Interactive online courses by and for older people

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This paper and reflections on the experience of writing and leading an online course for older people are presented by

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Introduction

During the last three decades many adult education programs have been devised specifically for the burgeoning Third Age population (Knox, 1993; Moskow-McKenzie & Manheimer, 1994; Swindell & Thompson, 1995). This growth reflects an increased interest by retired people in taking control of their own lives while engaging in leisure pursuits that are both personally rewarding and intellectually challenging.

A number of adult educators, sociologists and gerontologists have argued that later life adult education should become a societal imperative (see, for example, Havighurst, 1976; Groombridge, 1982). Recently, these arguments have been further bolstered by scientific findings that suggest possible health-related benefits associated with cognitively stimulating activities. For example, Schaie (1993) reported that in cases where intellectual decline had been found, it is possible through carefully planned instruction to reverse the process. Others have observed clinical evidence of an association between higher educational attainment and reduced risk of Alzheimer (Snowdon et al., 1996) and Parkinson-related dementia (Glatt et al., 1996), suggesting that a stimulating environment has positive effects on cerebral health and may provide some resilience to damage. Young and colleagues (1999) demonstrated in their study on rats that a complex, enriched environment stimulated new cell growth and prevented cell death in the hippocampus. They speculated that similar positive findings, which have come from experiments with mice, tree shrews and non-human primates, might apply to all mammals, including humans.

The association between cognitively challenging activity and aspects of good health in older humans may be difficult to definitively establish. However, it seems reasonable to speculate that older adults, who continue to engage in intellectually challenging activities, will be better equipped to cope with the exigencies of ageing than those who give up. Unfortunately, in later life, many older people face a range of physical and psycho-social constraints that may make it extremely difficult to continue to participate in stimulating activities. The most obvious of these constraints are broadly related to health. For example, the Australian Bureau of Statistics (1995) reported that disability increases rapidly with age beyond the age of 65. By age 65, approximately 56% of the population reports some form of disability, chiefly arthritis, circulatory disease and hearing loss.

Despite a rapid increase in health-related problems with age, the majority of older Australians report their health as good, very good or excellent (Australian Bureau of Statistics, 1995). This seemingly anomalous finding is because older people rate functional independence and quality of life as the main criteria by which they judge their health. In other words, as long as individuals feel that they are in control of their lives and have what they perceive to be a satisfactory quality of life, then they feel that they can cope readily with health-related problems.

One of the most important quality of life issues for older people is the quality (as opposed to quantity) of their social networks. The relationship between older person's social networks and well-being has been well documented during the past two decades (Bowling, 1994). Indeed social isolation has been reported by some researchers to be as great a risk to health as smoking (House et al., 1989). Apart from direct health related constraints however, there are other age-related factors that jeopardise social networks. For example, many older people give up driving and become isolated from activities because public transport is not readily available, or is difficult to use. Others, particularly women, may be thrust into the role of caregivers for

ailing spouses or friends, or for grandchildren whose parents must work. Death of a close friend also becomes an increasingly likely event.

Older people and new communications technologies

In recent years a number of researchers have begun to investigate the suitability of the Internet for reaching out to isolated people. For example, some studies have highlighted the potential of the Internet to create meaningful social interaction (Komito, 1998; Porter, 1997; Smith & Kollack, 1998). Recently, Ito and colleagues (1999) completed an ethnographic study of older people who are regular users of SeniorNet in the USA and reported positively on the medium's potential for social interaction and individual empowerment. By contrast, Kraut and colleagues (1998) raised a cautionary note. In their longitudinal study of 169 adult Internet users they observed declines in everyday household communications, declines in the size of social circles, and increases in depression and loneliness.

Despite Kraut and colleagues' (1998) caution however, many older people do not have a wide range of options to choose from when it comes to reestablishing or maintaining their social networks. A recent report from the Australian Bureau of Statistics (1999) revealed that the average adult spends about three hours alone each day. However, a man aged over 65, living by himself, is likely to spend 12 hours a day on his own, which represents 83% of his waking life. A woman of similar age will spend about 78% of her waking life alone. These statistics suggest that many people who live alone are confronted by a daunting array of constraints that militate against their ability to take part in personally rewarding activities like adult education programs that can promote cognitive development within a socially stimulating milieu.

Isolated and lonely older people are not averse to experimenting with new technology in order to join in adult education programs that have the potential to enrich, and even change their lives. For example, Swindell and Mayhew (1996) showed that frail elderly people with sound minds, who were confined to their homes by illness or incapacity, gained measurable benefits from educational programs delivered by teleconference. Moreover, several of the participants developed new social networks as a result of interacting with like-minded others in their teleconferencing groups. The educational program was the catalyst that induced them to experiment with new methods of communicating and exploring beyond their physically constrained horizons.

