Blending Later Life Learning into Healthcare

A Training Series to Promote Later Life Learning for Working Adults Aged 55-66

Kelia S. Ray
English Department
North Carolina State University
Raleigh, NC USA
ksray2@ncsu.edu

ABSTRACT[1]

The rapid pace of an ageing population and increasing life expectancy of adults create a serious issue identified as "Active Ageing" by the World Health Organization. Population ageing refers to a decline in the proportion of children and young people and an increase in the proportion of people aged 60 and over. Notably, 1 in 5 Americans will be aged 65 or over by the year 2030. Researchers argue that improving access to and involvement in later life learning is an effective strategy for promoting the sort of health behavior necessary to support increasing numbers of older people. In this experience report, I present a blended learning series called "Silver Learning" designed to reshape health behavior, encourage social apprenticeships and increase physical activity in working adults aged 55-66. To demonstrate a master level of proficiency in technical communication, I design Silver Learning to explore the effects that later life learning can contribute to a rapidly ageing population. I deliver succinct instruction using plain language guidelines, adult learning strategies, and Google technology. I propose this report highlights the invaluable role technical communicators play in promoting active ageing through later life learning. After reflecting on my design experience for future fieldwork, I recommend blended learning can effectively promote desirable ageing strategies essential for enhancing learning experiences in later life.

CCS CONCEPTS

• Social and professional topics~Age
• Social and professional topics~Informal education
• Applied computing~Consumer Health
• Applied computing~Interactive learning environments

KEYWORDS

Active Ageing; health behavior; later life; blended learning; ageing population

1. ADVANCING ACTIVE AGEING

Focusing on the issue of a global ageing population requires urgent attention to healthcare access and delivery. In 2050, there will be approximately 2 billion people over the age of 60 worldwide [1]. In 2002, the World Health Organization (WHO) adopted Active Ageing as a relevant concept to support educational policies and programs for adults as they age. Advancements in this framework established the argument that physical health, mental health and social connections are equally important areas of ageing. In 2018, Narushima, Liu, and Diestelkamp reported there is value in promoting community-based, non-formal learning opportunities to develop inclusive, equitable and caring active ageing societies [2]. Alternatively, concerns included the financial sustainability and longevity of the global healthcare delivery system. Without the proper preparedness, the effectual stress on the public and private healthcare systems in the United States could be substantial.

The anticipated growth in the number of older Americans makes later life learning a vital instrument of change. 1 in 5 Americans will be aged 65 or over by 2030 [3]. Mesthenos and Withnall argued that improving access to and involvement in later life learning is an effective strategy for promoting the sort of health behavior necessary to support increasing numbers of older people [4]. The collaborative efforts of health data science researchers, educators, and health policymakers

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help to define practical solutions towards the contribution of later life learning initiatives [5-8]. Researchers contend that later life learning still lacks consistent qualitative results to support the effects of later life learning on health for an older population [4].

Knowledge of health risks and benefits creates the precondition for integrating active ageing into later life learning. Technical communicators can insert themselves "seamlessly" into this process through approaches that range from writing effective documentation to developing user-centered strategies in emerging formats, forms and designs [9]. Coupled with "the ability to manage projects, document processes and iterative workflows", technical communicators can become active ageing policy writers or talent development specialists. These types of opportunities raise the potential for technical communicators to apply instructional design knowledge and adult learning theory to develop engaging course content. To demonstrate this point, I design a blended learning series called "Silver Learning" to promote active ageing through a later life learning model for adults aged 55-66.

In this experience report, I seek to discover whether my blended learning series can promote active ageing and help to increase physical activity through later life learning. I will use the WHO Active Ageing Framework as a model to examine the health, participation, security as well as the relationship between practical and social values. I will recount the process behind my design experience and discuss ethical considerations for technical communicators choosing to embrace similar design projects. I will conclude by reviewing project limitations and possible future applications of the project deliverable.

2.0 DETERMINANTS FOR LATER LIFE LEARNERS

It is necessary to examine various determinants of older adults to thoroughly and adequately assess their needs as learners. Though the WHO policy framework uses the United Nations (UN) standard of age 60 as the threshold to describe "older" people, for the purpose of my deliverable and this experience report, I use the term "older" to describe people aged 55- 66. Rather than compartmentalizing older adults or claim they are underrepresented in health research; I suggest the reasons herein.

