Hsu Y-L. [徐業良]. Editorial: Special issue on 'research projects related to aged society'. Journal of Gerontechnology and Service Management 2015;3(1):1-4; doi:10.6283/JOCSG.2015.3.1.1 Research related to aged society has received more attention in universities in Taiwan. Professors from various disciplines raise research issues from different perspectives. We use 'elderly', 'older adults', 'old age' as keywords to search in the titles of research projects approved by the Ministry of Science and Technology, Taiwan, and found 104 research projects approved in 2014. These projects are conducted in 52 different universities, with total budget of about NT 100,000,000. This special issue on 'research projects related to aged society' invites the principle investigators of the approved research projects to share the abstract and 'background and research purpose' of their proposals, intending to provide more understanding and communications between research teams and facilitate further collaborations. There will be 3 issues devoting to this special topic. This issue publishes 14 research proposals in the field of social science, biotechnology, science education, and natural science.
Keywords: aged society, research projects, interdisciplinary research

Wang N-T [王年燦], Cheng C-M [鄭巧玫]. Usability of paging on smartphones for the middle aged and elderly. Journal of Gerontechnology and Service Management 2015;3(1): 5-14; doi:10.6283/JOCSG.2015.3.1.5 The population of wireless internet users in Taiwan has exceeded ten million; the number of users of age group 55 years and above doubled since last year, which is the most significant growth amongst all. However, the technology industry often focuses on fulfilling the desires of the younger generation, neglecting the needs of senior users. The first problem smartphone users encounter is finding the corresponding icons of application, which are often so many that a single window cannot contain. Therefore paging becomes an inevitable and constantly used function. Controlling the research group as middle age and the elderly, this project explores four different paging types: 'leading', 'scrolling', 'folder', and 'rapid serial visual presentation'. The purpose of this research is to find a suitable paging type for the specific age group, assisting them to manage applications in a more intuitive, effective and pleasant way.
Keywords: user interface, paging type, usability

Wang L-L [王玲玲]. Friendly website design for seniors. Journal of Gerontechnology and Service Management 2015;3(1):15-20; doi:10.6283/JOCSG.2015.3.1.15 In developed countries, the elderly population using the Internet grows year by year. However the increase in the number of older adults who use the Internet has few effects on the site designers. Most site designers pay only attention to mainstream users; they ignore the web accessibility for the older users. For seniors, vision, dexterity, memory, etc. decline with age. Hence the web designers should give special consideration to these factors and improve the readability and availability of the webpages to provide a friendly and comfortable environment for the older users. If there are website tools which can clearly indicate the defect of the site's visual design, the designer can enhance the visual quality of the site. Therefore, this project aims to develop the methodologies of automatic web evaluation and modification for the sites built especially for seniors by the quantitative analysis of visual features. The website designers, in the process of building a site, can manually correct website visual effects by following the outcome suggestions of the evaluator or, alternatively, by using the modifier to do corrections. The tools will help web designers create thoughtful website visual effects for the elderly such that the elders have friendly web browsing experiences.
Keywords: website visual design, elderly population, website visual evaluation, website visual modification, friendly web design

Chen C-H [陳錦慧]. Exploring gerontological sociolinguistics in senior educational contexts: age telling strategies and communication with elderly learners. Journal of Gerontechnology and Service Management 2015;3(1):21-34; doi:10.6283/JOCSG.2015.3.1.21 As a response to the dramatically ageing population in Taiwan, it is advised that Taiwanese linguists should consider conducting language studies in relation to ageing and older age. However, in existing literature, such studies are rather rare. Hence, the aim of my research is to make a contribution to fill in this

