Using the Internet to Facilitate Positive Attitudes of College Students Toward Aging and Working with Older Adults

Frieda R. Butler, PhD, RN, MPH, FAAN, FGSA
Heibatollah Baghi, PhD

ABSTRACT. Published data suggest that a preponderance of negative attitudes toward the elderly and insufficient knowledge of aging may be the primary reasons that geriatrics is not the primary choice of employment for nurses. This study measured attitude changes toward the elderly as a result of participation by nursing, gerontology and health science students in an intergenerational reciprocal service-learning program. Using a pre and posttest design, results revealed a significant improvement (p < .001) for the total group, with undergraduates showing a significantly greater mean increase in positive attitudes toward the elderly (p < .001). This study suggests that pairing students with well elderly and engaging in on-going exposure, meaningful intergenerational exchanges and using Internet-based activities to communicate are effective strategies to improve attitudes of students toward the elderly.

KEYWORDS. Intergenerational, attitudes, knowledge, reciprocal learning, gerontology, nursing, elderly, students

Frieda R. Butler is a professor and Coordinator of the George Mason University Gerontology Programs, housed in the College of Health and Human Services, 4400 University Drive MS 5B7, Fairfax, VA 22030-4444 (E-mail: fbutler@gm.edu).

Heibatollah Baghi is an associate professor and Coordinator of the Master of Science in Epidemiology and Statistics Programs, George Mason University, College of Health and Human Services, 4400 University Drive MS5B7, Fairfax, VA 22020-4444 (E-mail: hbaghi@gm.edu).

Address correspondence to: Frieda R. Butler, PhD, George Mason University, 4400 University Drive, MS5B7, Fairfax, VA 22030-4444.
Selection of geriatrics as a career specialization is a low priority among nursing students and other students in the health professions in the United States (Fusner & Staib, 2004; Happell & Brooker, 2001; Kotzabassaki, 2002). Of the total registered nurse population employed in the United States, only 6.3% currently work in nursing homes or extended care facilities—down from 6.9% in 2000 (US Department of Health and Human Services, 2004). With a growing workforce shortage, this lack of geriatric education will have a profound impact on health care delivery to the older population, particularly with the aging of the baby boomers (Mion, 2003). According to Wells et al. (2004), improving gerontological education most likely would increase positive attitudes of nursing students and practitioners toward aging and would help to lessen the nursing shortage in long-term care.

The purpose of this study was to measure students' attitude changes toward the elderly and toward working with the elderly as a result of their participation in an intergenerational service-learning project over a three-month period. It was hypothesized that student participation in a reciprocal service learning project would facilitate more positive attitudes toward aging. Specific objectives were to explore the effectiveness of the Internet as a means of engagement between seniors and student partners and determine the effects of journaling and class reflections on student attitude change.

Angeles (2000) defines service-learning as structured activities that blend community service with academic learning. This reciprocal intergenerational service learning project was developed to provide gerontological education to nursing and other students in the health disciplines, while at the same time, meeting health education needs of the well elderly. Mintz & Goodwin (1999) indicated that redesigning the gerontology curriculum by integrating innovative service-learning components increases learning opportunities for students and provides high quality service to communities.

Service learning has been utilized by various educational programs as a strategy to enhance learning and stimulate interest in working with the elderly. For example, Fusner & Staib (2004) provided service-learning experiences for their nursing students and reported positive outcomes for seniors and students with additional exposure.

It is apparent from the existing literature that, with a few exceptions, prevailing perceptions of aging by nursing students mirror those held by the general public and have shown little change over the past decade. While there is a preponderance of evidence that older adults in the U.S.
are healthy and are valued, contributing members of society, much of the public still perceive the elderly as weak, sickly, slow, immobile and senile. Unfortunately, the research literature indicates that undergraduate nursing students continue to believe these myths, which may significantly influence career choices (Moyle, 2003; Gething et al., 2004; Wells et al., 2004).

In many instances, the first and only contact students have are with the institutionalized elderly, a setting which many students found heavily work intensive, routine, physical and non-stimulating. As a result, this is their least preferred career choice (Bergland & Laerum, 2002; Fusner & Staib, 2004; Happell, 2002; Tovin, Nelms & Taylor, 2002; McLafferty & Morrison, 2004). Employing focus groups, McLaffertty & Morrison (2004) found that, nurses employed in these facilities tended to focus on the negative, thus doing little to improve the image of gerontological nursing.

