Churchill Livingstone.
- House, J., Landis, K., & Umberson, D. (1988). Social relationships and health. *Science*. 241, 540-545.
- Lautenschlager, N., Cox, K., Flicker, L., Foster, J., van Bockxmeer, F., Xiao, J., Greenop, K., & Almeida, O. (2008). Effect of physical activity on cognitive function in older adults at risk for Alzheimer disease: a randomized trial. *Journal of the American Medical Association*. 300(9), 1027-1037.
- Pierce, J. 2008. *World Internet Project International Report (2009)*. <http://www.worldinternetproject.net/>
- Rowe, J. & Kahn, R. (1999). *Successful Aging*. New York: Random House.
- Small, G., Moody, T., Siddarth, P., & Bookheimer, S. (2009). Your Brain on Google: Patterns of Cerebral Activation during Internet Searching. *The American Journal of Geriatric Psychiatry*. 17,(2); pp. 116-126.
- Swindell, R., & Mayhew, C. (1996). Educating the isolated ageing: Improving the quality of life of the housebound elderly through educational teleconferencing. *International Journal of Lifelong Education*, 15(2), 85-93.

Swindell, R. & Thompson, J. (1995). An international perspective of the University of the Third Age. *Educational Gerontology*, 21(5), 429-447.

Swindell, R., Singer, L., & Singer, G. (1994). Teleconferencing as a medium for providing expert support to the isolated ageing. *Australian Journal on Ageing*, 13(2), 93-94.

Swindell, R., James, C., & Mann, M. (1992). A study of teleconferencing as a medium for improving the quality of life of the frail elderly. (ERIC Document Reproduction Service No. ED 346 310.)

Wrosch, C. & Schulz, R. (2008). "Health-Engagement Control Strategies and 2-Year Changes in Older Adults' Physical Health." *Psychological Science*, 19(6), 537-541.

Zedlewski, S., & Butrica, B. (2007). Are we taking full advantage of older adults potential? *Perspectives on Productive Aging*, The Urban Institute. Number 9, December.  
[http://www.urban.org/UploadedPDF/411581\\_adult\\_potential.pdf](http://www.urban.org/UploadedPDF/411581_adult_potential.pdf) accessed Feb 19, 2009.