research gap. Traditional sociolinguistic studies tend to treat older age as an explanatory factor to predict language variations that reflect a decremental tendency in communication competence as a consequence of ageing. My research, however, takes on a different (but constructionist) research orientation to investigate discourses of ageing and older age. Following the sociolinguistic trajectory established more than 20 years ago by British sociolinguists, Nik Coupland and Justine Coupland, blending social psychological and interpersonal communication analytic perspectives, this current study adopts multiple qualitative as well as quantitative data-collection and analytic methods (e.g. semi-structured interviews, questionnaire survey, natural conversations, statistic analysis, discourse analysis) to approach questions regarding language and communication with the elderly and age disclosure behaviors in a specific context, that is, senior education or engaging in learning activities at later life. In conclusion, the research purposes can be unfolded into the three different layers: (i) to monitor the appropriateness in the language and communication with elderly learners in senior educational contexts (ii) to associate language and communication studies with the wider social and cultural contexts from which the examined narratives and natural conversations are produced with a special interest on whether they reproduce, challenge or reinforce ageism or age stereotypes (iii) ultimately to enhance the awareness of the role our daily use of language with the elderly plays so as to create an elder-friendly society as well as to increase the communication gratification elderly learners receive in the learning processes.

Keywords: gerontological sociolinguistics, discourse and ageing, senior education, communication strategies, the elderly, older age identity

Wu S-C [吳肖琪]. Evaluation of the impact of aging population on emergency medicine and suggestions for avoidable emergency department visits. Journal of Gerontechnology and Service Management 2015;3(1):35-40; doi:10.6283/JOCSG.2015.3.1.35 The Patient Protection and Affordable Care Act (PPACA) was enacted by US Congress in 2010. The goal of the act is to offer affordable, high-quality, and effective health care for people. The Agency for Healthcare Research and Quality (AHRQ) has developed indicators to identify avoidable emergency admissions by quality of outpatient services, public health intervention, healthcare delivery systems and the quality of post-operative care. In 2011, total emergency visits by people were 4,222,192; and the patient-times in emergency were 12,472,601. In addition, the medical expenditure was 1,773,051.36 thousand points and 32.17% of all expenses were contributed to people who are older than 65 years old. Today, aging is a critical issue in Taiwan. So, this project will focus on the trends of admitting to emergency department utilization, and the influence of fee-for-service on reducing emergency department admission. According to the report from Taiwan government, the proportion of aging population will be 37.9% in 2050. Not only will aging people but also the cost of emergence department increase rapidly year by year; therefore, it is important to diminish avoidable emergency department utilization by early prevention. This project will evaluate the needs of emergency in the older population by using the CEPD population data in the first year. And next year this project will analyze conditions of avoidable emergency department in aging people and establish indicators that are suitable for Taiwan's health care system by using literature review, secondary data analysis, and experts meeting.

Keywords: emergency medicine, emergency department utilization, avoidable emergency admissions, evidence-based data

Chang S-S [張少熙]. A study of exercise curriculum and exercise instructors for older adults. Journal of Gerontechnology and Service Management 2015;3(1):41-50; doi:10.6283/JOCSG.2015.3.1.41 The research is a follow-up study of 'Build up the older adults aging in place exercise promotion model', which has already completed the comparison of the older adults sport policy between Finland and Taiwan. Furthermore, we continue to proceed with the research of evaluation indices of Taiwanese older adults aging in place exercise promotion. During the process of our previous multi-year integrated research projects, we discovered that the experience of active aging in Finland is rooted in the basis of professional courses and human resources. According to a recent national survey in Taiwan,, the percentage of sport participation and the level of physical activities of older people has gradually increased, however, most of activities do not

correspond to the suggestions for the older adults proposed by American College of Sports Medicine (ACSM). In addition, the principles of adult learning are not considered. Moreover, a lack of professional exercise instructors and peer instructors also causes the problem of professionalism and persistence in sport courses of older adults in the community. Based on the above findings, a follow-up research is needed and titled "A study of building up exercise curriculum and instructors for older adults". The purpose of this research is as follows: In the first year, to design and implement the exercise curriculum for older adults especially to fit their learning process, cognition, skills and physical condition. Moreover, in the second year, to evaluate the feasibility of exercise curriculums for older adults as well as the effectiveness of the peer exercise instructors so as to enhance older adults' participation in sports and exercise. Therefore, we hope findings of this proposed research will help to facilitate the exercise participation of older Taiwanese and to offer strategies on the preparation for a super-aged society in the future.