Further, McKinlay and Cowan (2003) identified specific areas of curriculum improvement which focus on factors underlying the views of the nursing students. Participants were asked about their beliefs concerning behavioral outcomes of working with the elderly. Example of such beliefs or views were: Making older people feel valued; viewing older persons as blocking beds; finding working with older people intellectually stimulating; working with older people as uninteresting, and viewing older people as hard to please (p.302).

The dimensions and style of gerontological education are significant factors in selecting work with the elderly (Avorti, 2004; Kotzabassaki, Vardaki, Andrea & Parissopoulos, 2000). Avorti (2004) found a significant relationship between professional status, level of education and attitude in a study conducted in Ghana; however, a large number of students lacked adequate gerontological knowledge, which may account for their lack of interest in the field. To support the belief that feelings of nursing students and registered nurses toward older people may change when given more experience in caring for older adults, Soderhamn et al. (2001) collected data on a convenience sample which included 151 undergraduate nursing students in Sweden using Kogan’s Old People Scale (KOP). Results showed that limited experience of students who were less than 25 years of age was a significant factor in holding less favorable attitudes toward the elderly.

Interestingly, findings of a study conducted with baccalaureate students in Hong Kong revealed no clear connection between attitudes towards care of the elderly and work with the elderly (Herdman, 2002). Perhaps this distinction can be attributed to the Asian culture, since filial piety and
respect toward elders are accepted cultural elements in many Asian countries. For example, Japan, whose aging population at this time is growing faster than any other country, implemented a successful after school program where frail elders and young children competed together in *Intergenerational Olympics* (Kaplan & Larkin, 2007). Although these studies are limited in geographical scope and lacking a representative samples, it is highly likely that career choices by gerontology students are influenced by the care setting regarding initial exposure and type and extent of experiences with the elderly. Moreover, while many studies determined students’ attitudes and reasons for not working with the elderly, only a few studies examined changes in attitudes following an intergenerational gerontological educational program which included early exposure to well elderly. With a few exceptions, the literature focuses on student learning, companionship and meeting elder needs rather than attitude change, positive student-elder interactions and *reciprocal* learning activities. Intergenerational reciprocity or shared learning is a concept which utilizes the theory that exchanges between older and younger generations help to dispel aging myths and stereotypes, promote mutually beneficial experiences and foster positive attitudes toward the elderly (Butler, 2000).

Prior studies which were evaluated for attitude change as a result of service-learning, student-elder interactions, and/or nurse education presented both positive and negative results (Achala, 1999; Happell, 1999; Health Advisory Service, 1999; Johnson & Atkin, 2002; Lookinland & Anson, 1995; Roberts, Hearn & Holman, 2003). On the plus side, several studies specifically provided evidence of positive attitude changes in both old and young as a result of service-learning and satisfying intergenerational exchanges (Brosky, Deprey, Hopp & Mayer, 2006); Doll, 2006; Jones, Herrick & York, 2004). According to study participants, there is an overreliance on teaching the negative aspects of aging, rather than emphasizing the positive.

**METHOD**

An intergenerational service learning program was incorporated into two elective aging courses, *"Health Aspects of Aging"*, an undergraduate introductory course, and *"Health Care of Aging Persons with Chronic Illness,"* a graduate introductory course. These courses were among the few health-related electives offered to students at convenient hours during
the day; hence, the scheduled time of offering appeared to have been a strong selection factor for the undergraduate students. Graduate students were enrolled in the gerontology major and had few elective aging courses from which to choose.

*Health Aspects of Aging* focused on the physiological, psychological, social and cultural factors that influence the health status of older adults. It identified assessment strategies and their corresponding interventions and techniques, which promote health and prevent deterioration in old age. Care of Aging Persons with Chronic Illness focused on the biological, psychological and sociocultural factors in aging which influence the development, treatment and management of chronic illnesses. Emphasis was on examining the functional capacity of persons and the capacity for self-care. The courses were modified to incorporate effective intergenerational exchange and careful reflection in journal entries. It was hoped that this would facilitate more positive attitudes toward aging persons, and increased understanding of aging health issues for both students and older adults.

Increasingly, older adults are using the computer and expanding their Internet skills. Because of this trend, we added a technology component to the traditional service-learning model and created a new model, which we called George Mason University (GMU) *AgeNet*. Partnering with older adults and incorporating a technology component, we created an enthusiastic environment for both students and seniors. This model provided an effective reciprocal learning environment, in which seniors and students learned from each other in group sessions, email, social gatherings, face-to-face with one-on-one dialogue, and web postings on health and wellness issues. An additional feature was that students and seniors learned new Internet skills in class together at the Learning in Retirement Institute (LRI).