Potentially, the Internet is a much more flexible tool than any other communication technology for meeting the educational needs of isolated older people. The Internet is becoming increasingly easy for novices to use, information can be exchanged quickly, often in real-time and, once the technology is in place, it is quite inexpensive to use. Most importantly for educational purposes however, users can access the information and communicate with others when and if they want to, rather than being captive to a course leader's timetable and agenda.

The educational use of the Internet for older people is in its infancy. To date very little has been published about older person's learning on the Internet. A number of interesting and innovative programs have been described but almost all of these have involved courses on how to teach older people to use the Internet. The next step is to develop programs that begin to illuminate the Internet's potential for providing cognitively challenging activities for older people and, particularly, to determine whether the medium can help to minimise the sense of isolation experienced by many older people. The remainder of this paper focuses on a program that has these objectives.

Isolated Bytes

The Isolated Bytes (IB) program was started in 1998 by a small group of Australian U3A enthusiasts, with assistance from U3A colleagues in New Zealand and the United Kingdom. In essence, IB is a virtual U3A for isolated older people. IB course leaders are U3A members who volunteer to write and teach courses in their specialist areas, just as conventional U3A course leaders do. The major difference is that all teaching and interaction takes place via the Internet. Few U3A members have the skills needed to electronically develop the courses, therefore this expensive task is handled professionally. Funds to develop the IB concept were provided by the Australian government as part of its celebrations for the International Year of Older Persons and, subsequently, by the Office of Older Australians.

To date eight courses have been electronically developed and presented by IB course leaders. These are: Botany for knowledge and pleasure; Writing family history; Design in your life; The life and times of Henry Lawson; Astronomy; Comparative religions; Continents in motion; Genealogy. An additional six courses are in preparation. All courses run for 8 weeks.

Older people may join IB by logging on to the U3AOnline homepage at http://u3aonline.edna.edu.au/ Currently, there are two categories of members. The Subscriber category is reserved for isolated older people who are unable to attend face-to-face U3A courses. They pay an annual fee of about $30, which is approximately the annual subscription fee for a conventional U3A group. Subscribers are the only members who can apply to enroll in the courses when they are offered "live" on the Web. The other category of IB membership is Associate membership and this is available to all U3A members for an annual fee of about $10. Associates can use the course materials for independent study. However, they are unable to interact with the course leaders.

To test the effectiveness of the IB concept, the first two courses were comprehensively evaluated. Each of the 8-week long courses was of a distinctly different nature. One course, entitled Botany for Knowledge and Enjoyment, was strongly content-based, similar in nature to an electronic text. Participants in that course were invited to interact with their tutor and with each other by electronic Forum, as the need arose. The second course, Writing Family History, was very interactive. Participants were introduced to the basics of creative writing and asked to post a minimum of three 300 or 400-word stories to the Forums where the tutor and other members could read and comment on them. This style of course required participants to be active learners.

Each of the courses was heavily oversubscribed. Course tutors placed a limit on participant numbers (botany 20, writing 14) based primarily on their perceptions of the amount of time needed to interact with students. As a prerequisite for course selection, participants agreed to provide quantitative and qualitative evaluation data about their perceptions of learning via the Internet. Twenty-nine participants (85%) completed the eight-week course and responded to the pre and post course questionnaires and a mid-course telephone survey.

Some of the major findings from the study are summarised in Table 1. However, it is not our intention to dwell on these findings in detail. For those who are interested, the full 100 page report, which contains details of IB, methodology of the study, findings, the survey instruments and comments from all main players including participants, tutors, administrators, technical personnel, can be downloaded as an Acrobat reader file at http://u3aonline.edna.edu.au/ The full study contains information from participants, organisers, electronic course developers, and adult educators. This level of detail is likely to be of value to adult educators and

practitioners elsewhere who wish to develop other Internet programs for older adults.

A number of brief comments may assist in interpreting some of the findings in Table 1. Australia is a very large continent, approximately the area of the USA, but with a population of only 19 million people. Initially, it was assumed that IB would attract a majority of members who live in small communities or homesteads that are an appreciable distance from adult education organisations. However, more than half of the course participants lived in cities with populations greater than 20,000. Most of the remainder lived in small or medium sized towns. Only two of the participants were from regions that were geographically isolated.

Table 1 Some findings from the IB study (n = 29)

Sex	female (22); male (7)
Age range	under 50 to 75 and over; median (65-69);
Causes of isolation	poor transport (44%); poor health (36%); caregiver (13%); other (8
Highest formal educati	primary school (1); some high school (5); [completed high school (4 technical certificate (5); diploma (4); university (10)]
Prior occupation	professional (22); trade (2); homemaker (2); farming (2); unskilled labour (1)
Principal reasons for joining IB	gain new information (59%); general interest (22%); keep the mind a (19%)
Communications with others in course	email (41%); electronic forum (25%); tutor's electronic discussion g (16%); none (16%); telephone (2%)
Satisfaction with course	100%

The following statements give some sense of participants' perceptions of isolation.