Keywords: older adults, exercise curriculum, exercise teaching manpower, exercise instructor, peer instructor

Cheng H-C [鄭惠珠]. Encounter with life: Using the life course concept to construct learning experiences and learning effects within gerontology study programs. Journal of Gerontechnology and Service Management 2015;3(1):51-60; doi:10.6283/JOCSG.2015.3.1.51 This study will use the sociological "encounter" concept and life course theory to reconstruct the learning process and learning effect of students studying gerontology. Knowledge in learning is value-neutral, but in addition to the professional training within gerontology courses humanistic concepts are very important. These perceptions of humanity are the main stimulus of future participation of students in long-term care-related work. Therefore, the study will focus on understanding the learners' previous experience of life, and its impact on their perception of humanity. These experiences form the basis of the learners' motivation, thereby affecting their learning process and results. This study attempts to examine the former attitudes of students to understand their background and life experience. Than we want to analyze their learning process and effectiveness. By providing exchange situations of students and elderly we use this 'encounter' of life courses to construct the students' learning process. The method contains curriculum design plus experimental and interactive modes for students to acquire empirical knowledge via contact and empathy. Concerning the research methods students will create personal autobiographical reports and carry out interviews with elderly people. We will collect the data of the information, the interviews and the observation of the students. In the 3rd year of the course they will develop a care project or a product according to the needs of the elderly. The associated experience and learning process of the students will be analyzed thoroughly.

Keywords: life course, encounter, gerontology study program

Lee Y-H [李雅慧]. Altogether, toward successful aging: The study of the process of cooperative service learning and the supporting system for middle-aged and older adults. Journal of Gerontechnology and Service Management 2015;3(1):61-68; doi:10.6283/JOCSG.2015.3.1.61 The purpose of this two-year project is to understand the process of cooperative service learning and its supporting system for middle-aged and older adults. The first year is to investigate the process of cooperative service learning from the dimension of the middle-aged and older adult learners. The process includes the initial forming factors of the team, how the common goal will be determined together, what learning content and methods will be adopted, the role of each member, the obstacles they will encounter, and the needed assistance. The purpose of the second year study will focus on the dimension of the older adult educational organizations. In this period, we will research the organizations' viewpoint regarding the cooperative service learning of the middle-aged and older adults, the meaning of the supporting system, and the difficulties when guiding the cooperative service learning. Having summarized the perspectives of both learners and the organizations, the researcher then composes the "Questionnaire of the Cooperative Service Learning of the Middle-Aged and Older Adults". Following the experts' evaluation of the importance and feasibility of the questionnaire, the researcher further constructs the cooperative service learning model for the middle-aged and older adults in

Taiwan. The method of the first year will be the focus-group interviews. In order to explore the process of the cooperative service learning of the participants, we will select 12 self-learning groups which will provide their learning outcomes as 'contribution services' after taking part in 'cooperative learning'. Each group will undergo 1-2 focus-group interviews. The total number of participants will be about 144 elders in this cooperative service learning study, while each group contains 5-12 members. The semi-structured interviews will be conducted in the second year of this study. The participants will be the officers, directors or managers of the aforementioned older adult educational organizations that the 12 selected groups are attached to. One to two older adult educational institution personnel from each group will undergo one on one in-depth interview. Therefore, about 24 interviewees will be included in the second year study. After integrating both perspectives of older adult learners and older adult educational organizations, a questionnaire titled "The Meaning of Cooperative Service Learning and the Supporting System for Middle-Aged and Older Adults" will be composed. Furthermore, 12 scholars and experts will evaluate the importance and feasibility of the questionnaire by Delphi technique. Finally, a three dimensional integration, including the elder learners, the educational institutions, and the scholars and experts, will construct 'The Elderly Cooperative Service Learning Model' to serve as a promotional reference of the program design for the cooperative service learning in Taiwan.
Keywords: older adult learning, successful aging, cooperative service learning, supporting system