- Adults in this age group are an active part of the workforce and contribute a substantial portion of income to our national economy. We cannot afford further decline in workforce income. A trend to remain healthier can offset further strain on medical and social healthcare costs for employers and the public purse. For example, adults who age in good health face fewer health disparities. Offering personalized and cost-effective incentives can increase participation in healthy behavior, self-health management and physical activity.

- Adults in this age group pay the highest health insurance premiums in the workforce and may provide coverage for their adult children living at home. Under the health care law, federal regulations established guidelines on how insurers can adjust their policy rates based on the age of the policyholder, with the largest impact in costs affecting adults aged 50 - 64. The WHO indicated costly medical expenditures result from poor health, disabilities and diseases commonly associated with old age, rather than simply old age alone [1].

- Adults in this age group have the best chance of using online technology to reshape and avoid at-risk behavior. A national Kaiser Family Foundation survey of older Americans found that as the Internet becomes an increasingly important resource for informing decisions about health and health care options, less than a third (31%) of seniors (age 65 and older) have ever gone online, but that more than two-thirds (70%) of the next generation of seniors (50-64 year-olds) have done so [10]. They have real-world life experiences; they are motivated and highly engaged [3].

It is equally important to clarify the meaning of the phrase "later life learning". It is also necessary for proper assignment, application and because people continuously learn throughout life. Later life learning is a subset of lifelong learning and generally refers to adults aged 50 and over who participate in the workforce (I explained earlier in this section reasons I target adults aged 55-66). Mestheneos and Withnall add, "later life learning should be viewed as participation in any systematic attempt to acquire, maintain or renew knowledge and skills beyond working life" [4]. Furthermore, later life learning uses elements of

andragogy like intrinsic motivation and experiential learning. It is less formal, involves collaborative peer activities and uses direct, indirect and self-reflected approaches.

2.1 Using Personas

Personas are hypothetical 'stand-ins' for actual users that drive the decision making for interfaces. They are not real people, but they represent real people [11]. As the working population ages, employers face steady increases in costs of health insurance benefits for their older employees. To provide an example, I will introduce Apple House. Apple House is a 15-bed community-based, nonprofit hospice that provides care and support to patients of Apple County, New York. Like any other hospice providing costly end of life care patient services, the company's director is sufficiently dedicated to maintaining administrative costs. Alice Stevens has been Executive Director of Apple House for 27 years. The majority of the 36 full time employees have been employed with Apple House for fifteen years or more and have been labeled older adults by the company's current health insurer, Blue Rock. Blue Rock is the third health insurer to contract with Apple House over the last five years. This year health insurance premiums increased again, and Alice was forced to pass the increases on to the employees. Meet Supervising Nurse Case Manager, Sally Anderson, who has worked with Apple House for twenty-one years. Sally turned 65 this year but pushed retirement out to provide health insurance for herself and her adult daughter who is enrolled in community college.

The fictitious company and user profiles presented must be built out in further detail to form a causal relationship. For example, a minimum of four personas are suggested and should include a first name, age, photo, relevant personal information, and computer proficiency [11]. Instead, I offer a hypothetical scenario that may provide readers some insight into the type of target audience primed for utilizing an active ageing training series. As a portion of older adults bear sole financial responsibility for their healthcare costs and that of their families, health and vitality programs become essential for local businesses and their communities. Administrators and managers must be willing to implement training programs and incentives to promote health and wellness for their employees. I believe an employee benefit program that encourages physical activity could help keep health insurance premiums low for companies like Apple House. Further research and development of personas for the coordination of later life learning programs is necessary.

2.2 Existing Health Activity Programs

Tivity Health created the Silver Sneakers® Fitness Program which is tailored for seniors to promote greater health engagement and accountability. The health benefit program designed for Medicare beneficiaries, includes a fitness center membership and specialized classes to foster social interaction. Tivity Health is a provider of health nutrition, physical fitness and social engagement programs and solutions. In 2016, Tivity published a Silver Sneakers® participant survey that documents improved well-being and reduced medical costs for participating Medicare beneficiaries. For example, within a year of enrollment, SilverSneakers® class attendees reduced their average healthcare costs by $2,144 compared to similar non-enrollees. Regular use of a health club benefit was associated with slower growth in long term health care costs.

Tivity also offers flip50, a healthy living program designed specifically for adults over age 50. The program extends resourceful membership benefits to exercise solutions that accommodate busy lifestyles and address physiological changes [12]. In addition to fitness and wellness classes, subscribers get access to a personalized weekly plan that balances exercise, nutrition, and rest through the flip50 app [12]. The program works as a member benefit of AARP, a nonprofit organization that empowers healthy ageing behavior.