This study examined changes in attitudes toward the elderly by college students enrolled in the two elective gerontology courses. Primarily, the investigators were interested in knowing if students exhibited any change in attitudes toward the aged and working with older adults as a result of participating in a reciprocal learning intergenerational project, GMU AgeNet. The program embraces the philosophy of intergenerational learning through regular intergenerational exchanges. GMU AgeNet addresses issues most relevant to successful aging through a reciprocal learning relationship.

The senior partners in this project used computers but had varying skill levels; therefore, the investigators seized this opportunity to present
a joint class to students and their senior partners to improve their internet communication skills. This technology was utilized in order for students to provide current health information to older adults. These seniors were in relative good health, sophisticated and well educated; therefore, students were challenged to present timely, in-depth and interesting health promotion and disease prevention information. In turn, older adults were encouraged to share their experiences, life stories, life events and knowledge concerning healthy living and/or their perspectives on aging with students through regular on-going communication.

The specific aim of this paper is to present the effects of the GMU AgeNet project on the attitudes of students who participated in the project. This was indeed a challenge, since educators throughout the U.S. are struggling with the lack of student engagement with the elderly (Angeles, 2000) and are looking for ways to influence their decisions to choose gerontology as a career.

**Student Participants**

Eighteen undergraduate and 10 graduate students from nursing, social work and other programs, who were enrolled in the two introductory gerontology courses, partnered with 26 older adults in the LIR Center. Ages of the students ranged from twenty-three to sixty, with a mean age of 34.5. Two students were over fifty, one of which was specifically requested as a partner by a senior participant. Seventy-five percent were female and 64.3 percent were undergraduate students. Student population consisted of seven males and 21 females, which included 20 Caucasians, two African-Americans, one Nonwhite Hispanic and one Asian. This was the first gerontology class for 18 undergraduate students and the second gerontology class for the remaining 10 graduate students. In both courses, students were provided opportunities to examine current aging theory in relation to reality-based situations.

**Older Adult Participants**

Twenty-six older adults were recruited from the program’s agency partner, a senior center for well elderly which promotes learning in retirement. Recruitment strategies included distribution of flyers, announcements in meetings and word of mouth. Criteria for inclusion were age 65 and over and membership and attendance at the center.

An initial welcoming event was held, and included refreshments, a brief PowerPoint presentation, introductions, and orientation by the
investigators and faculty. Following a get acquainted session, students and seniors paired up based upon mutual interests and other personal characteristics.

**Instruments**

The investigators administered a simple 20-item Aging IQ Quiz, designed by the National Institute on Aging, to the students at the beginning of the project to determine students’ basic knowledge of aging. The *Geriatric Attitude Scale* developed by Reuben et al., (1998) was also administered to student participants at the beginning of the project and again at the conclusion of the project to measure any changes in attitudes as a result of participation in the project. This 14-item Likert scale, originally developed for primary care residents, was easy to administer and needed little modification for use with nursing and health science students. The internal consistency reliability of the scale measured by Cronbach’s alpha has been reported to be .76 (Reuben et al., 1998). The instrument included questions such as “*Most old people are pleasant to be with,*” and, “*If I have the choice, I would rather see younger patients than elderly ones,*” which were for the students to answer.

**Communication Strategies**

Subsequent to the initial get acquainted meeting, interaction between students and their partners was primarily electronic, consisting of Town Hall Forums, personal emails and telephone calls between partners. Partners, on average, spent approximately 20 minutes per week in various electronic communication. Students were required to keep a journal of all contacts and interactions with their partners and record their reflections, indicating their impressions, knowledge gained and questions or concerns raised. With faculty as facilitators, students shared their reflections during class time each week. In addition to shared communications in class, there were several joint classroom sessions with senior partners, replete with an open discussion of aging, socializing and refreshments.

**RESULTS**

Quantitative data were analyzed using descriptive and inferential statistical methods. Tests of significance, including paired t-tests and
Pearson Correlation, were used to determine differences in knowledge level between the undergraduate and graduate students, and changes in attitude at the conclusion of the project. Since the attitude scale was originally designed for primary care residents, tests for internal consistency reliability using Cronbach’s alpha (Cronbach, 1990) yielded a reliability coefficient of .66 on pre-test and a coefficient of .84 on posttest for the total group.