Chen C-H [陳清惠], Hu F-W [胡芳文]. A care model to monitor indwelling urinary catheters among hospitalized elderly patients, Journal of Gerontechnology and Service Management 2015;3(1):69-78; doi:10.6283/JOCSG.2015.3.1.69 The prevalence of hospitalized elderly with improper indwelling catheter is about 33 % to 49 %. Indwelling catheter is a common cause of a number of complications. Not only will it extends the number of days of hospitalization, but also increase in mortality. Related research in Taiwan is extremely limited. The main purpose of this research project is to construct a model of Taiwan's hospitalized older patients to monitor indwelling catheter care. Our research plan is consisted of three stages. The first stage is to explore the current status of hospitalized elderly patients with improper indwelling catheter use and its associated negative impact. The frequency of re-application of the catheter, complications, days of hospital stay will be analyzed. This project is a continuation our study in 2013-14. The first year study is mainly based on the findings in 2013-14 which explore the effectiveness of the development of the indwelling catheter monitoring model. The model is established from a quasi-experimental study in a medical center in the south that one each in internal medicine and surgical ward were chosen. Data such as the total number of days of indwelling catheter for elderly patients, and the number of patients with re-indwelling catheter, the number of patients with indwelling catheter that lead to complications, and the length of hospital stay. The results were compared and studied. The second year adopts a participating action research in order to translate the empirical results obtained from clinical practice. A geriatric ward was chosen for the study. After the establishment of clinical care partnership with health professionals, the development of common indwelling catheter monitoring mode will be promoted. In addition to collecting information for elderly patients with indwelling catheter, medical administrative operations and related adjustments participation and cooperation of the medical staff, the information of the process of change will be collected to construct models of clinical promotion processes.
Keywords: hospitalized older patient, care model for urinary cather patient, transitional research

Chen C-F [陳振甫], Hsu C-Y [徐建業]. Lifestyle research for the elderly based on home health care information system. Journal of Gerontechnology and Service Management 2015;3(1):79-82; doi:10.6283/JOCSG.2015.3.1.79 To reinforce the home health care for the elderly, there is a need to integrate the home health care information system (HHCIS), connected to hospitals and related health care organizations, with profound consideration of living quality and needs such as community activities and updated health care information for the elderly. Basically, the elderly may have physical and psychological problems in the daily life such as disordered living timetable, various sports, warning of body health conditions, etc. Based on the literature review and pilot study about the elder's operating the HHCIS information system and devices, these

problems may include the information content and types, numbers of needed functions, chunk of information, the recognition of context and graphic interface, etc. Thus, it is very important to study the fundamental home health care context as the elder's lifestyle, behavior, and needs by conducting an Assistive Technology Quality-of-Life Scale (ATQoL Scale) survey. With reviewing current long-distance health care policy and mobile telecommunication network infrastructure, this research will also explore the application of up-to-date information technology such as 5th generation (5G) mobile network to the HHCIS device for the elderly. Furthermore, this research will offer a design guideline for re-designing hardware and software user interface based on the physical and psychological needs as well as lifestyle of the elderly in the information society. Eventually, the result of this research is expected to create a valuable foundation for the HHCIS for the elderly by improving the effective, efficient, and user-friendly functional operating interface for the HHCIS and related devices

Keywords: assistive technology quality-of-life scale, home health care information system, lifestyle for the elderly