Tivity Health recently began providing wellness services in Walmart Health in Dallas, Georgia. The health facility, located within Walmart, is designed to improve employee health by offering community-based health resources, online education and in-center workshops about preventive health and wellness [13]. These findings warrant additional research to determine whether partnership models like Walmart and Tivity can also be created for healthcare insurance providers. This experience report is the first step in designing a similar consumer-focused model that promotes physical activity among older adults to reduce the cost for health insurance.

2.3 About Silver Learning

Silver Learning is a blended learning health behavior training series. It is designed as a prequel to health activity programs such as Tivity's Silver Sneakers® and Flip50. Its objective is to help encourage older adults to become physically active in their everyday lives. The use of blended learning incorporates exercise and movement that may assist in reducing the costly risks and social impacts of certain diseases associated with ageing. Regular physical activity (PA) is a key contributor to healthy ageing [14], can delay functional declines [15], and helps to recognize the risk of cardiovascular disease, metabolic disease, and osteoarthritis [6]. The American College of Sports Medicine published guidelines recommending at least thirty minutes of PA five days a week to achieve ideal health [6].

The Silver Learning training series combines two e-learning modules along with one engaging, in-person module. The training series is designed to be completed within a 6-week period. Participants are given access to the training series through their employer. There is no cost to participate. Upon successful completion of program requirements, participants will receive a certificate and completion code that makes them eligible for a possible reduction in their health insurance premium for the upcoming annual enrollment year. Possible reductions of 5-15% may be based on participants becoming active members of a local gym for a period of time to be determined by the health insurer. This amount has not been determined. Employees are encouraged to enroll each year for best health outcomes. Unsuccessful completion is the result of one incomplete module assessment or one absence from a session in module III. I recount the design experience in the next section.

3.0 DESIGN EXPERIENCE

I provide health information about diseases associated with ageing and inactivity as the objective in module I. Using a slide presentation format, I encourage self-regulated participation in health-related topics such as recognizing the symptoms of heart attack and stroke. The design is user-centered and technology friendly displaying images of women and men from diverse cultural settings. These design standards have been pulled from a number of resources. For example, I use the analytical framework developed by Narushima, Liu and Diestelkamp as a reference for old-age vulnerabilities and corresponding benefits of lifelong learning. It suggested continuous participation in non-formal lifelong learning may help sustain psychological wellbeing in older adults [2].

I introduce nutritional behaviors to support improved health and physical activity in module II. I present evidence that nutritional modification can reshape and improve health behavior. Establishing the understanding that nutrition and health are closely related, I present nutritional facts to educate and help affect daily behavior and food selection consumption. The Health and Human Services Office of Disease Prevention and Health Promotion (ODPHP) concluded that although e-health tools have been developed for various health topics and purposes, a few appear to be more prevalent in research literature. Areas with the largest numbers of tools are nutrition education, weight management, tobacco cessation, and cancer and diabetes prevention and management. A history of poor eating behavior and lack of PA had a cumulative effect on the general U.S. population, contributing to the nutritional and physical health challenges visible in today's ageing population.

For the in-person module, I seek to encourage PA through social apprenticeship. Ding explains, "Social apprenticeship stresses learning in informal settings such as the workplace rather than in structured settings such as classrooms and pays greater attention to community goals and context-specific knowledge" [16]. It is influenced by factors such as mentoring, coaching, observation of expert performance, workplace environments, peer relations, support networks, and progressive skill development [16]. I implement introductory workout drills to demonstrate practical ways older adults can remain independent. I expand on previous exercises to help build balance, flexibility and increase breathing. Group activities such as role play, theater, and stretching also help to support the psychological wellbeing and independence of older adults. Active living may help prevent heart disease and stroke and reduce the risk of falls [17]. To prompt a group discussion, I select a topic question to identify the economic benefits of participating in ongoing PA and exercise.