> "I live in [the suburb of large city] with bad bus service. I do not have a car or use taxis. Have no family support. Have become more disabled and in constant pain over the past couple of years".
>
> "I care for my wife who has Alzheimers. Have done so for the last 8 years".
>
> "I live in a rural community. Nearest U3A is 139 km away. Carer for husband. Limited access to [adult education provider] 30 km [away]".
>
> "I live in [a large city]. Because I never know how I am going to feel from day to day [my health] stops me committing myself to a set routine like going to class".
>
> "Nowadays, living alone and physically limited, I was being stupefied by knitting, crochet, patchwork, computer puzzles, reading, letter writing and occasional bus trips. There is a limit!".

These findings underscore an important aspect of ageing, namely that many older people, even those who live in large cities, experience a sense of isolation that is often not recognised by the majority of the community. It would appear that programs like IB have the potential to make an important contribution to the well-being of older Australians, many of whom experience an increasing sense of isolation with age, despite their living in seemingly well serviced and well resourced communities.

Formal education level is a predictor of whether a person is likely to take part in adult education activities. Generally, the higher the level of formal education the higher the likelihood of participation (Peterson, 1983). As anticipated, the majority or participants (79%) had completed high school or better and are clearly from a more advantaged educational background than the average older Australian. However, the remaining one-fifth had minimal formal education backgrounds, having completed only primary school or one or two years high school. The majority of people who are likely to be attracted to programs like IB during the next few years would have experienced their compulsory schooling during post Great Depression and World War 2 days. For many children of that era compulsory education concluded at primary school. It is possible therefore that programs like IB may prove attractive to older people who were denied the opportunity in earlier life to continue with their education.

About three-quarters of the participants formerly held professional, business or managerial occupations. The remainder came from backgrounds that are not normally well represented in voluntary adult education programs, like homemaking, the trades and farming. In future studies it will be interesting to see whether Internet programs attract appreciable numbers of older people whose working lives did little to encourage participation in adult education programs.

Participants were not initially screened to determine their ability to manage routine computer-related skills. Instead, because IB members are required to register and provide some background detail by e-mail, it was assumed by so doing that they would have the necessary computer skills to carry out the mechanical aspects of the course. This assumption was incorrect for about half of the registrants. For the first few weeks of the course the tutors and IB coordinator spent many hours providing telephone and e-mail advice to individuals about matters like saving stories as text files and attaching files to e-mails. Even when electronic instructions were provided, which described how to carry out required procedures, some confusion remained.

During the fourth and fifth weeks of the course a telephone survey of all participants found that many were still frustrated about their inability to handle computer-related tasks. Once they had been "talked through" the task their sense of frustration usually disappeared. For future trials it might be valuable to have a pool of "computer tutors" who could be contacted for assistance by e-mail, as the need arises. The computer tutors could be U3A volunteers from anywhere in the world.

Despite initial frustrations with what appeared to be basic technology-related skills, levels of participant satisfaction were very high. Nearly 90% were completely satisfied. The three members who were not completely satisfied still rated the course as valuable. No one was dissatisfied with the course. All expressed a keen interest in continuing to take courses via the Internet with half wanting to continue immediately and the other half wanting a break first. None selected the 'not interested category'.

One of the objectives of the IB project is to foster communication between the isolated

course participants. Three-quarters of the participants used a variety of electronic methods to communicate with each other, mainly by e-mail and discussion areas associated with the courses. However, seven participants, all from the factually oriented botany course, did not communicate with either tutor or other course members, yet they rated their learning experience highly.

In order to help develop an electronic learning environment, as opposed merely to transmitting information across the Internet, it would seem desirable to allocate the limited number of course places to those who are interested in interacting with others in their course. However, the passive learners also enjoyed the learning experience - they should not be excluded from a course merely because they do not interact with others. A way of resolving this dilemma would be to develop two categories of course membership, namely full membership and course observer membership. Full membership would be reserved for those who are interested in communicating with each other and their tutor. Observer membership would be offered to those who require the cognitive stimulation or factual information provided by the course, but who are not really interested in communicating with others. An additional advantage of creating an observer category would be that those who miss out on the limited number of full membership places could still have access to the course material, even though they would be unable to contact the tutor. To cater for observers who would like to communicate with each other it would be technically simple, as well as inexpensive, to set up an Observers Forum.