With the process of urbanization, consequences like over-development and increasing population density in the built environment often results in higher casualty of disasters. Moreover, locating at the Circum-Pacific Seismic Zone with frequent strike of typhoons every summer, Taiwan is destined to encounter more disasters. Ageing population, meanwhile, is considered as the most vulnerable population cohort when disaster happens. With the speedy ageing phenomenon, demands for long-term care services increase accordingly. Numbers of nursing homes and day-care facilities in Taiwan has increased tremendously in the past decade along with the disasters happening due to the climate changes. It is the consensus to establish a more comprehensive disaster-prevention planning system for older people and related facilities. However, from 1999 to 2009, only 32 international journal papers published focusing on issues of older people and disasters. Researches discussing the relationship between land use plan of nursing homes and day-care facilities and disasters were even rare. With the increasing casualty reports of older people in nursing homes locating at high-risk areas/ rural/mountain areas, it is inevitable that researchers from spatial planning and land use control perspective should respond to this increasing threat and cooperate with public health system in order to enhance the survival chances of older people under disasters. Hence, this research will take all nursing homes and day-care facilities as research targets. We will first analyze the development history of nursing facilities by collecting data dated back to 1980s. Then, we will map the location data of nursing facilities with different disaster potential data by using GIS to further identify different degrees of risk of existing facilities. It is expected to identify the pattern of current location choices of nursing homes in Taiwan and its correlations with different types of disasters such as flooding, landslide and earthquake. Further, we would like to explore the possibility of creating a comprehensive community disaster contingency system by introducing the idea of 'facility localization' and 'ageing-in-place'. Instead moving older population away from disaster, this system will embrace the fact that 80 percent of areas in Taiwan are with medium to high risk of disaster and intend to connect urban planning and public health resources to establish a community-based local disaster contingency system in order to respond to a super aged society by 2060.

Keywords: ageing society, institution localization, disaster prevention for elderly, vulnerability

In the 21st century, there are many countries facing the challenge of aging society. The World Health Organization, WHO reminds social participation is the basic principle of active aging. Museums are potential places for senior adults get more social participation. Taiwan has been a aging society 10 years ago. It is a must-do-it task and responsibility for museums to provide senior adults service. Museums have no choice but to face the related issues of developing programs for senior adults when they try to play the role of service society in Taiwan. Because of the necessity

and urgency of developing programs for senior adults by museums, the researcher do not only plan to conduct literature review, but also try to understand seven national level arts or history area museums' experience, attitude, needs, problems, resources and possible models of developing programs for senior adults in Taiwan through field study, observation, personal interview and focus group interview. The seven museums include the National Palace Museum, National Museum of History, National Museum of Taiwan History, National Museum of Prehistory, National Taiwan Museum of Fine Arts, National Center of Traditional Arts, National Museum of Taiwan Literature. In addition, since the New York MoMA's international reputation of programs for senior adults, the research is going to conduct on site observation and directly interviewing responsible educators at MoMA. This study will continue one year through 3 research stages and the results is expected to help developing programs for senior adults by museums in Taiwan. The outcomes of this study can be the bases of follow-up research and action in the future.
Keywords: museum education, senior adults, program developing, develop visitors

Lai H-J [賴弘基]. A study of the principles of e-learning design and effectiveness for older adults. Journal of Gerontechnology and Service Management 2015;3(1):105-108; doi:10.6283/JOCSG.2015.3.1.105 Because of the advancement of the Internet technology, many resources and services have been provided via the web. Older adult learners have realized the importance of increasing their information literacy; thus, many older adult learners have attended or attending courses related to information technology. Also, e-leaning has become a flexible mean that older adult learners use to acquire knowledge and skills. Therefore, it is important to design proper and effective e-learning courses that meet older adult learners' needs. The purpose of this study has fourfold. (i)To analyze the needs and perceptions of older adult learners toward e-learning design (ii)To find out the principles of e-learning instructional design for older adult learners (iii)To develop suitable e-learning courses and programs for older adult learners (iv)To evaluate the effectiveness of the e-leaning courses developed through this research The research project is a two-year study. Participants will be instructors and older adult learners from the Active Aging Learning Centers (AALC) in central Taiwan. In the first year, content analysis and interviews will be used to understand older adult learners' needs and perceptions toward e-leaning courses. Based on the research results of the first year's study, e-learning design principles for older adult learners will be generated. In the second year, action research approach will be adopted to collect research data. The researcher will develop e-learning courses related to government's senior education policy, and ask older adult learners to take these courses. Evaluation will be carried out to analyze the effectiveness of the e-learning courses through older adult learners' reactions and their learning outcomes. It is hoped that the results of this research can provide useful suggestions for academics and practitioners to develop better e-learning courses to enrich older adult learners' e-learning experience.
Keywords: older adult's learning, e-learning instructional design, e-learning effectiveness, action research