Summary statistics (mean and standard deviation of the scores) for pretest and posttest administration of the Aging IQ test and Attitude measures are presented in Table 1. Pretest and posttest assessments were compared using paired t tests to find evidence of statistically significant improvement in the scores. Scores for each item within the Aging IQ scores (k = 20) and attitude measures (k = 14) were added across participant’s responses to derive summary statistics for the dependent variables, knowledge and attitude. Means and standard deviations were computed using these scores for the two test administrations for the entire group as well as the undergraduate and graduate students. The paired t-test results indicated that there was a statistically significant change (p < .001) from pretest to posttest administration of Aging IQ test in the total group, and for each individual group of undergraduate and graduate students. The paired t-test results indicated that there was a statistically significant change (p < .001) from pretest to posttest administration of attitude

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Paired t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aging IQ scores</td>
<td>12.18</td>
<td>1.98</td>
<td>19.82</td>
</tr>
<tr>
<td>Attitude scores</td>
<td>45.50</td>
<td>6.76</td>
<td>49.03</td>
</tr>
<tr>
<td><strong>Undergraduates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aging IQ scores</td>
<td>11.11</td>
<td>1.60</td>
<td>19.78</td>
</tr>
<tr>
<td>Attitude scores</td>
<td>42.89</td>
<td>4.17</td>
<td>47.28</td>
</tr>
<tr>
<td><strong>Graduates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aging IQ scores</td>
<td>14.10</td>
<td>.74</td>
<td>19.9</td>
</tr>
<tr>
<td>Attitude scores</td>
<td>50.00</td>
<td>.20</td>
<td>52.2</td>
</tr>
</tbody>
</table>

***Significant at p < .001
**Significant at p < .01
measure in the total group, with the significance being attributed primarily to undergraduate students. However, the changes in attitude measures were not statistically significant (P > .05) for graduate students alone.

Knowledge of aging post test scores correlated significantly with scores on the Attitudes Toward Aging Posttest. The correlation coefficient for scores on post aging IQ and scores on Attitude Toward Aging Posttest for the total group was moderately high and statistically significant (r = .75, p < .001).

**Qualitative Analyses**

Qualitative data were analyzed using thematic processes and contextual examination of student journals, using rigorous review procedures. Three nursing faculty members facilitated class discussions, reviewed student journals and identified themes and categories which emerged.

Six major themes emerged from review of student journals. These were: (1) immediate application of theory to real life situations, (2) a stronger connection to seniors, (3) a more positive image of aging, (4) increased sensitivity to the feelings, beliefs and values of the elderly, (5) increased knowledge of the elderly, and (6) working with the elderly as a possible career choice.

Through interviews, analyses of journals and faculty discussions, it was found that in general, significantly more students and seniors were pleased with the interactions than were not. Seniors, who were not pleased, indicated that they expected to do more teaching of the students. A subsequent article will focus on senior outcomes. The following quotes illustrate student responses to the project:

*Examples of student written reflections.* Although most students provided positive comments, several comments indicated areas for improvement and refinement of the project.

**Undergraduate Students**

Older adults increased my awareness about the phenomenon of aging as an opportunity for empowerment and the creation of positive images of aging. I feel that working with older individuals is the flame that heats my spirit and kindles my desire for inner growth and self expression. It was difficult setting up a discussion time with my partner. She seems to be very busy and communication between us was sporadic.

Challenging/successful approaches included involving senior adults in planning the project and carefully planning for face-to-face group activities for maximum attendance.
My partner wanted to come back to the classroom for discussion and sharing and wanted to know when we were going to do this.

He was more interested in teaching us than in receiving information from us.

**Graduate Students**

My service learning experience has been a very successful combination of academics and community service. Service learning provides a way of applying what is learned in class and through texts to the real world. It allows active student participation, the creation of connections and the opportunity for reflection. Our project–AgeNet—in conjunction with the Learning in Retirement Institute became a gift to both senior and student. In so doing, it created a benefit an outcome, a product and a connection of which to be proud.

Communicating with older persons has heightened the creative perspective in my mind and resulted in my developing a new attitude and understanding of the way older people approach life experiences, relationships, and activities.

Unfortunately, my partner had symptoms which troubled her and it was difficult to get her to talk at times. She has to push herself to stay involved with whatever is going on.

Sometimes I did not know what to say to her when she refused to believe what her physician has told her. What do you do for someone who has been told that tests show deterioration in the part of the brain that governs balance and she has to live with it for the rest of her life?

AgeNet couldn’t be anything but a success. Generations need to come together and share. In these interactions, we finally were able to begin breaking down the stereotypes and misconceptions of ageism. Certainly, differences exist between generations. Yet, we start to realize that there are also many similarities. Age does not take away the interest to learn, socialize or attain future goals. It does not eradicate ambition or desire, the need for love and affection. Possibly, greater understanding and communication through intergenerational interaction will make transitions into late adulthood easier, more rewarding. AgeNet may be one of the first steps toward this end.