3.1 The Framework Behind the Design

The Institute of Medicine (IOM) report, Speaking of Health, proposed several factors for assessing e-health in diverse populations: access, availability, appropriateness, acceptability, and applicability of content [18]. These factors strengthen the foundation to support the learning theories, objectives, strategies, and assessment tools I use to design Silver Learning. The concept of later life learning supports the cognitive, motivational, and experiential needs of ageing learners [19-21]. I align my learning objectives with instructional approaches such as direct, indirect, interactive, experiential, and user-centered models. The U.S. Department of Health and Human Services Research-Based Web Design and Usability Guidelines, 2nd edition stated user-centered design is an effective strategy for developing step-by-step instruction [11]. From reviewing the guidelines, I summarize key recommendations for developing useful and usable evidence-based practices. Reference to evidence-based guidance can reduce unwanted negative impacts of 'opinion-driven' design [11]. I use a rubric to measure training progress and evaluate performance based on criteria rather than a numerical score. A formative assessment gives older adults the opportunity to investigate real-world problems while participating in the ongoing process of later life learning.

3.2 Accessibility & Availability of Google

Google applications are flexible and work well for creating my learning series for a myriad of reasons. The Internet applications offer accessibility (via wi-fi connection), availability (via a link or embedded on a site) and easy integration with other online applications. Research-based web design supports easy-to-use applications such as Google Sites and Google Slides to enhance usability. The accessibility settings, which improves the learning experience for vision or hearing-impaired individuals is a key feature Google supports. To this point the multinational technology giant offers design guides and resources such as their Voluntary Product Accessibility Templates (VPAT). I design the training modules in Google Slides because it allows easy integration of images and diagrams directly into the slides. Additionally, Google requires no upfront costs to use separate from my Internet access fee.

3.3 Appropriateness of Blended Learning

Blended learning is a style of education in which students learn via electronic and online media as well as traditional face-to-face teaching. According to Cheung, blended learning has become a promising new approach because it combines and integrates various learning modes [22]. "Blended learning is the engine that can power personalization and competency-based learning" in two distinctive formats of instruction [23]. It aims to integrate face-to-face learning with online activities to create a unique experience that enhances learning effectiveness and enriches the learning experience. Blended learners have different learning styles, demographic characteristics, and expectations than traditional learners. Using a blended learning approach proved to be an appropriate choice for managing this health behavior training solution.

The other favorable adult learning approach I use comes in the form of experiential learning. Origins for this approach are based on the work of Dewey, Lewin, and Piaget [19]. Experiential learning integrates activities like role-playing, group activities and discussions. In this type of immersive learning style, participants use experience to retain the knowledge, skills and attitudes learned. Furthermore, participants learn how to transfer new behavior into practical use. However, experiential learning theory is by no means secondary to behavioral or cognitive learning theories. Instead, I decided to combine experiential learning experiences with cognition, and behavior based on Kolb's theoretical work. To end this section, I mention Jarvis as well because he introduced the wider public value of e-learning to motivate later life learning in healthcare [20]. His research acknowledged the relationship between healthy ageing, and the public, social, and human value of learning.

3.4 Acceptability & Applicability of Plain Language

Acceptability emphasizes the idea that people are easily drawn to enjoy digital health tools and generally find them easy to use. To complement this idea, I introduce images of popular 1960s music, movies and television celebrities to build a rapport with an audience who grew up in the 1960s. Applicability is the extent to which the tool and its content is relevant to the needs of the intended user; in other words, does it help him or her in his or her everyday life? [24]. To limit the challenges

of introducing health related procedures to an audience with limited technical literacy, I consider the reading level, cultural background and English Language Proficiency (ELP) of prospective users. I review the ethical considerations with the applicability elements in the limited lessons learned section of the report.

The slide below is an example of a Silver Learning training slide showcasing the use of plain language elements. The accompanying table explains the types of headings, formats and desired outcomes I use to present plain language training instruction. The recommended desired reading level remained at 8th grade throughout the training series. However, a live audience must be observed and analyzed using the training series to determine appropriate reading level. I review usability factors in the limited lessons learned section of the report.

Figure 1: **Example of Plain Language Elements**

Table 1. **Headings Used in Plain Language Materials**

Type	Format	Desired Outcome
Question	Use a question	Grabs attention
Statement	Use nouns/verbs	Gives instruction
Topic	Use short phrase	Guides the reader

4.0 DESIGN REFLECTION

The process of developing a blended learning training series was both extremely insightful and frightfully complex. In review of the progress made so far, this section offers technical communicators a summarized reflection of the key lessons that I have learned so far. These lessons are best digested in three categories: factors affecting health status, ethical considerations and next steps for future work on this project.