Chiou C-J [邱啟潤], Lee I [李逸]. An action research of friendly community care services for the older family caregivers. Journal of Gerontechnology and Service Management 2015;3(1):109-114; doi:10.6283/JOCSG.2015.3.1.109 With the increase in elderly people, the issues of long term care are more and more important. Family care is the major support of disabled in Taiwan. Previous study point out that 20-30% of the family caregivers is over 65 years old. Taiwan Association of Family Caregivers warned the phenomenon of the aging of family caregivers and the behaviors of family caregivers became fierce. The studies related with the number of older family caregivers, the particular needs of older family caregivers and the services resources for older family caregivers are inadequate. Therefore, the purpose of this study is to construct friendly community care services for older family caregivers using an action research. This study is carried out in two years. Interview and questionnaire survey are used to explore the particular needs of older family caregivers in the first year. Based on the particular needs of elder family caregivers, the combined model of NGO and long term care resources management center for older family caregivers is developed. The service model towards activate the senior human resources among community and using case management. Action research is used in second

year for evaluate the outcomes of friendly community care services for older family caregivers. In progress of action research, researchers will collect data from multiple perspectives and analysis data through cross-analysis. Researchers will implement the care services and monitor the outcome indicators at the same time for modifying the program. The expected results are as follows: (i) understanding the particular needs of older family caregivers, (ii) proposing care service that can respond to the particular needs of older family caregivers, and (iii) care service is helpful for older family caregivers' difficulties. We expect that research results can provide official and private institutions for reference.

In recent years, due to medical advancements and urban development, the national population is become gradually older. The old people have poor socio-economic status in this society. They need the medical, economic, social, cultural, employment. It is more difficult in remote areas to survive, because geographic transportation, cultural differences and financial straits. According this, The President's Council on Bioethics in U.S. and President Ma in Taiwan will coincidentally worsening aging population considered as a new social challenges and national security issue. For a long time, social issues like this, people want it will be solved by government forces, or by market mechanisms. But global environmental change, the speed of globalization, the complexity of governance and network, make the problem worse. And this problem has not rely on a single government level or sector, it must solve by cross-sector governance. It means the integration between government, business and nonprofit organization (NPO). These three sectors shared responsibility together, and then resolve the gap between supply and demand, and avoid the limited public resources to waste. In view of the above, this research focuses on the analysis of: (i) senior citizens' welfare, and (ii) tries to provide an interdisciplinary approach for cross-sector governance and supply-demand analysis; and tries to provide policy suggestion for senior citizens' welfare.

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Leisure for Life

A 'G-Tech Villa' was featured in the Central Theme Pavilion of the '2015 IT Month', the most significant information technology annual exhibition in Taiwan. The G-Tech Villa exhibited the results of more than 10 years of industry-university cooperative research and development by the Gerontechnology Research Center, Yuan Ze University. This 9-day exhibition (November 27-December 6, 2015) took place at the Taipei World Trade Center Exhibition Hall. 'G-Tech' is gerontechnology of course. The 54m^2 'Villa' contained a 'Silver bedroom' in the center, and a 'Dementia homecare bar' around the bedroom. The audience was expected to visit the 'Villa' with expectation and leave with a pleasant experience.

An older visitor with mild dementia actually enjoyed playing a pin wheel toy for lung exercise. A sensor behind the 'flower' captured the air flow

and triggered a motor to turn the pin wheel with varied speed. Multi-sensory stimulation and interaction such as light, sound and smell of the season were also provided.

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