**DISCUSSION**

As expected, the study showed that the knowledge level of undergraduate nursing and gerontology students improved significantly (p < .01) when
an innovative Intergenerational Reciprocal Service Learning Project using the Internet as a primary means of communication was added to the gerontology curriculum. The students, as a group, had a positive change in their attitudes toward aging at the completion of the project; however, more non-nursing students than nursing students, showed a positive change.

Not surprisingly, scores were higher for graduate students, than for undergraduates on pre-testing; however, scores for both groups increased significantly on post testing for both knowledge and attitude changes, with most of the change being attributed to the undergraduate students. Attitude scores for graduate students remained more or less the same. It was not surprising that the greatest variance was attributed to the undergraduate students, since graduate students most likely had a predetermined preference for work with older patients. Since many of the graduate students enrolled in the course had chosen gerontology as a career, and had extensive work experience already, they were more likely to maintain a positive attitude toward working with the older population, resulting in little change in attitudes toward aging measurements. Whereas, younger students, who enrolled with preconceived stereotypical notions of the elderly, learned a great deal and appeared to have changed their attitudes toward working with the elderly.

Further, many of the undergraduates expressed enjoyment regarding working with the elderly on this project and would reconsider a career working with older adults. Most likely the setting (residential community) combined with the higher health status of the senior partners had a positive influence on the attitudes of the students. This is consistent with the findings of Wells et al. (2004) and Avorti (2004) who reported that work setting is a strong influence on attitudes toward older adults and can influence the delivery of care.

As with Robinson and Cubit (2005), these investigators believed individual reflection and group discussions were critical in increasing knowledge and improving attitudes toward aging. It was observed that all students expressed a greater appreciation of the vast knowledge this group of seniors possessed and expressed a new respect and understanding of aging.

In general, journal reflections and classroom discussions indicated that undergraduates as well as graduate students who are exposed to well older adults and who engage in intergenerational reciprocal learning strategies appear to develop more positive attitudes toward aging and are more likely to consider working with older adults as a career choice.
Limitations

This study is not without limitations. The small sample size and the fact that all elderly participants were Caucasian may limit the generalizability of these results. Also, it was not possible in this study to compare various components of the courses in order to ascertain the relative value of each component, including the reciprocal intergenerational activities. In addition, two of the students were greater than fifty years of age, possibly introducing a slight bias to the study. All of the graduate students had taken a previous gerontology class, whereas this was the first gerontology class for the undergraduate students. Most likely this had a significant influence on the outcomes of the Aging IQ pre-test. However, during the course of the project, the instructors taught all of the material related to the aging IQ test to both groups, resulting in insignificant differences between the two groups on aging IQ post-test. Self-selection was a limitation since all enrolled students participated as a class requirement.

The authors recognize that students' personal experiences, work experiences and academic experiences are intervening variables and most likely influenced knowledge and attitude scores. Further, the interaction of undergraduate and graduate students may have been a factor in the increase in knowledge and attitude scores of the undergraduates. Finally, the graduate students, who were older, had specifically chosen gerontology as a career path and this may have influenced posttest scores on the attitude toward aging. Evidence of personal and intellectual growth and development was discerned from student journals and class discussions. Re-thinking career goals by students was an additional outcome of this unique project. However, it would be naïve to assume that interesting and innovative educational strategies are the only means for changing attitudes toward working with the elderly.

CONCLUSIONS & RECOMMENDATIONS

Based upon this research and other observations it is possible to make several recommendations regarding gerontological and geriatric education programs at the undergraduate and graduate level. These recommendation include the need to: (1) improve gerontology curricula with meaningful service-learning components, (2) provide continuing education in various settings to change public perceptions, (3) encourage changes in media portrayals of the elderly, (4) improve work environments in facilities for
the elderly, and (5) provide adequate compensation to individuals working with older persons. These are real world challenges to increase a much needed work force for a growing population of culturally diverse aging clients.

Although findings cannot necessarily be generalized to students working with a more impaired population of elders, this study suggests that first exposure to well elderly in a reciprocal intergenerational service-learning project may influence decision-making regarding working with older adults. The investigators recommend further exploration with a larger and more culturally diverse sample, as well as the use of more in-depth measures of outcomes among the older adult participants.

REFERENCES


Health Advisory Service (1999). *Not Because They are Old: An Independent Inquiry into the Care of Older People on Acute Wards in General Hospitals.* London, HAS.