The success of the IB pilot program suggests that well-crafted adult education programs delivered by the Internet have the potential to enrich the lives of isolated older people. Although the sample was small and self-selecting, the evaluation showed that participants benefited from the venture and most of them enjoyed interacting with like-minded strangers, via cyberspace. One participant wrote: "many thanks to you for my being able to enjoy what has turned out to be the most pleasurable weeks of my life".

The next step in the learning curve will be to determine whether the findings and some of the questions raised from this pilot study are applicable to a wider ageing population. For example, a large majority of participants in conventional Australian U3A groups are women. Similarly, the majority of participants in the IB pilot study were women, mostly in the older age range. Might the self-paced, private setting in which IB courses are run, be a model of the kind of environment that can attract older women who would like to come to grips with Internet technology but do not want to do so in more public surroundings? And what of the finding that one-fifth of the sample had minimal formal education levels, and nearly one-fifth comprised participants from working class or homemaker backgrounds? Could the Internet be developed as a vehicle to empower the vast numbers of older people, who had little or no opportunity or encouragement in earlier years to engage in the personally uplifting educational programs that are routinely available to later cohorts? The flexibility of the medium allows participants to retain whatever level of privacy they need yet also permits very considerable inter-personal interaction to take place. The latter points to the real possibility of isolated older people developing meaningful social networks that might otherwise be denied them.

Of necessity, the IB pilot study was limited. Nevertheless, the initial findings whet the appetite for further work. Since the study was completed U3A volunteers have developed several other courses for IB members. A notable feature of one of these, entitled Design for Living is that the writer/leader is a U3A member living in the UK. She has run the course from the UK, illustrating the potential of a U3A without walls to provide expertise from anywhere in the world, to isolated older people anywhere in the world.

Seniors in the USA are reported to be the fastest growing group on the Internet (Charles Schwab and Co, 1998). It is likely that the growing popularity of the Internet with older people in the USA will be replicated in other countries. If that is the case, programs like IB, and similar programs that are currently under development in Europe, Canada and elsewhere, appear set to enrich the lives of many older adults.

Some insights from IB course leader Jean Thompson

At present, every local UTA in the UK loses members every year. Some move away, some die, but there are always some who can no longer attend meetings, perhaps through failing health, no longer being able to drive, or becoming a carer. Some UTAs make valiant efforts to include these ex-members in their activities, -giving lifts, visiting, etc, but this is hard to maintain. Until now, we have not been able to offer them the possibility of continuing the active learning, which means so much to them. When I visited Australia and heard about the Isolated Bytes Project, I was struck by the potential of the Internet to reach our isolated older people too.

As the first non-Australian writer of an online course, I was also struck by the international possibilities of this medium. If I could run a course from the UK with students in Australia, it would be possible to include English-speaking students from any part of the world. Individual students and UTA study groups could benefit from our work and, through IB membership subscriptions, help to provide an income to support the work with 'isolated' older people.

Devising a course

My subject was 'Design in your Life', a title that suggests many possibilities for discussion. The early sessions focused on the design of objects found in the student's home, then on the home itself and expanded from there. I was careful to avoid too much emphasis on the decorative arts, which might alienate the male students, while an overdose of technical design might put off some women. The level of the Activities (or homework) had to be within everyone's range. Technical jargon had to be cut out. This meant rethinking the subject matter very carefully.

The course was written to make full use of two major advantages of the Internet - rapid communication and international resources. Students' queries could be answered very rapidly and information could come from material already available on the Internet, or from interested individuals in other countries. Unfortunately, because it takes many months between initially researching a course and eventually having the finished material on line, problems with maintaining international resources can occur. In my case, within the 6-month writing/development period, at least half of the URLs I had initially selected became unusable. Either the site had been updated or moved to a different server or, in some cases, the URL had completely vanished. Consequently, for courses containing topical information, it is important to check on URLs before each new lesson is issued.

My second draft contained at least half the material within the course itself, illustrated by colourful graphics. This was a better balance.

Interaction

We were encouraged to write in a friendly informal style. I tried to imagine myself talking directly to the student and put in lots of questions. This dialogue style was intended to encourage the student to reply by e-mail and to use the electronic Forum to discuss design ideas with others in the course. Whenever possible I also varied both the style of presentation and set a different kind of 'activity' within each section in order to keep student interest high. We were also asked to state the aims of each section so that the student could see progress. I found this a useful discipline for planning my writing.

Conclusion

To the tutor/writer this project is an amazing intellectual and emotional challenge. The fact that all the courses are devised by older people themselves on a voluntary basis means that their experience and expertise are valued. The work can be incredibly time-consuming, but the excitement of breaking new ground, reaching an international audience and devising new ways to use the Internet to promote active learning, make it all worthwhile.

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