4.1 Factors Affecting Health Status

- As noted throughout, age is one of the most important factors affecting health status, information-seeking, and Internet usage. Digital literacy studies published by the National Institute on Ageing show that cognitive abilities tend to diminish with age [25]. This can affect computer use, working memory, perception, speed, attention span, and spatial memory. Usability studies will bring real-world experiences to this project to identify common impediments experienced by older adults. Further research with usability studies is noted below.
- The WHO definition of health is a state of complete physical, mental and social wellness and not merely the absence of disease or infirmity [1]. Yet this definition is not necessarily helpful when using a rubric to assess health improvement for older adults. For some older adults, chronic diseases, varying degrees of mental decline and frailty have become normal with some inevitable impact on their health and wellness. Further research into defining wellness is required to successfully anticipate improving a person's state of health.
- Social determinants of health strongly influence the measurable success of change behavior projects like this one. Genetic factors make up a sizable portion of the difference. Subsequently, place of residence, education, social class and occupation have strong effects on health and the effects of these are cumulative over the course of one's life. Quantitative research is necessary to determine practical and attainable cost savings for collaborative partners. For example, upon successful completion of training program participants may become eligible for a cost savings once registered at a network gym within 60 days of enrollment.

4.2 Ethical Considerations

Technical communicators must factor in the ethical consideration of ageism, which "may now be more pervasive than sexism or racism" [1]. For example, enforcing social policies based solely on chronological

age can be discriminatory and detrimental to wellness in later years [1]. In a 2015 special issue of the Journal of Social Issues, editor Todd Nelson wrote a portrayal claiming that getting older in U.S. mass media as well as in general beliefs has been unfavorable and inherently negative. Although limited literature is available, further research is needed to examine the effects of positive ageism.

Since project inception, the issues of protecting individual identifiable health information to ensure the privacy and confidentiality of Silver Learning participants have remained at the top of my agenda. Further research is required to determine appropriate safety measures necessary to store recorded participant data. Additional questions may include: what part of the participant documentation, if any becomes company property; and will the participants be comfortable using the job site for module III?

4.3 Project Next Steps

Usability testing will be necessary before implementing Silver Learning. Conducting usability testing can help anticipate obstacles beforehand. An evaluative assessment will be performed using an audience survey. Further testing in cooperation with relative partnerships is required to realize the full gamut of the training series. Further examination of fundamental HTML 5 design principles will be required to determine adequate and practical usability.

One consideration for developing personas may include involving perspective users to improve the completeness and accuracy of user requirements. User involvement may help improve the level of user acceptance, although the research is not yet clear that it does in all cases. Involving users has the most value when trying to improve the completeness and accuracy of user requirements. It is also useful in helping to avoid unused or little-used system features. Consideration for future work may include developing user profiles that include a health insurance policy leader, a fitness company administrator and Talent Development Specialist. I explore this idea further in my conclusion.

508 Accessibility involves using alternative text for images, drawings, and other graphics. The appropriate typeface, colors, writing style and navigation settings combined with accessibility features make a website easier for older adults to enjoy. The World Wide Web Consortium (W3C) developed international Web accessibility standards to show Web accessibility depends on several components of web development and interaction working together, and how the WAI guidelines (WCAG, ATAG, UAAG) apply [26].

5.0 CONCLUSION

At the beginning of this report, I sought to discover whether my blended learning series could promote active ageing and increase physical activity through later life learning. In this experience report, I recounted how I developed the project concepts and processes needed to bring about a fully functional training series and value-added active ageing health intervention. I believe a blended learning health benefit program that encourages physical activity could help keep health insurance premiums low for companies such as the fictitious example of Apple House. My project will require further research before reaching the desired outcome.

5.1 Future Work

Future work for this project begins by taking next steps previously noted and the collective efforts of stakeholders interested in reshaping health behavior to promote active ageing through employer-based benefit programs. A fellowship award from FUSE Corp. could feasibly bring this creative technical communicator's real-world idea to fruition. The Fuse Corp. Fellowship program offers awarded fellows a 12-month opportunity to affect widespread systemic change in one of nine diverse industries including health & human services and jobs & education. It is my belief that year-round coaching and support would help me build partnerships between different business models, levels of government, as well as partners in the private and social sectors. To ensure that I achieve my highest potential for impact, as previously noted, it might be useful to broaden the simulated personas profiles to include hypothetical project stakeholders.

For technical communicators to significantly promote the discussion of active ageing, we must broaden our perspective on health intervention and disease prevention beyond mere documentation. This cogent argument will require a fairly ambitious cooperative research and practice agenda. Technical communicators can leverage our impact in healthcare

"by making creative use of evolving interactive technologies that expand the scope and impact of health promotion efforts" [27].

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